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Forensic Psychology chapter 4

Deception

Polygraph: Is a device used to record an individuals autonomic nervous systems response. Polygraph tests rely on measuring physiological responses to different types of questions.

Polygraph disclosure test: Are used to uncover information about an offenders past behaviour.

Types of Polygraphs (2)

The comparison question test: The **CQT** is most commonly used to investigate criminal acts. Includes a pretest interview, followed by a series of questions administered while the suspects physiological responses are measured. The polygraph examiner then scores the charts and ends the CQT with a post test interview in which the results are discussed. Critical component is the Pre-test interview. Three types of questions are asked; irrelevant questions (ex: is your name mena), Relevant questions (ex: did you stab your ex wife on may 29th) and Comparison questions (ex: Before the age of 18 have you ever done anything illegal). Guilty suspects are assumed to react more to relevant questions than comparison questions which are specific to the crime. The polygraph test has 3 possible outcomes which are, truthful, deceptive or inconclusive. During the post test interview the examiner tells the suspect the outcome and if it is deceptive then he attempts to obtain a confession. The CQT is vulnerable to false-Positive errors (Falsely classifying innocent suspects as guilty).

The concealed Information Test: The **CIT** does not asses deception but instead aims to determine whether the suspect knows details about a crime that only the perpetrator would know, test is conducted in a multiple choice format. The guilty suspect will show a larger physiological response to the correct option. An innocent person will show the same physiological response to all options. The underlying principle of the CIT is that people will react strongly to information they recognize as distinctive vs unimportant information. The CIT is more difficult to construct, and cannot be used if details of the crime appear in the media also assumes that the suspect has knowledge of the correct choice. The CIT indicates that it is effective at identifying innocent participants, and slightly less effective at identifying guilty participants. The CIT is vulnerable to false-Negative errors (Falsely classifying guilty suspects as innocent).

Validity of Polygraph Techniques: Types of Study

Laboratory Studies: Volunteers simulate criminal behaviour by committing a mock crime or not committing a mock crime. The main advantage of Lab studies is that the experimenter knows the **Ground Truth** (The knowledge of whether the person is

actually guilty of innocent). Because of the large motivational and emotional differences between lab studies and field study situations, the results of lab studies have a limited application in real life.

Field Studies: Involve real-life situations and actual criminal suspects, together with actual polygraph examinations. Original examiners conduct the actual evaluation of the suspect. Blind evaluators are provided with only the original examiners charts and are given no information about the suspect or the case. Reliance on confessions to establish ground truth likely inflates polygraph accuracy rates. Most field studies have used confessions to establish ground truths.

Accuracy of the CQT

Most guilty suspects are accurately identified (84% - 98%). Many innocent suspects were classified as inconclusive with accuracy rates ranging from (55% - 78%). Between 9% - 24% were falsely identified as guilty.

CIT: 95%-98% accurate in detecting innocent. High false negative rate.

Countermeasures during a polygraph

Participants of a study were told to use either physical countermeasures (ex: biting their tongue or pressing their toes on the floor) or mental countermeasures (ex: counting backwards by 5 from 200) when asked a comparison question during the polygraph exam. Both countermeasures worked with 50% of the guilty suspects beating the polygraph test. Polygraph examiners were not able to tell which participants were using countermeasures.

The use of Anti-Anxiety drugs had no effect on the accuracy of the CIT.

Countermeasures: In regards to polygraph research, techniques used to try to conceal guilt.

Admissibility of Polygraph Evidence

Polygraph evidence is not advisable in Canadian Criminal Courts of Law. The court referred to the polygraph as being falsely imbued with “the mystique of science”, Thus causing jurors to give polygraph evidence more weight than it deserves when determining the verdict.

Brain Based Deception Research

Event-Relevant brain potentials: A type of brain based response that has been investigated for detecting deception. ERP’S are measure by placing electrodes on the scalp and by noting changes in the electrical patterns related to presentation of a stimulus. The P300 ERP occurs in response to significant stimuli that occur infrequently. One of the advantages of the ERP is that they have been proposed as a measure resistant to manipulation. If you are shown information that is specific to the crime you will show brain waves on the “*p300 line”*.

MRI: Most consistent findings is that the lie conditions produce greater activation in the prefrontal and anterior cingulate regions as compared to truth conditions. These findings indicate that brain imaging can differentiate which parts of the brain are involved in lying. Most scientists feel that it is premature to use MRI to detect deception and that results should not be admissible in court. Evidence in MRI lie detection resulted in more guilty verdicts compared to any other type of evidence presented.

Verbal and Nonverbal Cues to Lying

The most common method of deception detection is through the analysis of verbal characteristics and nonverbal behaviours. The act of deception produces a physiological change compared with telling the truth. Tone of voice is imperative at detecting deception through means of verbal cues. Non-verbal behaviours such as gaze aversion, smiling, and self manipulation (ex: rubbing ones hands) are not reliable indicators of deception.

Verbal Characteristics of Deception	Non Verbal Characteristics of Deception
Speech fillers (frequently saying uhm or ah)	Gaze aversion (avoiding eye contact)
Speech Errors (Sentence incompletion, slip of tongue)	Smiling (Frequency in smiling or laughs)
Pitch of voice	Blinking (Frequency of eye blinks)
Rate of speech	Fidgeting (Scratching head or playing with jewelry)
Speech Pauses (Length	Many hand gestures

It appears that lies in which you have to fabricate an answer to may be associated with one pattern of speech disturbances, whereas cognitively simpler lies (lies in which you must conceal something) may be associated with a different pattern of speech disturbances.

Verbal cues to Lying

One of the most reliable indicators was that liars provided fewer details than truth-tellers did. Liars were also rated as cooperative and more nervous/ tense than truth tellers. Truth tellers were more likely to spontaneously correct their stories and more likely to admit to a lack of memory than liars were.

In a study of 911 calls verbal cues were assessed to determine whether or not the person calling was a victim or involved in the event. Innocent callers were more likely to make requests for help with the victim, to correct any misinterpretations during the call, to be rude and demanding of immediate assistance and to cooperate with the 911 operator. They also displayed considerable emotion in their voice and spoke quickly.

Callers who committed or organized the killing were more likely to provide irrelevant details, blame or insult the victim, state that the victim was dead and be polite and patient with little emotion displayed in their voice.

Are some people better at detecting deception?

In short, no they are not.

In multiple studies conducted the accuracy rates for professionals and students is barely above what would be obtained from guessing (50%).

Poor performance in deception detection has been explained in 3 ways. First being that people tend to rely on behaviours that lack **predictive validity**. Second most people tend to have a **truth bias** which refers to the tendency of people to judge more messages as truthful than deceptive. Thirdly, there is only a small difference between truth tellers and liars.

The only group that performed better than chance were U.S secret service agents who were 64% accurate or better. A third of agents were 80% accurate or better. Potential explanations for this can be due to higher than usual stakes in which the suspect is highly motivated to lie, research has shown that high stake lies are easier to detect than low stake lies. Secondly the U.S secret service were very familiar with settings and types of individuals they were identifying. Deception detection depends more on the liar than the person assessing them.

Assessment of Malingering and Deception: Disorders of Deception

Factitious Disorders: A disorder in which the persons physical and psychological symptoms are intentionally produced and are adopted for no external rewards. This includes falsifications of physical or psychological signs or symptoms, or introduction of an injury or diseases, the individual present themselves with to others as ill, impaired or injured. Such deceptive behaviour is evident in the absence of obvious external rewards.

Somatoform disorder: Person presents physiological symptoms, but there is no physical reason for the disorder.

Munchausen Syndrome by Proxy: Used to describe cases in which parents or caregivers falsified symptoms in their children. Ex: a parent may overdose their child in order to gain sympathy and attention of others. Very large percentage of MBP cases are linked to the mother being the perpetrator. This term is also known as *Factious disorder imposed on Another.* Also known as factious disorder imposed on self when referring to self harm.

Malingering: Intentionally faking psychological symptoms or physical symptoms for some type of external gain. There are two key components of Malingering which include (1) The psychological or psychical symptoms are clearly under voluntary control and (2) There are external motivations for the production of symptoms.

Individuals with factious or Somatoform disorders often encourage and even insist on having physical tests and invasive procedures. Contrary, Malingerers will often refuse to cooperate with invasive procedures to determine the veracity of their symptoms.

For forensic purposes the rate of malingering is high with 45% of patients evaluated for competency or mental state at the time of offence produced invalid psychological profiles.

Reasons for malingering; To avoid harsh punishment, to appear to be unfit to stand trial, Patient may be seeking drugs, criminal may seek to do time in mental health facility, may seek financial gain from disability claim or workers compensation etc.

Defensiveness: This is the opposite of Malingering and is an extreme minimization of psychical or psychological symptoms. Some people might want to appear to be functioning well to meet an external need, such as being a fit parent.

Explanatory models of Malingering

Pathogenic model: This model assumes that people are motivated to malinger because of an underlying mental disorder. The patient attempts to gain control over his or her pathology by creating bogus symptoms. Little empirical support exists

Criminological model: Focuses on “Badness” of a bad person (antisocial personality disorder) in bad circumstances (legal difficulties), who is performing badly (Uncooperative).

Adaptational model: Malingering is likely to occur when (1) There is a perceived adversarial context. (2) Personal stakes are very high (3) There is no other viable alternative perceived. The Adaptational model was rated the most important and the pathogenic model was rated least important.

How to study Malingering

Research concerning Malingering can be conducted in 3 ways; Case study, simulation design, and known groups.

Most research on Malingering has used a simulation design. Participants are told to malinger a specific disorder and are typically compared with two groups. (1) a control group randomly selected from the same population as the malingerers and (2) clinical comparison group representing the disorders or symptoms that are being feigned. These studies address whether measures can detect malingering in non-clinical samples.

Studies have began to ask patients with mental disorders to feign a different mental disorder to exaggerate a different mental disorder or to exaggerate the severity of their symptoms. These studies address how effectively participants with mental disorders can malinger. Nearly half of psychiatric-in Patients either did not remember or did not follow the instructions to malinger.

Simulation design: As applied to malingering research, people are told to pretend they have a specific symptom or disorder.

Malingering Psychosis: Identify individuals attempting to feign symptoms to secure special accommodations.

Indicators of Malingered psychosis: Tend to overreact and show more bizarre symptoms, willing to discuss symptoms, control the assessment, evasiveness, atypical symptoms, Increased likelihood to report positive symptoms of schizophrenia, differences in auditory and visual hallucinations.