Deception and its detection - A brief overview

Franziska Clemens, PhD candidate
Department of Psychology
University of Gothenburg

Overview

• Deception
• Deception Detection
  ▫ How good are people at detecting deception?
  ▫ Cues to deception
  ▫ How can one detect deception?
• Research on deception detection
  ▫ Approaches to detect deception
• Take-home messages

Deception

A successful or unsuccessful deliberate attempt, without forewarning, to create in another a belief which the communicator considers to be untrue. (Vrij, 2008)

▫ Outright lies/Falsifications
▫ Exaggerations
▫ Subtle lies

Why do people lie?

• "Self-oriented"
  ▫ To gain psychological advantage
  ▫ To avoid material loss/punishment
  ▫ To make a positive impression on others
  ▫ To protect oneself (from embarrassment)
• "Other-oriented"
  ▫ To make others appear better
  ▫ To avoid another person's materialistic loss/punishment
  ▫ To save the other person from psychological damage
• Social lies, so-called "white lies"
How often do people lie? (i)

- Difficult topic to study
- Diary studies show that:
  - People lie in one out of every four of their social interactions
  - 50% were self-serving lies; 25% were told in the interest of others
  - 67% were outright lies
  - 60% were told for psychological reasons, 40% for materialistic reasons
  - Lies concerned most often feelings, attitudes and opinions

How often do people lie? (ii)

**Situational factor: Job**

- Study 1:
  - Undergraduate students
  - 83% would lie in order to get a job
  - They also thought that employers expected candidates to exaggerate qualities when applying
- Study 2:
  - 25% of Britain’s working population had misled their potential employers when applying for a job
  - Lies ranged from providing false details of personal skills and qualities to exaggerated experience and salary

Deception Detection

- People are usually bad at distinguishing between truthful and deceptive statements (accuracy rates ≈ 54%)
- In some studies we even find accuracy lower than 50%
- Chances for a correct judgment by guessing is 50%
- “Truth bias” (more truth judgments) ➔ higher accuracy rates for detecting truths
- “Lie bias” (more lie judgments)
Are experts better than laypersons at detecting deception?
- Studies show that professionals (most studies conducted with police officers) also only perform just above chance level
- Their performance is comparable to laypeople’s
- Possible reasons:
  - Police manuals
  - Experts are often too confident → they make quick decisions on the basis of limited information
  - Experts (e.g., police officers) often lack correct and immediate feedback

Gender differences in deception detection skills?
- Women are better than men in interpreting people’s nonverbal behavior
- But not better at detecting lies (in strangers)
  - Possible explanation: They are less suspicious than men and are more inclined to believe that they are told the truth; they perceive what someone wants to convey and not what someone tries to conceal

Why are people bad at detecting deception?
- Research set-ups
- Differences between truth tellers and liars are very subtle (Vrij, 2008)
- Strong and reliable cues to deception do not exist
  [DePaulo, Lindsay, Malone, Muhlenbruck, Charlton, & Cooper, 2003; Vrij, 2008]

Processes in liars
- Lying might cause certain emotions like:
  - Guilt
  - Fear
  - Excitement
- Lying is cognitively challenging
  - Remembering what one has said earlier
  - Consistent story
  - Reasonable story
- Liars try to control their behaviors
  - Are scared to show the stereotypical behavior of a liar
  - Try to avoid it
- Nervous body language
- Gaze aversion
- High-pitched voice
- More speech errors
- Less body movements
- Gaze aversion
- Longer pauses in speech
- Unnatural stiffness in body
- Lack of spontaneous involvement
Why are people bad at detecting deception?

- Research set-ups
- Differences between truth tellers and liars are very subtle (Vrij, 2008)
- Strong and reliable cues to deception do not exist (DePaulo, Lindsay, Malone, Muhlenbruck, Charlton, & Cooper, 2003; Vrij, 2008)
- Mismatch of objective and subjective cues to deception

Cues to deception

<table>
<thead>
<tr>
<th>Subjective cues</th>
<th>Objective cues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gaze aversion</td>
<td>Less gestures</td>
</tr>
<tr>
<td>More body movements</td>
<td>Less arm-, hand- and leg movements</td>
</tr>
<tr>
<td>Grooming gestures</td>
<td>High-pitched voice</td>
</tr>
<tr>
<td>Nervous giggling</td>
<td>Longer pauses</td>
</tr>
<tr>
<td>Stuttering/less fluent speech</td>
<td></td>
</tr>
<tr>
<td>Take longer breaks</td>
<td></td>
</tr>
</tbody>
</table>

No differences between truth tellers and liars for:

- Eye contact
- Smiles
- Position shifts
- Eye blinks

Why is there a mismatch between objective and subjective cues?

- People often think that liars have to be nervous → the cues that they attribute to lies are actually indicators of nervousness
- But people do not seem to consider that
  (a) truth tellers can also feel nervous
  (b) nervousness can be controlled by the person
Why incorrect beliefs?

- Cognitive biases
  - Confirmation bias
  - Selective memory
- Lack of feedback

How can one detect deception?

- Look at available evidence/check facts/check with another person
- The “lie catcher” can use signals sent by the person who deceives
  - Observe behavior
  - Measure physiological responses
  - Analyze speech

Research on Deception Detection

- Observers watch a short video fragment of people they do not know
- Usually half of the people in the videos tell the truth and half lie (50/50)
- Indicate whether person was lying or telling the truth; motivate decision
- Level of chance (50%)
Research on deception detection
Approaches to detect deception

A. Cognitive load approach
B. Unanticipated questions approach
C. Evidence-based approach: Strategic use of evidence approach

A. Cognitive load approach (i)
- Lying for the most is more cognitively demanding than telling the truth (Vrij, 2008)
- Liars are likely to experience more cognitive load in interrogations than truth-tellers
- Lie catchers could exploit this by employing interview techniques that further increase liars’ cognitive demand
- Liars: Fewer cognitive resources left over to address these mentally taxing interventions
- Difference between truth tellers and liars in terms of signs of cognitive load will be more pronounced

A. Cognitive load approach (ii)
How?
- Reverse order technique (Vrij et al., 2008)
- “Eye-contact” technique (Vrij, Mann, Leal, & Fisher, 2010)

B. Unanticipated question approach (i)
- Pre-interrogation preparation helps liars to decrease their cognitive load and to decrease risk of detection
- Outsmarting liars by asking questions that are:
  a) unanticipated
  b) that they have to answer in order not to raise suspicion
B. Unanticipated question approach (ii)

Experiment: Vrij et al., 2009

- Interviewed pairs of liars and truth tellers individually about having lunch together in a restaurant
  - Anticipated questions
  - Unanticipated questions (spatial, temporal information)
  - Unanticipated tasks (painting the layout of the restaurant)

- Anticipated questions: Pairs of truth tellers = pairs of liars
- Unanticipated questions: Pairs of truth tellers > pairs of liars

Elated cue to deception: Lower level of correspondence

C. Evidence-based approach

Strategic use of evidence (SUE) technique

- Uses available evidence strategically in order to actively elicit diagnostic cues to deception (Hartwig, Granhag, Strömwall, & Vrij, 2005)

SUE-Technique: Empirical results

<table>
<thead>
<tr>
<th></th>
<th>Trained interviewers</th>
<th>Untrained interviewers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cues to deception</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accuracy rate</td>
<td>85.4%</td>
<td>56.1%</td>
</tr>
</tbody>
</table>

(Hartwig, Granhag, Strömwall, & Kronkvist, 2006)

Take-home messages:
A few guidelines to catch liars (i)

- There is no cue uniquely related to deception
- Forget about the stereotypes you have
  - E.g., do not use signs of nervousness and attribute them to deception
- Pay attention to the more diagnostic verbal and nonverbal cues to deceit
- Pay attention to deviations from a person’s honest reactions in similar situations
Take-home messages: A few guidelines to catch liars (ii)

- Make the person talk (create an inviting environment)
- Do not make up your mind too quickly about whether a person is lying
- Be suspicious but do not show suspicion
- Ask unanticipated questions
- Be informed about factual evidence (use it strategically)

References