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# The Art of Deception: Best "Academic" Techniques in Lie Detection

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## Abstract

Deception has nowadays become an intrinsic aspect of many people`s lives. Many studies have been so far conducted by various institutions and independent researchers to shed light on the process, motives, and especially indicators of deception introducing the field of Deception Analysis (Ekman, 2001; DePaulo & Morris, 2004; Vrij, 2008). However, many findings of these studies regarding deception indicators have been in contradiction with each other (Picornell, 2013). In this study, the researcher made an attempt to review major works on this issue and develop a comprehensive checklist of deception indicators, including linguistic and paralinguistic signals. This proposed checklist includes the deception indicators that are reported or suggested by experts. Later, the researcher conducted a series of interviews with a group of participants and asked them to tell a number of statements that some of them were lies. The researcher, using the deception indicators and deception detection techniques, tried to identify participants` deceptive statements; in other words, detect their lies. Results showed that some of deception indicators in the proposed checklist were spotted during the interviews but many of the others did not show up which cannot be good news for those who have long taken them seriously. Findings further showed that techniques that challenge memory like repeating; writing or specific questions can be helpful in catching liars with a lie. Finally, post-interview questions revealed precious insights about the level of stress, cognitive loads, and deceptive strategies of participants during the interviews.

**Key Words:** Deception, Lie, Deception Indicators, Deception Detection Techniques

## Introduction

The relationship between language and crime has been intense enough to urge researchers from every corner of the world to take their best shots in solving legal issues through their language expertise. Their attempts led to the emergence of forensic linguistics; an area of academic research which has proved to be highly effective with regard to criminal investigations and has made real contributions in numerous aspects including author identification, caller identification, plagiarism, asylum interviews, and in general crimes of language. Analyses of this line of work show that these activities which are involved with language have one common problem which is deception detection. In other words, it is safe to assume that deception detection is a key concept in all branches of forensic linguistics and in a broader spectrum, forensic science. In every criminal investigation, criminals do their best to deceive others and expunge their traces; and investigators on the other side try to neutralize their deception and catch them culprit. But detection of deception is beyond being simple. For years experts and law enforcement agencies dedicated time and resources to see through different aspects of this natural ability of human beings and find ways to detect it in the most efficient way possible.

The role of language in crime solving activities has long been appreciated by researchers and law enforcement agencies. Language, more or less is considered as an identification tool by which people can be distinguished from one another. This property has motivated researchers throughout ages to examine different aspects of language and see if they can be helpful in the process of investigations.

Efforts finally made it through the development of a new field of study, namely forensic linguistics. Forensic linguistics was introduced when Jan Svartvik published a seminal work on a murder case which later became known as "The Evans Statements: A Case for forensic linguistics". This work was a turning point in the history of research and analysis with regard to the intersection of language and crime. In *The Evans Statements,* Svartvik coined the term "forensic linguistics" to describe his application of analytical and quantitative methods in linguistics to a forensic issue; in this case, the authorship of statements. His analysis serves as a model for work in forensic linguistics, as he demonstrates careful syntactic and quantitative analysis in authorship identification (Svartvik, 1968).

This work established a platform for linguists to delve into other aspects of language and its use in criminal investigations and they left no stone untouched in the recent decades of its official inception.

Research in forensic linguistics was never limited to analyses of statements but it further covered many other areas including analyses of interviews or emergency calls, voice analysis, author identification, accent or dialect analysis, handwriting analysis, suicide notes, threat letters, plagiarism, etc. (Zimmerman, 1984; Shuy, 1993; Dines, 1994; Fitzgerald & Schilling, 2011; Hollien, 2002; Coulthard, 2004; Leonard, 2004; Olsson, 2008 ).

Critical to studies on language and crime is the ability to detect deception. In other words, in almost all cases of forensic linguistics researchers try to find out about the hidden truth underneath events. In this regard, deception detection becomes highly essential and rewarding (Shuy, 1998). It is highly unlikely to investigate a criminal case without being able to discern truth against lie which is in fact a call for progress in deception detection.

Although deception has always been part of human nature, academic investigation on deception detection analysis does not have a very long history. It was in the 19$^{th}$ century that researchers realized that deception can be detected by the involuntary behavior of deceptive

individuals. The identification of truth against deception became a hot business with the development of new scientific techniques which worked on the assumption that deception affects physiological states of human beings like heart rate, blood pressure, muscular activity, breathing rates, etc. (Picornell, 2012).

In general, we can say that two major trends where employed with respect to deception detection; human detection vs. machine detection. In one hand, investigators employed techniques which aimed to analyze the behavior of subjects using linguistic clues like story consistencies, choice of words or body language or leakage of emotions which could be detected by naked eyes. On the other hand, they also used technologies like plethysmograph, sphygmograph, polygraph, eye tracking systems, MRI brain scanning, etc. to further their knowledge about deception detection (Sacks, 1975; Ekman, 2001; Depaolo & Morris, 2004). In a fierce competition, both methods have pros and cons and in many cases they have been used together with the hope of achieving more accurate results. However, results have not been promising enough as men learned to fool interrogators along with their machines.

As defined earlier, forensic linguistics is the application of language in a forensic context; a context that a crime is committed and a linguist tries to help to shed light on the case and identify a culprit. This process, similar to any other forensic case, requires a potential ability on linguist`s side which is deception detection (Svartvik, 1968; Shuy, 1998; Solan & Tiersma, 2005; Olsson, 2008). Therefore, we can assume that deception detection analysis is an intrinsic element in forensic linguistics and knowing more about various aspects of deception and techniques in detecting them seems to be fundamental to solving cases in the interdisciplinary field of forensic linguistics.

Although many studies and experiments have been conducted with regard to deception analysis, there is no consensus on the best techniques or processes by which deception can be detected in human beings. This field of study is imbued with contradictory and unverified telltale signs of deception that in some cases can be true and in some cases can false. In other words, it can be assumed that deception indicators are not considered as deception indicators by all deception experts (Picornell, 2012; Zhou & Sung, 2008). On the other hand, no official comprehensive checklist of deception indicators has been introduced by the researchers which can cover all purported indicators of deception. In this state of chaos of uncertainty in the world of deception analysis, a plethora of studies seem to be necessary for confirming each of the purported deception indicators. The reason being, deception is one of the inborn natural properties of human beings and it never ceases to amaze how people use this property to gain advantage.

## Methodology

In this study, the researcher tried to identify a number of deception indicators reported by experts in an effort to develop a preliminary checklist of indicator. Categorizing the deception indicators into linguistic and paralinguistic subcategories the researcher aimed to run an experimental study to see if the indicators in the checklist show up during the interviews. The experimental phase of the research included 10 individuals who volunteered to participate in the study. The procedure required each participant to make 10 statements about themselves that some of those statements were lies. Meanwhile, the researcher could interrupt participants or ask follow up questions. Participants were asked to share which of their statements were false and which were true. After each interview, some questions were asked with regard to stress, memory, mathematics, composition and storytelling, genetics, difficulty of lying, education, reasons of

lying, feeling at the time of lying, time for preparation, and strategies of lying. Each interview was voice or video recorded, depending on the preference of participants, and were analyzed by the researcher to see if any indicators of the developed checklist appear during the interviews.

## Data Analysis and Findings

Reviewing the literature the researcher identified a number of indicators that were suggested by experts of deception detection. The researcher categorized the indicators into linguistic and paralinguistic indicators. While linguistic indicators mainly language use, paralinguistic indicators addressed body language.

The linguistic indicators that were identified by the researcher as signals of deception were the followings:

- Word quantity
- Inconsistency and contradiction
- Generalization
- Contraction of negative sentences
- Emphatic use of language
- Vagueness of statements
- Use of negative emotion words
- Deflection
- Past to present tense shift
- Use of specific words which can reveal opinions (e.g. whatever: contempt or if: self doubt)
- High pitch voice
- Grammatical errors, pauses, and disfluencies
- Excessive use of hedges and modifiers
- Group references vs. self-references
- Repetition to buy time
- Excessive use of gap fillers (e.g. actually, etc.)

The paralinguistic indicators that were identified by the researcher as signals of deception were the followings:

- Swallowing
- Fingers in front of the mouth
- Biting lips
- Looking down (guilt)
- Raising eyebrows
- Touching hair, watch, earrings, etc.
- Hand illustration
- Shrug
- Folding arms
- Clearing the throat
- Sweating
- Averting or blocking eyesight
- Middle finger
- Touching forehead
- Eye contact

- Blinking
- Raised eyebrows pulled together (fear)
- Tight lips + flap nostrils (anger)
- Eye movements
- Fake emotions

One note which should be taken into account is that none of the abovementioned signals indicate deception; they merely indicate a call for further investigation. However, clusters of these indicators can be of great significance as the more indicators show up the higher the possibility of deception will be.

Having identified the indicators, the researcher aimed to run an experimental study to see if they show up in a laboratory situation with 10 participants. Analysis of the findings of interviews can be categorized in three dimensions:

Indicators:

Analysis of the indicators requires perception and attention as it is quite likely to miss them in fractions of second or due to preoccupations. The indicators that were identified by the researcher when participants lied were inconsistency and contradiction of statements, abundance of short statements, negative emotion words, repetitions to buy time, swallowing, aversion of eyes, smiles, and clearing the throat.

Interpretation of Indicators:

With regard to the interpretation of indicators this remains constant that although these indicators were spotted when lying and can corroborate the previous research, they should not be considered as a definite sign of deception. Furthermore, indicators of deception can be manipulated if liars are professional. For instance, when it comes to hand illustrations analysis of the interviews showed that those who lied more also used hand illustration. Analysis also showed that those who were not very good at lying tend to break the eye contact.

Post Interview Questions:

After each interview, a number of questions were asked to attain more information about the potential variables in the context of deception. Answers can be summarized in the following perspectives:

- The level of stress was to a normal amount according to the participants; in other words, stress and anxiety did not play a significant role in the process. Preparation time for the interview was about five minutes for each participant.
- Results of the interviews showed that participants believe that their memory and storytelling capabilities as well as education are important in delivering a deception; however, they cast doubts on the impact of mathematics and genetics on the deceptive powers.
- Almost all participants confirmed that lying is not easy and requires different levels of mental ability on the basis of each individual and they usually do not leave a pleasant taste in liars` mouths and this will leave victims of deception some clue or indicator to detect deception.

- With regard to reasons of lies various motives can be mentioned; however, in one superordinate category "gaining advantage" can be considered as the main reason people attempt to lie.
- Strategies of deception are also dependent on each individual and this is an aspect which is intertwined with creative thoughts. Creativity plays a great role in delivery of deception as it needs theorizing victim`s moves. One of the most important strategies that could be inferred from participants` answer was to analyze the victim`s state of awareness to make a move.

## Conclusion

Language plays a significant role in deception as it is a major medium of its delivery. Studies have shown that a good command of language can help deceitful people get away with it. Therefore, it seems necessary to investigate deception from linguistic perspectives. One of the most challenging issues in deception analysis are the indicators that are attributed to deceptive people as there has never been a solid consensus on them. In this study, the researcher identified a number of deception indicators that were suggested by researchers and experts, and categorized them under linguistic and paralinguistic indicators. Later, a number of interviews were conducted to assess the visibility of the so-called indicators. Post-interview questions also revealed precious individual-based information regarding deception. This study tried to touch some of the key issues in deception analysis that each of which calls for further research and explorations.

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