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Lies, Liars, and Lie Detection

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THERE IS A BODY of conventional wisdom that claims that you can tell who is lying and who is not. Some of the techniques work some of the time, some of them work under certain conditions. None of them works all of the time. This article reviews some distinctions about the difference between the behavior of liars and the behavior of truth tellers. It is not as simple as you might think.

A discussion of lie detection must begin with the old saws: eye contact, fidgeting, and general nervousness. These have been immortalized by the Reid method (with the addition of strange posture changes and covering the eyes or mouth) as indicators of deception (Inbau, Reid, Buckley & Jaynes, 2004).

The Reid method is a well-known set of tools for interrogation that begins with an assessment of the offender's credibility and progresses on through a series of techniques to obtain a confession. While many law enforcement officials believe the Reid method to be the gold standard for such work, scientific evidence suggests that the basic tools proponents of the method recommend for determining the trustworthiness of an offender are faulty. In fact, when police officers cited these techniques as the means they used to detect deception, their performances as lie detectors got worse (Mann, Vrij and Bull, 2004; Mann, Vrij, Fisher & Robinson, 2008).

The basic ideas—that a liar won't look you in the eye, that they are more nervous than truth tellers and that they will fidget and adopt odd postures—have a certain intuitive appeal. In fact, many of these behaviors are associated with feelings of guilt, nervousness, and lack of respect. They assume an unsophisticated liar who is emotionally dependant and in a preexisting relationship with the questioner. The other place where these signs may be valuable is for short periods where an otherwise well-prepared liar has not rehearsed some part of the story and has to think up something on the spot. Outside of these situations, these nostrums become highly unreliable. None of these supposed indicators is supported by any of the scientific literature (Bond & dePaulo, 2008; Man, Vrij & Bull, 2004; Spoorer & Schwandt, 2007; ten Brinke & Porter, 2009).

As noted, looking you in the eye is not necessarily an indication of lying. Parents and people in

close relationships may find that this works with casual liars, but generally it is a bad predictor. The technique appears to have some value only when the suspected liar has been instructed to look his interviewer in the eye (Vrij, Mann, Lyle & Fisher, 2007).

Looking someone in the eye is an intuitively valid response for someone operating in terms of visually remembered events. A person operating in visual mode (an observer) expects that the person to whom they are speaking must look at them in order to understand them, just as they understand best while looking into the face of their speaker. On the contrary, an habitual listener or someone caught up in interior dialogue may find the external focus distracting. They may not be able to listen as well while looking you in the eye (Lewis & Pucelik, 1990).

Fidgeting is also supposed to indicate falsehood. According to most studies, fidgeting has little to do with whether someone is telling the truth or not. It has much more to do with whether a person is nervous or at ease. We assume that liars are nervous. This may be true for young, unpracticed, or naïve liars. People who are good at it—what Ekman calls natural performers—may not be nervous at all (Ekman, 1997).

One striking study found that implicit lie detection usually worked much better than explicit lie detection. That is, people who were not looking to detect lies, but looking for the signs associated with lying, did better than those who were actually trying to detect lies. In separate experiments, subjects were either told to watch interviewees to see whether they were working too hard at telling the truth (Mann, Vrij & Bull, 2004; Vrij, Edward & Bull, 2001), or they were instructed to count the number of times indicators of truthfulness appeared in films of interviewees who were either lying or telling the truth (Vrij, Evans, Akehurst & Mann, 2004). Both groups did significantly better than most groups and almost met the levels of accuracy only achieved by the most successful lie detectors from the CIA and the Secret Service (Vrij, Evans, Akehurst & Mann, 2004). The investigators hypothesized that the required tasks prevented the lie detectors from relying on the false indicators (like eye contact and fidgeting) already cited.

In their study of liars and truth tellers whose statements had important consequences, Mann, Vrij and Bull (2004) found that fidgeting was correlated with nerves but not with lying. It seems that both naïve liars who are unprepared and people who are just plain nervous fidget. Liars may move less—as may people who are telling the truth and want to be believed. Again, when police officers reported that they watched for fidgeting as a sign of lying, their performance as lie detectors decreased (Mann, Vrij and Bull, 2004; Mann, Vrij, Fisher & Robinson, 2008).

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Truth and Lies

Paul Ekman is a highly respected psychologist who has spent his career studying emotions and their effect on people. He was among the first people to seriously study lying and the character in the TV series "Lie to Me" is based on his research. Ekman & Friesen (1972) point out several kinds of movements that people make as they speak, including one called an adaptor, a motion that carries no meaning but is often related to some physical need or sensation. Sometimes it is picking or scratching, sometimes, it is just playing with things—fidgeting. Ekman found that there was no difference in fidgeting between truth tellers and liars, but he did find that people were more likely to judge someone as deceptive when they fidgeted more.

In Ekman's research (Ekman & Friesen, 1972), two factors were sometimes correlated with deception. One was that people who are lying tend to touch their faces a bit more than truth tellers. It is important to note, however, that this is not a rule, but a correlation. It is statistically meaningful but may not happen enough to be practically meaningful. The second was that liars often use a specific gesture.

This second characteristic associated with lying was a hand movement that Ekman identified as the hand shrug. The hand shrug is an inward and upward movement of the hands—palm up—while the shoulders are moving in. It is an example of what Ekman calls an *emblem*. An emblem is a conscious or semi-conscious gesture that has a standard, culturally accepted meaning (like giving someone the finger). In our culture, the hand shrug indicates helplessness or lying. Once again, the association is correlational and rather small. It may be meaningful but

it may also be something a practiced liar would suppress.

Aldert Vrij is a Dutch psychologist who has published widely on the topic of lies, liars, and lie detection. He reports that fidgeting often decreases for both liars and truth tellers in high-stakes contexts. It was his research that most clearly emphasized that fidgeting is a sign of nerves, not of lying.

There are a few things that all of the serious researchers agree upon about lying. Lying is not a single phenomenon. There is nothing in the real world quite like Pinocchio's nose. Because there are many types of lies, there are as many different types of what gamblers would call "tells," the signs that someone is lying. When people lie, their expertise in lying is often more important to detection than whether they are lying. Practiced and well-prepared liars are harder to catch than naïve or ill-prepared liars. There are two major kinds of cues to untruth: emotional leakage and thinking errors (Bond & DePaulo, 2008; DePaulo, Lindsay, Malone, Muhlenbruck, Charlton, & Cooper, 2003; Ekman & Frank, 1993; Ekman & Friesen, 1972; Mann, Vrij & Bull, 2004; Sporer & Schwandt, 2007; Vrij & Mann, 2004).

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Lying and Emotion

Ekman (Ekman & Frank, 1993) suggests that lies are about emotions, or have a strong emotional component that can often be detected in terms of the micro-emotions that can flash across a person's face in a fraction of a second. There are three emotions related to lying: fear, guilt, and what Ekman calls *duping delight*. Duping delight is the joy or self-congratulation that a liar feels when he thinks that he is getting away with it (Ekman & Frank, 1993).

The prospective lie detector who has focused upon emotional cues must differentiate the emotions associated with these states (fear, guilt, duping delight) from the emotional tendencies of the client before her. The problem is that not all liars are either fearful or guilty and duping delight may be effectively hidden, especially for well-practiced liars. Even in a practiced liar, these emotions can flash across the liar's face in a fraction of a second. This is what Ekman has called emotional leakage. Good liars, however, may be working from a verbal script and be so isolated from the emotional content of the experience that there are few emotional tells. In the language of Neuro-Linguistic Programming, they may be in auditory-digital mode. If they are confidently focused on practiced script, there may be little emotion attached to the performance (Bandler & Grinder, 1975; Ekman & Frank, 1993, Ekman & Friesen, 1972; Lewis & Pucelik, 1990; Vrij & Mann, 2004).

In their discussion of emotional leakage, Ekman and Frank (1993) provide the following indicators of when each kind of emotion will be dominant. Thinking clues, the signs that the liar is working very hard at lying (short descriptions with few details, few hand motions, not blinking, raising of vocal pitch) will tend to appear when the liar has not prepared him or herself. They also appear when the liar is not creative or resourceful or knows that he or she should know the answer but doesn't. Remembering that many criminals are not bright, these are common occurrences.

Liars will have difficulty masking or lying about their feelings when their lies involve 1. What they are feeling in that moment (the insincere greeting, the half-hearted "I love you"); 2. When their current feelings are very strong (feigned enjoyment by someone in pain, false joviality when depressed); and 3) when their facial expressions and body language do not match the feelings that they say they have at the moment (the false smile, the hollow laugh, the smirking apology). These may be especially frequent when the lie is emotionally important to the liar.

Emotional evidence of the liar's fear of being caught will tend to leak through when the investigator is known to be suspicious or has a reputation as a good lie detector. They will appear when the stakes for being caught are very high for the liar. Fear most often arises when there is much to be gained by a successful lie *and* much to be lost by failure. Fear of punishment alone will provide the same kinds of tells, but fearing the loss of reward alone will not. Fear will also be the predominant emotion if the liar is not good at it or has not had much practice lying or lying in this kind of situation. Finally, if the cost of being caught is so great that the liar would not confess under any circumstance, then fear will tend to predominate

(Ekman & Frank, 1993).

In detecting lies based on emotional leakage and when using calibration—the comparison of known responses to suspected lies—to differentiate between truth and falsehood, it is crucial to determine whether the observed emotion is a sign of lying or whether it is normal in light of the situation. Truth tellers can often feel fearful, guilty, and smug in situations where they are being utterly sincere. Because truth tellers are likely to express the same emotions as liars in similar circumstances, emotional leakage is by no means an acid-test for falsehood.

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Lying and Complexity

The fact remains that lying is a difficult task and requires a great deal of the liar's attention. Because many liars are not terribly afraid or are primarily focused on hiding their emotions, it is the consumption of cognitive resources by lying that usually provides the best information.

Difficulty, cognitive overload, impacts the liar from several sources and may reveal itself in evidence of working too hard to tell his or her story. Some of the sources of that impact, as cited by Vrij and Mann (2004), are:

1. *Difficulty*. Some liars find lying difficult or are unprepared to lie. Lying is a complex task and good lying takes preparation. Some people have been so busy trying to avoid capture that they fail to prepare adequate lies.
2. *Concern about giving themselves away*. Liars often have an idea of what lying looks like and may work very hard to suppress emotions that might give them away. Vrij notes that a person trying to cover up a lie: "... should suppress their nervousness effectively, should mask evidence that they have to think hard, should know how they normally respond in order to make an honest and convincing impression and should show the responses they want to show" (Vrij & Mann, 2003, p. 63).
3. In their attempts to sound truthful, liars will often avoid the normal hesitations and mis-speakings that characterize truth tellers. Liars tend not to correct themselves as much as truth tellers and often will not admit to flaws in their arguments.

But even with these cues, research shows that truth tellers, concerned for their own believability, will have the same kinds of problems and emotions as liars.

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Cues to deceit

Based on research by others, and confirming much of what Ekman reported (1997, Ekman & Frank, 1993), Vrij and Mann (2004) provide the following list of cues to deceit:

1. Liars often speak in a higher register than truth-tellers. This may be because of nerves.
2. When liars are working hard to sound like they are telling the truth, they exhibit more speech errors, like hesitations, repetitions, incomplete sentences, and Freudian slips. When they are well practiced, or not feeling under pressure, they exhibit fewer of these errors.
3. As noted by Ekman and Friesen (1972), liars move their hands less. They make fewer illustrative gestures (Ekman's illustrators) and fiddle less with their fingers (Ekman's adaptors).
4. Following Ekman's idea of emotional leakage, the emotions that accompany falsehoods may be revealed by micro expressions.

Training in the detection of micro expression has been widely adopted by the U.S. Government. Nevertheless, there is evidence that the training is not always as effective as hoped. Porter and ten Brinke also indicate that Ekman's micro expressions often last much longer than Ekman suggested and that they are easily masked (Porter & ten Brinke, 2008).

Hard-copy Analytical Procedures

Vrij and Mann (2004) discuss two analytical procedures that are often used with transcripts of interviews and which both provide significant clues to whether the interviewee is telling the truth or not. These are Statement Validity Analysis (SVA) and Reality Monitoring. Each provides some observations that are worth keeping in mind as you listen to your clients and offenders.

SVA was developed in Germany and is used extensively in Northern Europe. One of its most important elements is Criteria Based Content Analysis (CBCA), a set of 19 criteria that are used to assess the truth-value of a statement or set of statements. The more of these criteria that are present, the more truthful the statement is likely to be.

Vrij and Mann (2004) discuss several of these criteria. As we will see later, these indicia become valuable rules of thumb even when the full, formal SVA analysis is not completed.

One of the first criteria is whether or not the statement is structured logically. That is, does it make sense? A person telling the truth (as long as the person is sober and not suffering from physical or emotional trauma) usually tells a fairly coherent story. A liar, especially a poorly prepared or not very bright liar, might make something up on the spot that will not hang together logically. Because the truth teller is relating a story with real referents, the structure of the narrative will necessarily retain some level of consistency.

Next, independent of its logical structure, liars often tell a memorized script from beginning to end. The story hangs together as a straight-line narrative. If you ask them things out of order, they find a consistent retelling very difficult and often have to start back at the beginning. Truth tellers have random access to their stories. They find it much easier to jump from point to point and to retell segments out of order. This is another effect of having a reality base; statements are generated by the facts of the event, not from the words or word sequences alone.

The amount of detail also differs between liars and truth tellers. Liars generalize and seem to delete information that should be there. Truth tellers provide a depth of information that suggests that they were actually there.

There are several dimensions of detail that differentiate between someone who is lying and someone who is not. These criteria differentiate between truth tellers and liars, seemingly because the task is difficult and these small pieces of the story may be overlooked. These include:

- *Contextual embedding*: Details of time and place. The true version had a locus in time and space and the truth-teller includes them.
- *Speech reproduction*: Are there quotes? Does she report what she said to others and what they said to her? Does he say what he said to himself? This is a natural part of a true story. Liars often leave this out.
- *Unusual details*: True stories often include odd details that don't belong or don't seem relevant but that represent part of the person's experience—"I heard the Johnson's dog barking," "A jet went overhead." Liars, whether because they are concentrating on getting the story right or just because they haven't considered them, often leave such extraneous details out.
- *Accounts of subjective mental states*: People who are telling a true story will often add in their own feelings about what they were experiencing. They might talk about how cold it was; how tired they were; the fear they felt. Liars tend to leave these things out unless they are asked.

Another set of CBCA criteria includes cues related to the liar's motivation and attempts to sound accurate or trustworthy. These include:

- *Spontaneous correction*: People who are telling the truth seldom go straight through their

stories. They stop and correct themselves or go back and revise a detail. Liars stick to the script. Like politicians with talking points, they stick to the details that they have prepared. Because they think that self-correction or revision will make them look unreliable—or because it is too hard—they usually do not do it.

- *Admitting poor memory skills:* Liars sometimes think that the truth should be seamless, that it should read through like a scripted tale. Someone who is recalling a real event will suffer lapses of memory and will admit to them. A liar may not. The liar, however, may claim a lack of memory but it is usually in a context different from the truth teller. When a liar claims loss of memory, it is not self-corrective but an excuse for a missing detail.
- *Expressing doubts about personal accuracy:* Liars, as noted, often think that their stories must be flawless. True witnesses are often very aware that their stories are incomplete and faulty and acknowledge that fact. A liar will swear on his mother's life that every word is true and almost (so it would seem) infallible.

When these criteria (actually, the full set of SVA criteria) were tested against the statements of witnesses and criminals, they were able to separate the truth from falsehood with a high degree of accuracy (Vrij et al., 2000).

The second major analytic tool described by Vrij and Mann (2004) is called reality monitoring. Here, the testimony is examined for full sensory representation. Liars tend to talk in the abstract. As noted, they are likely to make use of auditory digital descriptions that are notably free of sensory detail. Truth tellers are more likely to add sensory-based detail. Reality monitoring scores the records of interviews along the following dimensions:

- Visual details or descriptions of what the person saw: "I saw that the car was missing."
- Auditory details or descriptions of what was heard: "I heard the screen door slam."
- Spatial details, where the event took place: "I went across the street to Joe's house."
- How objects are arranged in space: "I heard sounds coming from above me."
- Temporal details, how things are arranged in time and how long they lasted: "First, I knocked on the door. Then, I looked in the window. Finally, I let myself in." "I was only there for about five minutes but it seemed like an hour."

Like the CBCA analysis, reality monitoring is usually done with a paper transcript of the interview. It is scored so that the more the sensory elements appear, the greater the likelihood is that the speaker is telling the truth.

Reality monitoring contrasts the characteristics of a full sensory representation of a real event, with the empty words of a fabricated story. If you can recognize when someone has the gift of gab, you are already using the most salient points of reality monitoring.

Someone who has the ability to string together words that he doesn't understand into plausible and otherwise well-formed sentences and arguments has the gift of gab. Because the speaker does not fully understand the words, they do not ring true and the speaker can never provide supporting details. Moreover, like the liar, the talker with the gift will provide few sensory details and will generally score low on the CBCA criteria. Students who have memorized information that they do not understand reflect the same kinds of empty verbiage.

If we were to make a quick summary of these two techniques as something to keep in mind when seeking to differentiate between truth-tellers and liars, we might suggest the following. More often than not, the truth is rich in personal insights and sensory details. It is accompanied by a certain level of humility and an awareness of personal fallibility. It often rambles and goes off track and includes details that are irrelevant to the problem at hand. Lies are presented as truth. The speaker is often unwilling to acknowledge mistakes or fallibility. There are few details and little personal narrative. The lie must be presented as practiced and attempts to access details out of order may increase signs of nervousness and emotional leakage.

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Detecting Lies

We have discussed several observations that may be helpful but must repeat the warning of all of the researchers that we have reviewed that there is no easy hard-and-fast way to tell who is lying and who is not. In general, a combination of all of the observations made above will provide a certain head start on the process. However, the process of lie detection itself may be a very important piece.

When you consider the process of interviewing or interrogating a subject, it is important to realize that an adversarial stance will usually work against you. Unless the subject has been diagnosed as a psychopath, establishing rapport and setting the client at ease can be a valuable aid to finding out what you need. In every case, the interviewer must be aware of the subject's responses and any attempts that the subject might make to control the flow of the conversation. For this reason, you must remain aware of your outcome and continually return the flow of discussion back towards the relevant issues.

Vrij and Mann (2004) recommend that investigators begin with open-ended questions that allow the client to speak freely about the event, following up later with more direct questioning.

When you already have the information that you need, when you know that the offender is lying, it may be worthwhile to increase the pressure on the offender to encourage nervous behavior, slips, and emotional leakage.

If you decide that putting the pressure on will allow you to analyze the various tells associated with tension, fear, and guilt, be aware that truth tellers will show the same signs of stress as the liar. It is easy to mistake stress for lies. Ekman and Frank (1993) define two kinds of errors related to lie detection. These are the Othello error and the idiosyncratic error.

The Othello error refers to the tragic hero of Shakespeare's play who, after accusing his wife of infidelity, mistakes her fear for signs that she is lying and kills her. In much the same way, it is very easy to mistake signs of upset for the signs of deceit.

The idiosyncratic error occurs when we make broad assumptions about how people should act when lying or telling the truth. There are always exceptions to every rule and because lying is an idiosyncratic behavior, rigid rules for lie detection have a way of tripping people up. Multiple studies have shown that police officers who base their judgments about deception behavior on the Reid model, and others who have modeled their judgments on the TV show 'Lie to Me,' both fail at lie detection. Other research indicates that trusting people tend to make better lie detectors (Carter & Weber, 2010; Mann, Vrij & Bull, 2004).

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Things to watch for

After reviewing the relevant research, Vrij, Evans, Akehurst, and Mann (2004) found several behavioral details that could be combined to determine who was lying and who was telling the truth. Their items came from classical studies of gestures and facial expressions as well as the CBCA criteria and reality testing. They found that if their subjects, the lie detectors, were asked to keep track of behavioral details *instead* of trying to determine whether the speaker was lying, their ability to quickly tell truth from falsehood rose to expert levels. Again, the central task was not trying to determine who was lying, but just keeping track of the details. The details they found to be most telling were:

1. The lag time between the question and the answer (increased for liars);
2. Hand and finger movements—without moving the arms (decreased for liars);
3. Speech hesitations: "uhs," "ums," or "aahs" between words (increased for liars);
4. The quantity and specificity of details (decreased for liars);
5. Descriptions of time and location (decreased for liars);
6. The reproduction of conversation (decreased for liars);

7. Descriptions of other people's feelings, thoughts, or motives (decreased for liars);
8. The inclusion of visual and auditory details (decreased for liars);
9. The inclusion of spatial information and temporal details (decreased for liars) (pp. 277-278).

For the liars, latency periods, the time between the question and the answer, and speech hesitations increased. All of the other measures decreased when people lied. It should be noted, however, that persons dominated by strong feelings often show increased latencies and speech hesitations, so care needs to be taken to avoid confusing kinesthetic response styles with falsehood. It is also important to recall that accuracy in lie detections always depends upon multiple indicators.

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Training for Lie Detection

There are three important lessons in this research. The first is that there are reliable signs that can be used to detect lies. However, they are neither simple nor few. Lying is revealed by a simultaneous combination of factors that vary from person to person. The second is that lie detection is best done as a neutral observer, implicitly. It would appear that here, as in other studies, careful observation is much more important than the intent to detect lies. Truth detection and lie detection work best as reflections about observations of behavior, not as qualitative judgments. As noted previously, intentional lie detection often gets in the way. A third element is this: officers and students both learned to become more efficient lie detectors when they had practice that included feedback. Memorizing lists of factors is not enough; practice with feedback is crucial (DePaulo, Lindsay, Malone, et al., 2003; Vrij et al., 2000; Vrij & Mann, 2004).

Another observation made by Mann, Vrij, and Bull (2004) concerned the ability of police officers to detect lies and its relation to whether or not they had long experience actually interviewing criminals. They pointed out that whereas other studies had measured the officers' total length of service; they measured active interviewing and interrogation practice. The difference was significant. Whereas regular police officers often did no better at lie detection than did college students (50 percent accuracy—they could have been flipping a coin), practiced interviewers and interrogators did much better (60 to 70 percent accuracy). This suggests that more than a set of rules, experience plays a large part in good lie detection.

Paul Ekman, as noted, is the model for the lead character in the TV Drama, "Lie to Me." He began doing research on emotions in the 1970s. As part of his study, he examined all of the muscles of the face, each of the distinct movements that the face can make (about 43) and the expressions that combinations of the 43 basic movements were capable of making. He found that about 3,000 of those expressions had meaning. After identifying these expressions, he and his partner learned to make every one of them and developed a visual library, films of people making those expressions. In the course of this work, he noticed that he had become aware of fleeting expressions, micro-expressions that would flash across peoples' faces. He came to understand that these micro-expressions represented emotional leakage and found that they were often the key to understanding what someone was thinking and whether or not they were telling the truth. Emotional leakage is the inevitable tendency for the emotions that we are trying to hide to leak out through gestures and micro-expressions (Gladwell, 2002).

An interesting parallel comes from the life of archetypal serial killer, Ted Bundy. According to his biographers, Bundy would often be puzzled by the expressions on peoples' faces. When he found an expression that interested or puzzled him, he would go home and practice the face in the mirror (Michaud & Aynesworth, 1999).

At the other end of the moral and emotional spectrum, we have the testimony of Lama Oser. Oser is a Buddhist monk who was studied by Ekman. Oser displayed a phenomenal ability to read the micro-expressions that flashed across people's faces and attributed that ability to his long years of meditative practice. There was something else that he said that was very significant to this context. When asked how he was able to attain the states that Ekman was

studying, he indicated that part of it was *how he held his face* (Davidson & Harrington, 2002).

These anecdotes suggest that, along with knowing the tells on an intellectual level, the key to discerning when others are lying is practice. Practice observing others and practice, perhaps more importantly, observing yourself.

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