

Lying, Deception, Signs, Detection

Possible Signs of Deception and How to Detect Them

Part II

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Abstract

Much work has been done to seek ways of distinguishing deception (lying) from truthfulness. Some but not total success has been attained. Some signs of deception are present, but these also occur under truthful conditions. Newer more sophisticated procedures are currently being investigated such as criteria based content analysis (CBCA), statement validity assessment (SVA), facial micro-expressions, voice stress analysers, and micro-tremors.

This article also considers how to prevent and deal with deception and how affective the police are in identifying signs of deception a skill critical when interviewing alleged offenders.

Possible Signs of Deception and How to Detect Them

Part II

Introduction

In this section we will predominantly discuss the following; (1) signs of deception versus truthfulness, (2) what the reactions are to deception and lying by those who encounter it, (3) how to deal with and prevent deception, and (4) finally some comments will be made about recent research into how good the police are or are not in detecting deception.

Although some advances have been made in the attempt to spot deception or lying, data is still based on groups of individuals rather than individuals and their specified responses. It must therefore be accepted that some of the signs which indicate the possibility of deception also occur in those who do not deceive. Hence there are problems with drawing more accurate and precise conclusions. It must therefore be stressed that the information which follows is based on 'general tendencies' which do not apply to every individual case. On the whole verbal signs of deception are likely to be more indicative of lying than non verbal signs.

Advice to Those Attempting to Detect Lies

In order to detect lies, Vrij (2003) suggested the following eight approaches be taken:

- (1) Be suspicious and distrustful of what people say.
- (2) Probe deeper into the answers people give to questions. In some instances the questions should be stated slightly differently to see if different responses occur. There may follow a number of contradictions with earlier statements. These contradictions could but may not necessarily indicate deception.
- (3) Do not reveal important information which you wish to ascertain from the individual being questioned.
- (4) Be informed about the topic of lying.
- (5) Ask the individual to repeat what they have said earlier. They may contradict themselves.
- (6) Watch and listen carefully to what individuals say and do such as non-verbal responses like hand, finger and leg movements, and as previously mentioned contradictions in reporting.

- (7) Compare liar's behaviour with their natural behaviour if it is possible and compare the two.
- (8) Consider the importance of cultural and ethnic factors. Minority groups are likely to show more gaze aversion, smiling etc. These reactions are sometimes considered signs of deception.

It is important to note that there is no perfect way in which deception can be ascertained. There are some groups however who are better at ascertaining deception than others such as secret service personnel (Ekman & O'Sullivan, 1991) who were found to have an accuracy rate of approximately 64%, the highest value compared with many others who were assessed for accuracy in determining deception.

Signs of Deception or Lying

As already mentioned these do not occur in all cases of lying and frequently occur also among those who are truthful. Perhaps a large number of the signs that follow could make a stronger case for deception detection.

- (1) Increase in high pitched voices has been noted by several studies (Anolli & Ceceri, 1997; Akehurst et al, 1996; Vrij, 1995; Fiedler & Walka, 1993; Ekman, 1988).
- (2) Increase in speech hesitation (Taylor & Vrij, 1999; Feeley & de Turck, 1998; Akehurst et al, 1996).
- (3) Increase in errors in speech (Taylor & Vrij, 1999; Akehurst et al, 1996).
- (4) Increase in slowness of speech (Taylor & Vrij, 1999; Akehurst et al, 1996; Ebesu & Miller, 1994). However other investigators have found an increase in speed of speech (Mann et al, 1998; Vrij & Winkel, 1991).
- (5) Increase in pause duration (Taylor & Vrij, 1999; Vrij & Bull, 1992)
- (6) Latency period with too immediate responses or delayed responses occurring (Cody et al, 1984).
- (7) Increase in frequency of pauses (Anolli & Ceceri, 1997; Akehurst et al, 1996) or decrease in pauses (Kalma et al, 1996).
- (8) Increase in negative statements (Zuckerman et al, 1981)

- (9) Increase in smiling (Fiedler & Walka, 1993). On the other hand O'Hair et al (1981) and Zuckerman et al (1979) considered a decrease in smiling to be a result of deception.
- (10) Gaze aversion was noted to imply lying (Ekman & Friesen, 1972). This has however been disputed by Vrij (2003). One exception is likely to be among some cultures or minority groups.

People who answer questions or respond to the potential for lying or deception, differ significantly amongst themselves and hence many of the traits that may be attributed to deception are also present with individuals who tell the truth.

Spence et al (2001) developed an approach utilising computer based interrogation and fMRI. Interrogatory questions probed recent episodic memory in 30 volunteers aged 19 to 29 years. They used an MR scanner in an attempt to ascertain when lying took place. Results showed that lying was associated with longer response times and greater activity in bilateral ventrolateral prefrontal cortices. The authors argued that ventrolateral prefrontal cortex may be engaged in generating lies or withholding the truth. There is still much work to be done to substantiate these assertions.

Another alleged sign of deception or lying is excessive use of smiling. Frank (2002) discussed some of the questions relevant to the role of smiles when lying. He asked to what extent smiles were valid clues to lying and if they are valid, under what circumstances? If they are not valid clues to lying, then why not? In the course of reviewing the research on smiling and deception, topics touched upon included the different types of smiles. These included the Duchenne marker, the symmetry marker, the smoothness marker, the duration marker, and the synchrony marker of enjoyment smiles.

Politicians are known for their capacity for deception, most especially such infamous individuals from history as Adolph Hitler and Richard Nixon. Their success relied upon wilfully duping the general public. Ekman (2001) described how lies varied in form and differed from other types of misinformation. It was considered how a person's body language, voice, and facial expressions can give away a lie but still fool professionals who are lie hunters such as judges, police officers, drug enforcement agents, secret service agents and others. For this reason De Paulo et al (2003) asked the question of whether people behave differently when they were lying compared with when they are telling the truth?

Results showed that in some ways, liars are less forthcoming than truth-tellers and they tell less compelling tales. They also make a more negative impression and are more tense. Their stories include fewer ordinary imperfections and unusual contents. Many behaviours show no discernable links or only weak links to deceit. Cues to deception were more pronounced when people were motivated to succeed, especially when the motivations to hide transgressions.

Sullivan et al (2003) studied a group of 16 adolescents with Williams syndrome and compared them to a matched group of 11 adolescents with Prader-Willi syndrome and 12 with non-specific mental retardation on tasks that tested the ability to distinguish between forms of non-literal language. Almost none of the participants in any of the groups were able to correctly classify the ironic jokes; instead judging them to be lies because they did not correspond to reality. Their errors were similar to those made by younger normally developing children, but contrasted with those made by brain damaged adults.

An attempt was made by Hernandez-Fernaud & Alonso-Quecuty (2004) to detect cues that helped to detect lying. There were four differentiated groups of actual deception cues: (1) physiological, (2) non-verbal behaviour, (3) non-vocal behaviour, and (4) verbal characteristics of deception. The results supported the idea that knowledge about deception was itself deceptive. Deception occurred in many spheres hence De Paulo (1997) studied lying in the media, politics, courtrooms, and other organisations. According to Anolli et al (2003) different types of lying are practiced depending on the type of target. Those not likely to be suspicious tended to be lied to more often, while those likely to be suspicious of lies were provided with more concise assertive stories.

There are those who favour and those who do not favour the use of a polygraph to identify lying. An article by Campbell (2004) indicated that a polygraph exam is only as useful as the examinee thinks it is. This is not at all a convincing assertion. A nervous subject is more likely to appear to betray a lie as much through intonation or behavioural change as through any physiological parameters. Polygraphers are trained to pick up on such cues, making the polygraph, for some investigators, a useful tool for interrogation. New detection techniques are being considered in response to current security concerns in the United States and elsewhere. These include pioneering devices that monitor brain waves and cameras that read heat signatures in the face. It should be emphasised that technology must still be validated by solid research before it is implemented into 'real life' investigations. In a study of eyewitnesses by Pickel

(2004) it was found that witnesses who fabricated about a robber they had seen on a videotape, performed as poorly on the memory test as did witnesses who answered interview questions using false information prepared for them. In both experiments deceptive witnesses sometimes reported inventive details on the memory test, suggesting that they may have come to believe some of their own fabrications.

One interesting study focussed on the deception detection ability of prison inmates and college students. This study was carried out by Hartwig et al (2004). Participants in this experiment made veracity judgements of videotaped statements of witnesses either lying or telling the truth about an event. In line with findings on criminals' beliefs about cues to deception, it was predicted that prison inmates would out perform students in terms of lie detection accuracy. The hypothesis received partial support since prison inmates out performed the students in terms of detecting lies, but not in terms of detecting truths. The prison inmates achieved an accuracy level higher than chance, while students did not. Furthermore prison inmates had a pronounced lie bias. It was suggested that the relevant outcome feedback was a beneficial component of training of professional lie catchers in order to improve their performance. Another study which attempted to detect lying was that of Vrij et al (2004). In that study it was investigated to what extent observers; (1) could make rapid yet reliable valid judgements of the frequency of verbal and non-verbal behaviours of interviewees (liars and truth-tellers), (2) detect deceit after making these rapid judgements. Five observers watched 52 video clips of 26 liars and 26 truth-tellers. The findings revealed that rapid judgements were reliable and valid. They also revealed that observers were able to detect truth and lies well above the level of chance after making these rapid judgements with an accuracy rate of 74%.

A study which used voice stress analysers by Masip et al (2004) sought to detect the absence of certain micro-tremors in the voice which would indicate that the speaker was experiencing stress. From this standpoint, it was assumed that stress always accompanies lying. Therefore voice stress analysers were marketed as lie detectors. The history of these devices, as well as their theoretical basis, were briefly described in the paper. Empirical research was then examined in order to answer four essential questions: (1) Are there vocal characteristics that change when the speaker experiences stress, (2) Are there vocal characteristics that change when the speaker lies, (3) Do voice stress analysers measure stress, (4) Do they detect lies. The answers to these questions provided by current research raised serious concerns on the usage of voice stress analysers as lie detectors. The question of who detects lying best was studied by

Bond et al (2005a). They found that persons who had truth-bias (those who tended to believe that most messages were truthful) exhibited low detection accuracy. Moderately suspicious individuals were more accurate at detecting lies. This suggested that lie-bias individuals were more accurate than those who were truth-biased. It is likely that such assessors were more inaccurate in discovering truth statements. The study tested the suggestion that lie-biased individuals would be inaccurate in identifying non-deception by conducting field experiments in Kansas and New Mexico prisons. The results indicated that it was for this reason that prisoners were more lie-biased and were therefore accurate detectors of lies but not truths.

A number of signs of lying have been considered as already mentioned including response time as a cue to deception (Walczyk et al, 2005). The liar/truth-teller response time differences were observed between subjects. Those highest in social skills were the quickest liars. In another experiment it was noted that lying was shown to take longer than truth telling. Based on this data a time restricted integrity confirmation framework for lie detection was proposed that might one day provide cost effective lie detection for business. It was noted by Newman et al (2003) that telling lies was often required in creating a story about an experience or attitude that did not exist. As a result false stories were qualitatively different from truth stories. In an analysis of five independent samples, a computer based text analysis program correctly classified liars and truth-tellers at a rate of 67% when the topic was constant and a rate of 61% overall. Compared to truth tellers, liars showed lower cognitive complexity, used fewer self references and other references, and used more negative emotional words.

What Are the Reactions to Deception and Lying?

Recent research suggests that trivial lies were common in everyday life, but little research examined how they were perceived by tellers and receivers in different types of relationships. 137 college students participated in the study. Half of the participants in the study imagined that they often told 'kind' lies (or the truth) to a close friend; the other half imagined themselves as the recipients of these statements. As compared to truth, both tellers and receivers viewed these lies as less acceptable and more manipulative and they perceived relationships in which lies were told as less meaningful. Tellers as compared to receivers of lies rated truthful statements told to acquaintances. Receivers of lies found tellers to be less acceptable and more selfish and perceived the acquaintance relationship as less pleasant. This was also the case when tellers told

harmful truths. These findings might help explain why people often choose to lie in everyday interactions with acquaintances and strangers.

A study of the vulnerability of older adults to deception in prison and non prison contexts was considered by Bond et al (2005b). The media frequently depicts older adults as victims of deception and the public perceive these stories as particularly salient because older adults were seen as fragile victims taken advantage of because of their trusting behaviour. This developmental investigation of deception detection examined older and younger adults interacting in two contexts, prison and the “free world”, to discover whether older adults were vulnerable to deception. Younger prisoners were found to be lie-biased. Older adults were however better able to discriminate lies than younger adults and this affect was localised primarily to older female adults. Findings indicated that discriminability strongly increased from younger to older age for women, whereas men did not show an improvement as age increased in making decisions about statement veracity.

A study of strategic lying or deception between the sexes by Hasleton et al (2005) found that Americans reported emotional distress in response to specific forms of deception. All the studies supported the hypothesis that emotions tracked sex linked forms of strategic interference. Three clusters of sex differences proved robust across studies: (1) Emotional upset about resource deception, (2) commitment deception, and (3) sexual deception.

How to Deal with and Prevent Deception

The whole object of identifying deception or lying is for the purpose of seeking to deal with it effectively and to prevent it having destructive outcomes. Intentional deception is especially dangerous when it is practiced by professionals such as in the area of forensic psychology (Wilson, 2003). There are those who continue to feel that lie detection can be improved through training procedures. This view is of particular importance to the police, judges, customs officials, immigrations officials and others. Frank & Feeley (2003) proposed that in order to know whether we can train or should bother to train people to detect or to train people to detect deception, each training study needed to meet 6 challenges which were (1) relevance, (2) high stakes, (3) proper training, (4) proper testing, (5) generalised ability across situations, (6) generalised ability over time. This quantitative review of the literature suggested that training did significantly raise lie detection accuracy rates.

How Good are the Police in Detecting Deception

This is a question that has been investigated by a number of psychologist's and others. Vrij (2001) considered factors that hampered lie detection including the fact that 'typical' deceptive behaviour does not exist and that police officers often have incorrect beliefs about how liars behave. Vrij (2001) found that individuals lie detection scores improved when they asked to detect lies in an indirect lie rather than in the traditional direct way.

Of especial importance is to deal with lying in the high stakes settings such as when being interviewed by the police. Mann et al (2002) analysed 16 suspects being interviewed by the police. Clips of video footage were selected where other sources (reliable witness statements and forensic evidence) provided evidence that the suspect lied or told the truth. Truthful and deceptive behaviour were compared. The suspects blinked less frequently and made longer pauses during deceptive clips than during truthful clips. Eye contact was maintained equally for deceptive and truthful clips. These findings negated the popular belief among both laypersons and professional lie detectors that liars behaved nervously by fidgeting and by avoiding eye contact. There were however large individual differences.

Vrij & Mann (2005) in a later study address the importance of non-verbal communications in a law enforcement context and in a police environment. The author's addressed the question of whether people paid more attention to speech content or non verbal communications when they formed impressions of others. They also discussed how police officers and people in general thought liars behaved. Finally to answer the question of how good police officers were at detecting truth and lies, Vrij & Mann (2005) concluded with some thoughts regarding possibilities for future research and improving people's ability to detect deceit. An earlier study by Mann et al (2004) had studied 99 police officers and their ability to detect lies. It was found that accuracy rates were higher than those that are typically found in deception research and reached levels similar to those obtained by specialised lie detectors in previous research. Accuracy was positively related to perceived experience in interviewing suspects and with mentioning cues to detecting deceit that related to a suspect's story. Accuracy was negatively correlated with popular stereotypical cues such as gaze aversion and fidgeting. As in previous research, accuracy and confidence were not significantly correlated, but the level of confidence was dependent on whether officers judged actual truths or actual lies and on the method by which confidence was measured.

Finally Vrij (2004) reviewed the research findings that showed that professional lie catchers, such as police officers, were generally rather poor at distinguishing between truth and lies. Vrij (2004) considered that there were a number of reasons for this poor ability and felt that professionals could become better lie detectors through training.

What Can Be Done to Get Over the Uncertainty Detecting Lies or Deception?

Custom officials detect only 54% of truth and 49% of lies through their current methods. These rates are virtually by chance. Similar results have been obtained from the work of federal law enforcement personnel who are experienced (De Paulo & Pfeifer, 1986). Secret service personnel do somewhat better with an accuracy of 64% (Ekman & O'Sullivan, 1991). Police officers depending on their training also do not fare as well as might be expected (Vrij & Mann, 1999; Garrido et al, 1998).

Vrij (2003) suggested that the stopping of 100 people randomly to ascertain whether smuggling would be identified via questioning of travellers returning to the UK. This has practical possibilities such as the identification of the smuggling of undeclared goods. In the view of the current author it would however have certain drawbacks; many of the non-selected passengers for interrogation could be smugglers of contraband or be fully innocent. The 100 randomly selected could therefore not be the best way. One must also consider from where the passengers embark. Certain points of embarkation could well yield a greater likelihood of individuals being smugglers of drugs etc. The suggestion which follows, albeit more difficult to carry out would be much more valid in ascertaining whether current knowledge and signs of deception, verbal or otherwise, are really accurate and to establish where the liars could be differentiated from truthful individuals. It would mean that all passengers should be stopped from a particular venue in order to ascertain whether the current methods of assigning deception or lying based on verbal and non verbal cues are valid. Only by searching all travellers after an initial interview that come through customs could more valid conclusions be drawn. This kind of experiment albeit difficult, needs to be done.

Vrij (2003) indicates that there are a number of non verbal and cognitive signs associated with deception. These include the tendency to stutter, have pauses in speech, slower speed of speech, rigidity, evidence of planned rehearsal, manifesting a high pitched voice, and certain emotional facial expressions. On the emotional and cognitive signs there are implausible answers. Other indications can include negative statements, indirect answers, lack of personal

experience, structured productions, lack of detail, and having to think hard before replying to questions. Frank & Ekman (1997) emphasised “facial micro expressions” and found that they were able to detect 70% of the truth and 90% of the lies in this manner.

Advice to Those Who Seek to Detect Lies

The response to this heading is based very much on the book by Vrij (2003).

- (1) Be suspicious and distrustful about what people say.
- (2) Probing and keep asking questions the same one in somewhat different ways to obtain information in contradictions with earlier statements.
- (3) Do not reveal important information which would help the individual to lie.
- (4) Be informed about topics that could be lied about.
- (5) Ask individuals to report what they said earlier as they may contradict themselves.
- (6) Watch and listen carefully to what the individual says and does including hand, finger and leg movements.
- (7) Compare lying behaviour with their natural behaviour in similar circumstances.
- (8) Consider the importance of cultural and ethnic factors as these are likely to influence whether deception occurs. For example Black people from Surinam show more gaze aversion, smiling, hand-arm movements and speech disturbances (Vrij, 2003). In western cultures these could be an indication of lying.

Problems Associated with Lie Detection

There is no typical non verbal behaviour which is indicative in all cases of deception. That is, not all liars show the same behaviours in reaction to questions assessing their truthfulness. Some behaviours are however more likely to manifest themselves during attempts of deception rather than being truthful. There is therefore no such thing as typical deceptive behaviour. People on the whole receive more true than lying statements. There are therefore habituated to hear what they interpret to be true because they have what can only be termed a ‘mindset’ which is truth determined. Vrij (2003) calls this a truth bias. They are therefore

lacking in vigilance when deception is practiced. Paranoid individuals would have the reverse tendency viewing many statements and actions with suspicion of lying when in fact they are true. It is no wonder that even among the experts who have studied whether it is possible to detect deception there are contrary views. Poole & White (1991) is pessimistic about the capacity to improve lie detection by training however Vrij & Graham (1997) is cautiously optimistic that training can improve the ability to detect lies. The difference in capacity to identify lies between trained and untrained police officers in detecting deception is low with them achieving success 57% of the time compared with 54% consecutively.

There are considerable individual differences in those who can and those who cannot, or are less accurate in detecting deception. The problem is due to the fact that different liars showed different signs pertaining to lying. There appear to be no stereotype signs that constitute deception in all individuals however some signs of deception occur more often in those who lie than among truthful individuals. Those who attempt to deceive may make more implausible, shorter, self referencing and negative statements. They may also reply in a less direct manner (Vrij, 2003; Akehurst, 1996). In the area of non verbal signs of deception, the findings are less clear-cut.

The use of statement validity assessment (SVA) also has its adherence. This approach which originated from Germany (Kohnken, 1987) consists of a structured interview and criteria based content analysis (CBCA). This is then evaluated via a checklist. It is used predominantly with children when there is an allegation of having been sexually abused. The interviews are all audio or videotaped. As always it is important for the child to communicate and leading questions must be avoided.

In summary much more work needs to be done to develop know-how or expertise in how to identify truth from deception. There is, however, considerable overlap between signs, both verbal and non-verbal, of deception and truthful responses. There is therefore a fine line between valid signs that indicate deception and those that do not. New approaches are being sought currently which seek to utilize more subtle ways of distinguishing between individuals who produce deception as differentiated from truthful responses.

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