DECEPTION DETECTION

DEFINITIONS

- It is important to distinguish between False Memories and Deception. Why?

- **False Memory:**

- **Deception:**

**TYPES OF LIES**

- **Lies of Commission** include falsifications, distortions, & exaggerations.

- **Lies of Omission** include concealing the truth.

BELIEFS REGARDING CUES TO DECEPTION

- Why study people’s beliefs about deception?
  - Beliefs guide action ...

METHODOLOGY USED TO STUDY PEOPLE’S BELIEFS ABOUT DECEPTION

- **Surveys:**
  - Method:
  - Summary of Results:
  - Problems with Survey Methods?
METHODOLOGY USED TO STUDY PEOPLE'S BELIEFS ABOUT DECEPTION

- **Experiments:**

- In order to map the Ps beliefs with your judgments they can be asked to:

- **Findings of Experimental Methodology:**
  - Most commonly reported for cues for experts were:

    - Granhag & Stromwall (2000) showed 125 students 3 interrogations of the same suspect and found inter-observer disagreements:

- **Problems with Experimental Methods:**
  - Poor metacognition:


  **Nisbett & Wilson (1977): The “Distraction” Study**

  - Participants watch film under two conditions: No distraction vs. Distraction

  - Two questions:
    - How did the noise **actually** influence ratings (**objective** influence)?
    - How do people **think** the noise influence ratings (**subjective** influence)?

  **Results:**
WHY DO WE HAVE SUCH MISCONCEPTIONS ABOUT DECEPTIVE BEHAVIOR?

- **Feedback about performance on deception/lie detection**

  - The development of valid decision making rules demands feedback that is frequent, reliable, and preferably immediate.

- **Customs Officers:**

- **Criminals do receive feedback**
  - This feedback __________________________ about which deceptive strategies work.
  - __________________________ depends on a general alertness in order to not be deceived by others.
  - Criminals can __________________________ significantly __________________________ & can produce very convincing false confessions.
  - Researchers suggest that law enforcement avoid lying and manipulation during interrogations because

CUES TO DECEPTION IN POLICE INTERROGATION MANUALS

- **The Reid Method** (Inbau, Reid, & Buckley, 1986):

- Another Influential Manual claims that

- The research suggests that cues reported in police interrogation manuals
CUES TO DECEPTION IN POLICE INTERROGATION MANUALS

- Kassin and Fong (1999) trained students in the Reid Technique and then compared their performance to untrained students.

- Mann et al. (2004) found that the more the officers’ views endorsed the views recommended by the Reid method,

TRUTH AND LIE BIASES

- Deception Detection Accuracy is usually measured by the number of correct judgments in relation to total number of judgments (chance = 50%).

- Some researchers conduct separate computations for detecting accuracy of truthful and deceptive statements:

  Hartwig, Granhag, Stromwall, & Andersson (2004) found that prison inmates’ exhibited a very pronounced ________________

Signal Detection Theory

- SDT was developed to explain a number of factors that influence one’s ability to distinguish the signal (Lie) from the noise.

- More than the stimulus alone determines detection/accuracy:

  - Criterion: how strong the sensation needs to be before the person will say they detected it.

  - Four Possible Outcomes of Police Interrogation (Hypothesis Testing)

    - The frequency of outcomes change when you move the criterion, but overall accuracy does not.
      - Conservative (truth bias)
      - Liberal (lie bias)
      - You change the types of errors you make.
Signal Detection Theory

- Sensitivity (d') - with more sensitivity the overall accuracy of response increases with less sensitivity accuracy ↓.

Confidence

ACCURACY OF LIE DETECTION METHODS

- **There Are 3 Ways To Detect Lying:**
  - By analyzing speech
  - By measuring physiological responses
  - By observing behavior

Analyzing Speech

- **Statement Validity Analysis (SVA):** was developed in Germany to determine the credibility of children's testimony.
  - SVA results are accepted as evidence in criminal Courts in several countries, but is NOT accepted in US Courts.
  - **Undeutsch Hypothesis:**

Analyzing Speech

- **SVA consists of 3 stages:**
  - **1st stage:**
  - **2nd stage:**
  - **3rd stage:**
Analyzing Speech

- **The CBCA**: the **CORE** and most important part of SVA.

- **Trained CBCA Experts** score the absence and the presence of the **18 CBCA criteria** on a **3 point scale**: 0 indicates that the criterion is absent, 1 the criterion is present, and 2 the criterion is strongly present.

- **Vrij's 2005 review of 37 studies in LHB** found that:

Reality Monitoring

- **Reality Monitoring**: The core assumption of this technique is that memories for experienced events differ in quality from memories of imagined (or fabricated) events.
  - Externally generated memories
  - Internally generated memories
  - The accuracy rates for Reality Monitoring

**PHYSIOLOGICAL ANALYSES OF LIE DETECTION**

**Polygraphs**

- **Polygraph**: Currently used in criminal investigations in countries all over the world including the US.

- The most commonly measured physiological responses are: (a) sweating of the fingers, (b) blood pressure, and (c) respiration.
Types of Polygraph Tests

- **Comparison or Control Question Test (CQT)** - This test uses 2 types of questions:
  - Control questions
  - Relevant questions

- The CQT is based on the premise that

- **Guilty Knowledge Test (GKT)**

- **Summary of Research CQT:**

- **Summary of Research GKT:**

- A cottage industry on how to beat the test has developed.
  - [http://antipolygraph.org/](http://antipolygraph.org/)
  - [http://www.police-test.net/](http://www.police-test.net/)

**Brain Fingerprinting (BF)**

- Lawrence Farwell states that BF detects whether or not certain information is stored in a person's brain.

- Caution = many critics of this technique and the claimed 99% accuracy rate.
BEHAVIORAL ANALYSES OF DECEPTION

- Research demonstrates that detecting lies using nonverbal cues is extremely difficult with police officer accuracies usually hovering around ______________.

- Some groups of law enforcement have shown better performance than others.

- Nonverbal cue differences between liars and truth tellers are ______________.

- Ekman et al. (1991) analyzed liars' and truth tellers' ______________ and correctly classified around 80% of liars and truth tellers.

- Frank and Ekman (1997) examined emotions that emerge via ______________ ______________ and correctly classified liars and truth tellers with these cues.

- Vrij, Akehurst, Soukara, & Bull (2004) and Vrij et al (2004) examined nonverbal cues that indicate ________________ and correctly identified 71% and 78% of truths and lies told.

WHAT ARE THE OBJECTIVE INDICATORS OF DECEPTION & TRUTH?

- Three Processes That Influence Lying:
  - Emotions
  - Attempting to Control
  - Content Complexity:

Diagnostic Cues to Deception

- Liars tend to speak in ______________ that might be the result of ______________.

- Liars ___________________ than truth tellers voices - another associate of __________________.
Diagnostic Cues to Deception

- ____________________________________ to tell are associated with an __________
  ____________________________________.

- ____________________________________ are associated with a decrease in speech
  errors and hesitations.

- ________________________ explains these differences – all liars will attempt to
  control speech, but when the lie is complicated it takes up a lot of cognitive
  resources and so few resources are left over for control of speech.

- Liarss tend to make fewer illustrators, eye blinks, and finger and hand
  movements.

- Liarss tend to tell their stories in ________________________, whereas
  truth tellers tend to give their accounts in ________________________ ways
  (retelling affects this).

- Truth tellers tend to ____________________________________
  than liars.

- Reality monitoring explanation of these differences.

- Liarss tend to sound less vocally expressive, more passive and uncertain.

- Gaze aversion and fidgeting ________________________

- Caveat:
Summary of Cues Related to Deception

- More verbal cues to deception than nonverbal.

- **Ekman's (2001)** work revealed that observing emotional micro-expressions in the face, might reveal valuable information about deception.
  - This work is still in its infancy and accuracy rates of this approach are not yet known.