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Difference between Detecting Emotional and Non-Emotional Lies

David De la Cruz¹²

There are various approaches currently used to detect deception. While many of those approaches encounter different flaws, there is a constant factor that could affect lie detection, intuition. Intuition allows any person to detect some lies, but it also disrupts others, including trained professionals, from accurately detecting deception. When individuals communicate between each other they are able to experience and understand what others are feeling through empathy. Without realizing, people are able to use their intuition, empathy, and emotions to unconsciously detect some deception. However, truth tellers and liars could experience the same emotions regardless of the veracity of their statement. Since there are many emotions that are displayed by individuals by communicating, lie detectors are overwhelmed with different signals that affect their accuracy. How much does unconscious lie detection affect people's ability to detect lies? In this study people's ability to detect lies will be assessed by comparing individual's accuracy when detecting the veracity of statements that vary in the amount of emotions displayed. I hypothesize that people will be better at detecting deception from others if there is a lower display of emotions, because they will be able to concentrate on the statement and the few truthful or untruthful emotions displayed with it.

From small white lies to great deceptive schemes, lies exist in every part of the society.

Being surrounded by lies, people constantly judge the veracity of other individuals' statements.

From parents judging if their kids are being deceptive, to train professionals trying to detect

deception, people unconsciously use their intuition to catch liars (Brinke, Stimson, & Carney,

2014). Even if trained professionals learn a different variety of methods to detect deception, the

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unconscious intuition is always a factor that is present in lie detection, because they are also humans. People can intuitively discover deception through their ability to empathize with others' emotions (Decety & Jackson, 2004). However, while intuition allows individuals to detect some lies, it also misleads them to misjudge other people's statements. I hypothesize that people will be better at detecting deception from others if there is a lower display of emotions that would consciously or unconsciously distract the lie detector.

The ability to detect deception is important in a variety of situations: clinical psychologists use it to discover truths about their clients in order to help them; when meeting new people, and individuals use it to assess others, in every profession, the ability to detect deception is used to judge and recruit the best candidates, there are other countless settings where lie detection is necessary. One of the most important situations where lie detection is necessary is in the criminal justice system (Frank & Feeley, 2003). In all the areas of the criminal justice system, the veracity of people's statements is constantly doubted; criminals sometimes lie about their deviant actions, their reasons, and even their own mental sanity. It is up to the police investigators, juries, judges, and many criminal justice professionals to be able to detect deception and separate it from truthful statements, and it is a heavy burden because their decision could free criminals into society or convict innocent citizens. Even if the importance of detecting deception is so important in the criminal justice system, most law enforcement agents' lie detection ability is not above average (51%) (Ekman & O'Sullivan, 1991). Only a few trained

personnel have an ability above average to detect lies (73%), which is not highly accurate (O'Sullivan, Frank, Hurley, & Tiwana, 2009).

In order to detect deception, people need to understand the different factors that influence liars, truth tellers, lie detectors, deceit detection techniques, and lies. Deception has various definitions depending on the setting it is use in; however, in a broad definition deception or lying is an intentional attempt, without warning, to create in another individual a belief which the communicator knows to be untruthful (Vrij, Granhag, & Porter, 2010). People are able to deceive because the area of the brain that controls verbal communication is located in the forebrain, which is the part that humans can consciously control (Navarro & Karllins, 2008). All individuals lie for different reasons, but not all people have the same ability to deceive others. There are different individual characteristics that good liars possess. The best liars are people whose natural behavior dismantle suspicion, who do not find it cognitively hard to lie, who do not experience negative emotions such as fear or guilt while lying, who are good actor and display an honest behavior, whose attractiveness may lead to an interference with the belief of their dishonesty, and /or who are “good psychologists” (Vrij, et al., 2010).

The ease with which individuals are able to detect lies depends on the other person's ability to lie, but even among the best liars there are still differences in their behavior compared to truth tellers. However, any behavioral differences between truth tellers and liars are typically small, which produces more difficulties for lie detectors (Depaulo, et al., 2003; Frank, & Feeley,

2003). Both truthful and untruthful individuals display emotions when answering for a question that could elicit emotion (e.g. both may experience sadness when asked about the death of their father; the only difference is that liars could display sadness because they are consciously or unconsciously thinking about the death of another person or the idea of their father's death). Lies are usually embedded in truths. Most untruthful statements are based on and/or inspired by the truth with minor differences in the details. Lies embedded in truth are used more than blatant lies because of the lower cognitive load or necessity to create all of the different details of a lie (Depaulo, et al., 1997).

Lie detectors also have different motivations to differentiate truthful from untruthful statements. As a common problem, lies sometimes are undetected because people do not attempt to uncover the truth, which is known as the ostrich effect (Frank & Feeley, 2003; Vrij, et al, 2010). People often believe the lie they are told because it is more tolerable, preferred and/or easier to accept than the possibility that they were told a lie (e.g. in a relationship people may prefer to believe that their partner is not seeing other people, even if they suppose otherwise). Lie detectors need to possess the motivation to discover the truth, even if the truth is not what they expect. The ostrich effect, which is the effect of how stereotypes affect lie detection, affects lie detectors' beliefs and ability to detect deception. Another advantage of liars is that lie detectors do not receive adequate feedback after deciding whether others are being truthful or deceptive. Therefore, lie detectors cannot be certain if their lie detection method is successful in most cases.

On the other hand, liars receive feedback after successfully deceiving others, if their lie was successful other people will not doubt them.

There are many different techniques used to detect deception. The most common methods involve the use of verbal and nonverbal communication simultaneously (Depaulo, et al., 2003). Reading an individual's body language can be a great source of information to determine if someone is lying or being truthful. Humans cannot control the nonverbal signals they display, because the part of the brain that controls those signals, the limbic system, reacts instantly and subconsciously (Navarro & Karlins, 2008). Reading another individual's body language is not an easy task for a variety of reasons. The main reason is that people are different from one another, meaning their baseline, nonverbal cues, and reactions are different. Humans show a variety of different cues when they are lying, mainly negative signs, like discomfort or guilt, but there is not a specific body language signal that characterizes lying (Depaulo, et al., 2003; Navarro & Karlins, 2008; Vrij, et al., 2010). However, by seeing and distinguishing nonverbal cues, and at the same time considering other factors, like the setting, the baseline nonverbal behavior, and others, the likelihood of distinguishing lies from truths greatly increases (Navarro & Karlins, 2008).

Traditionally, the focus of deception detection has been in the emotions experienced and displayed by truthful and untruthful individuals. However, this approach has limitations because, as previously described, both truth tellers and liars display the same emotions. The misreading of

any emotion could lead to errors in lie detection, and it is known as the Othello error (Vrij, et al., 2010). Another approach to detect lies is the premise of cognitive load. The argument of cognitive load is that being deceitful is mentally more demanding than being truthful (Ekman & O'sullivan, 1991). When people lie they use more cognitive process, which causes deceivers to lose focus easier while conducting various tasks. By making possible liars perform various tasks, their ability to create deception will decrease and eventually they will commit a mistake. There are also other methods for lie detection that are learned, such as the statement validity assessment. This method to detect deception is a criteria-based content approach that analyzes a list on 19 criteria argue to be present more in truthful statements than in untruthful ones (Vrij, 2005). However, learning different methods to detect deception is difficult and time consuming, and it requires motivation from the learner to master (Vrij, et al., 2010), which is why verbal and nonverbal cues, emotions, and intuitions are mostly used by people to detect lies even if there are various factors that interfere with these lie detection techniques.

A constant factor encountered in most lie detection techniques, which disrupts trained professionals from accurately catching liars, is a factor that also allows other individuals to distinguish lies in some circumstances, which is human's intuition. When humans interact with others, many different conscious and unconscious brain processes occur simultaneously; one of those processes is humans' ability to empathize with others (Decety & Jackson, 2004). People can perceive how others feel on a subconscious level through nonverbal signals, and that feeling

can give people the ability to feel deception, or notice a difference between others' verbal statements and nonverbal cues. This intuition makes people able to detect some lies without training, but it also makes trained professionals unable to accurately distinguish some statements (Albrechtsen, Meissner & Susa, 2009). People who are trained to detect deception would apply their knowledge in body language, cognitive load, and other strategies to detect lies. However, since they are still humans, their intuition can easily affect their judgement. Intuition for lie detection depends on the ability to empathize with others, and empathy depends on the emotional nonverbal signals others displays (Albrechtsen, et al, 2009; Decety & Jackson, 2004).

There are various methods used to detect deception. However, unconscious and uncontrollable factors, such as emotions, empathy, and intuition are always present when interacting with others; therefore affecting people's ability to detect lies. People can detect other individual's emotions through their empathy, which gives them an intuitive response of how others are feeling. The ability to know other people emotions is an advantage and a disadvantage in lie detection. The degree of how different emotions are display in each individual, depending on the truthfulness of their statement. However, every emotion is display in both liars and truth tellers. If lie detectors emphaticize with liars, there are various emotions that could be perceived. The flow of emotions prevents lie detectors from making an accurate judgement because categorizing each emotion as truthful or deceitful is not possible. Therefore, the least emotions are display could improve individuals' lie detection abilities. Is not possible to entirely omit

emotions from statements, however, the less emotions displayed by people, means less information perceived by lie detectors. Therefore, improving the chances detecting lies by perceiving and concentrating in the most important emotions displayed and other elements, such as body language, voice tone, and story content.

Proposed Methodology

In order to research how the emotions displayed by others affect people's lie detection ability, this research will test people's ability to detect lies from models that answered emotional questions and less, almost non-emotional questions. To create questions that would create an emotional response in the models and questions that would not create a high emotional response, faculty members will be ask to fill out a survey with 30 different questions. Each question in the survey will be constructed different; some questions will be more personal, while other questions will be common spoken topics. Faculty members will be ask to rate each question, from zero to five, depending on the level of emotion they think it will elicit in the models, zero being the less emotional and five more emotional. Additionally, faculty members will rate each question depending on the type of emotions it could elicit in the models, a negative sign before the number if the question could provoke a negative emotional response, and not sign for emotional response. Only a small number of faculty members will be ask to complete the survey if the responses from five professors do not vary among each other. From the list, a total of 10 emotional questions are going to be selected depending on the highest it is rated. Questions that

could provoke a negative response will not be use because it could motivate models to ignore the instructions of the investigator. A total of 10 non-emotional questions are going to be selected depending on the lowest-closer to zero score receive.

The videos will be created by the principal investigator to obtain more control over the models and location in the videos, the questions asked, and the length of each video. A total of 32 videos will be recorded using eight models from four different ethnic groups (Caucasian, African American, Asian, and Hispanic/Latino). All eight models will respond to four randomly chosen questions. Half of the questions asked to the models will be from the emotional category, while the other half will be form the non-emotional category of questions. Models will be instructed to tell the truth or lie before listening to the question. In order to obtain the most natural response, models will not be informed about the topics of the questions they will be required to answer. If the model prefers to avoid answering a question, another random question from the same category will be asked. Each of the eight models will respond to four questions, one non-emotional and emotional question with the truth, and one non-emotional and emotional question with a lie. The videos will be recorded using specialized cameras in order to provide research participants with most body signals and expressions displayed by the models. Models will be instructed to create a response for each question of at least 10 s. This will be instructed to models to avoid short responses which would lower the feedback display to participants. Each video will be expected to range from 20 to 35 s. The videos will be divided in four different

groups, with half of the videos being models responding to emotional questions, and the other half responding to non-emotional questions. Four videos in each group will display models lying, while the rest will display models telling the truth.

The study will be online to obtain a bigger and more varied participant sample.

Participants will be able to enter the study through social media (Facebook) or Psy Chi undergrad research webpage. Before beginning the study, participants will be required to read and sign a consent form (see Appendix A). Participants will begin by answering to the Toronto Empathy Questionnaire to measure their level of empathy, which will be use because it has high validity. (Spreng et al., 2009). Participant were then be instructed to carefully watch the short videos and respond whether the model in the video in telling the truth or a lie. There are going to be four different possible groups of videos, each with the eight videos previously recorded. The group of videos each participant is going to be assigned will be selected at random. After assessing each video and determining if the model is truthful or deceptive, participants will be require to rate their own decision and the method they think they use to decide (see Appendix A). A scale will be used for two variables, intuition and behavior observation, and participants will decide how much of each they think they use. If the behavior observation is higher than half the highest score, participants will be ask an additional question to prove that they use behavioral observation; participants will be require to write what they notice that made them judge the model's statement as truthful or deceptive.

After watching and answering the questions from the eight videos, participants will be required to complete a short survey to measure their knowledge and misconceptions in lie detection (see Appendix A). Participants will then fill a five question demographic survey to understand the culture, ethnicity, age, sex, and other differences of the participants. After completing the demographic survey, participants will receive their lie detection score and a note thanking individuals for their participation (see Appendix A).

Expected Findings

I expect to find a difference between the accuracy of detecting the non-emotional and emotional videos. I hope to find that participants will be better at detecting the non-emotional videos, because there is less overwhelming feedback presented to them, which can lower their accuracy. I predict that participants who notice something in the videos will be more accurate than participants who use their intuition if their score in the lie detection questionnaire is higher than average. If their score is lower, their knowledge about the signs and behaviors that allows lie detection will not be accurate, therefore, lowering their accuracy. I also expect to find that participants who are more empathetic will use more their intuition than other method to detect deception. Participant who have a better knowledge of lie detection will have higher accurate rates overall. There are many other variables in this research, which I do not know what to expect. For example, which category of videos will the more empathetic participants will be more accurate; empathy could allow individual to perceive models true emotions in the

emotional videos, but that empathy could also overwhelm the participant. There are many different results that could be obtained from this research study, which will allow to find more about deception detection, and unconscious lie detection.

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Appendix A

Emotional/Non-Emotional Lie Detection

Informed Consent Statement

Thank you for your interest in this research study. If you agree to participate, you will be asked to respond to some questions about how you relate to others and about your basic demographic information. You will also view some short videos and determine whether the person depicted is lying or telling the truth. You are free to skip any questions you feel uncomfortable addressing. Your participation in this study is strictly voluntary and you may choose to withdraw from the study at any time without any penalty or prejudice. The project should take between 10-15 minutes of your time. The information obtained from your responses will be analyzed only as part of aggregate data and all identifying information will be absent from the data in order to ensure anonymity. Your responses will be kept confidential and that data obtained from this study will only be available for research and educational purposes. In order to participate in this study you need to be 18 years old or older. Questions about the Research

If you have questions regarding this study, you may contact the principal investigator, David De la Cruz at dad991@lionmail.lindenwood.edu or the course professor, Dr. Nohara-LeClair at mnohara-leclair@lindenwood.edu Clicking on the "Agree" button below indicates that you have read and agreed with all the information previously mentioned, and you are legally 18 years old or more.

- Agree (1)
- Disagree (2)

Display This Question:

If Informed Consent Statement Thank you for your interest in this research study. If you agree to. Is Selected

Thank you for taking the time to read my consent statement!

If Thank you for taking the time... Is Displayed, Then Skip To End of Survey

When someone else is feeling excited, I tend to get excited too

- Always (4)
- Often (3)
- Sometimes (2)
- Rarely (1)
- Never (0)

It upsets me to see someone being treated disrespectfully

- Always (4)
- Often (3)
- Sometimes (2)
- Rarely (1)
- Never (0)

I enjoy making other people feel better

- Always (4)
- Often (3)
- Sometimes (2)
- Rarely (1)
- Never (0)

I have tender, concerned feelings for people less fortunate than me

- Always (4)
- Often (3)
- Sometimes (2)
- Rarely (1)
- Never (0)

I can tell when others are sad even when they do not say anything

- Always (4)
- Often (3)
- Sometimes (2)
- Rarely (1)
- Never (0)

I find that I am “in tune” with other people’s moods

- Always (4)
- Often (3)
- Sometimes (2)
- Rarely (1)
- Never (0)

I get a strong urge to help when I see someone who is upset

- Always (4)
- Often (3)
- Sometimes (2)
- Rarely (1)
- Never (0)

When I see someone being taken advantage of, I feel kind of protective towards him\her

- Always (4)
- Often (3)
- Sometimes (2)
- Rarely (1)
- Never (0)

Other people's misfortunes do not disturb me a great deal

- Always (0)
- Often (1)
- Sometimes (2)
- Rarely (3)
- Never (4)

I remain unaffected when someone close to me is happy

- Always (0)
- Often (1)
- Sometimes (2)
- Rarely (3)
- Never (4)

When a friend starts to talk about his\her problems, I try to steer the conversation towards something else

- Always (0)
- Often (1)
- Sometimes (2)
- Rarely (3)
- Never (4)

I do not feel sympathy for people who cause their own serious illnesses

- Always (0)
- Often (1)
- Sometimes (2)
- Rarely (3)
- Never (4)

I become irritated when someone cries

- Always (0)
- Often (1)
- Sometimes (2)
- Rarely (3)
- Never (4)

I am not really interested in how other people feel

- Always (0)
- Often (1)
- Sometimes (2)
- Rarely (3)
- Never (4)

When I see someone being treated unfairly, I do not feel very much pity for them

- Always (0)
- Often (1)
- Sometimes (2)
- Rarely (3)
- Never (4)

I find it silly for people to cry out of happiness

- Always (0)
- Often (1)
- Sometimes (2)
- Rarely (3)
- Never (4)

Please watch the following videos and answer the question: Is the person in the video lying or telling the truth?

Video

- Truth (1)
- Lie (2)

Display This Question:

If Video Truth Is Selected

By using the slider below indicate the extend to which you relied on intuition and observation when judging the truthfulness of the model in the video.

_____ I feel it (Intuition) (0)

_____ I observed truthful signs or behavior (1)

Display This Question:

If By using the slider below indicate the extend to which you relied on intuition and observation when judging the truthfulness of the model in the video. I observed truthful signs or behavior Is Greater Than or Equal to 50

Great job. Which signs and/or behavior did you noticed in the video? For example, eye movement, tone of voice, or any signs you observed.

Display This Question:

If Video Lie Is Selected

By using the slider below indicate the extend to which you relied on intuition and observation when judging the deception of the model in the video.

_____ I feel it (Intuition) (0)

_____ I observed deception signs or behavior (1)

Display This Question:

If By using the slider below indicate the extend to which you relied on intuition and observation when judging the deception of the model in the video. I observed deception signs or behavior Is Greater Than or Equal to 50

Great job. Which signs and/or behavior did you noticed in the video? For example, eye movement, tone of voice, or any signs you observed.

A deceptive person is likely to avoid direct eye contact when asked a question.

True (0)

False (1)

People who are nervous or show fear when answering a question are lying.

- True (0)
- False (1)

Which of the following is the least reliable indicator of deception?

- Presence or absence of illustrators when talking (0)
- Vocal quality (1)
- Facial micro expressions (0)
- Emotions display (0)

When someone says a phrase like “To be honest...” or “To tell you the truth...” in response to a direct question:

- It indicates he is likely telling the truth (0)
- It suggests he is lying or omitting something (1)

Fake smiles can be identified because of the lack of action in which muscles?

- Muscles orbiting the eye (1)
- Muscles at the corners of the mouth (0)
- Muscles around the nose (0)

When a person is lying, the mistakes that can reveal his deception are more likely to be found in:

- The words of his story (0)
- The nonverbal behavior (1)
- The voice tone (0)

When asked the direct question “At what time did you arrived home yesterday?” a person being deceptive is more likely to respond by:

- Repeating the full question before answering (1)
- Repeating just a few words of the question before answering (0)

When asked a question, a person answering with a detail prologue is likely telling:

- A truthful story (0)
- A deceptive story (1)

When asked a question, a person who answers by using a strict chronological order is likely telling:

- A truthful story (0)
- A deceptive story (1)

When asked a question, a person who answers by sharing giving many details about the main event is likely telling:

- A truthful story (1)
- A deceptive story (0)

What is your gender?

- Male (1)
- Female (2)

What is your age?

What is your occupation or major?

How would you rate your ability to tell whether someone is lying or telling the truth?

- 0 (0)
- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)
- 8 (8)
- 9 (9)
- 10 (10)

What is your ethnicity? (Check all that apply)

- White/Caucasian (1)
- African American (2)
- Hispanic (3)
- Asian (4)
- Native American (5)
- Other (6) _____

Thank you for completing the survey!

Thank you for taking some time to participate in this survey.

The information you provided has been recorded and it will help discover more about deception and how emotions influence lie detection.

If you have any questions or concerns about this survey feel free to contact:

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