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Deception and its detection - A brief overview

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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"



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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

How good are people at detecting deception?

- People are usually bad at distinguishing between truthful and deceptive statements (accuracy rates \approx 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) \rightarrow 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 →
 - Nervous body language
 - Gaze aversion
 - High-pitched voice
 - More speech errors
 - Fear
 - Excitement
- Lying is cognitively challenging
 - Remembering what one has said earlier
 - Consistent story →
 - Less body movements
 - Gaze aversion
 - Longer pauses in speech
 - Reasonable story
- Liars try to control their behaviors
 - Are scared to show the stereotypical behavior of a liar
 - Try to avoid it →
 - Unnatural stiffness in body
 - Lack of spontaneous involvement

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- Mismatch of objective and subjective cues to deception

Cues to deception

Subjective cues	Objective cues
<ul style="list-style-type: none"> • Gaze aversion • More body movements • Grooming gestures • Nervous giggling • Stuttering/less fluent speech • Take longer breaks 	<ul style="list-style-type: none"> • Less gestures • Less arm-, hand- and leg movements • High-pitched voice • Longer pauses

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



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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

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)

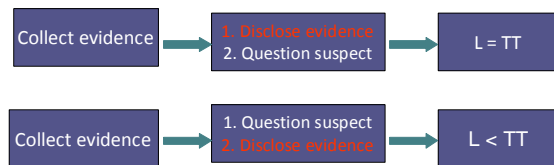
Experiment: Vrij et al., 2009

- 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
- *Elicited 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

	Trained interviewers	Untrained interviewers
Cues to deception	↑	↓
Accuracy rate	85.4%	56.1%

(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)

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