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Deception Detection in Clinical Interview

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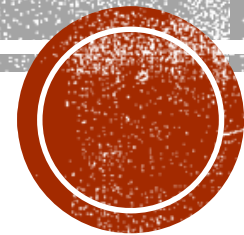
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DECEPTION DETECTION IN CLINICAL INTERVIEWS

By Olivia Preston & Lissie Lewis, under the direction of Dr.
Shawn Johnston, Ph.D.



WHO AND WHAT IS DECEPTION DETECTION USEFUL FOR?

- ❖ Forensic Psychologists
- ❖ Criminal Justice System
 - Judges
 - Police Officers
 - Probation Officers.
- ❖ Mentally Ill Offenders
- ❖ Society



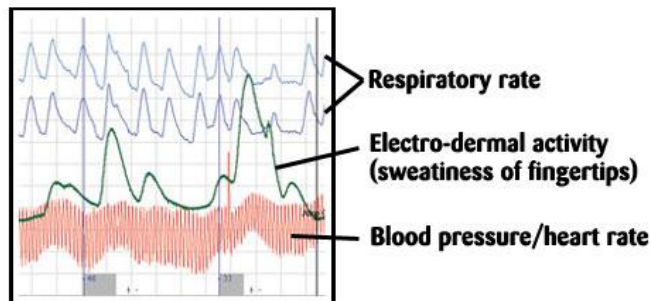
- ❖ Our research is from the *psychological* perspective.
- ❖ Forensic Psychology is the intersection between clinical psychology and the law.
 - Risk Assessment
 - Insanity Evaluation
 - Civil Commitment
 - Competency to Stand Trial
 - Treatment Amenableity
 - Personal Injury & Discrimination Cases



METHODS OF ASSESSING DECEPTION

Common Methods:

- ❖ Non-verbal body language
 - e.g. breaking eye contact, fidgeting.
- ❖ Paralinguistic cues
 - e.g. voice cracking, stammering, giggling, vocal pitch.
- ❖ Physiological Arousal
 - e.g. polygraph test



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Verbal Content Analysis:

- ❖ Examines the words that people use and the information they provide in a statement to determine truthfulness
- ❖ Focuses on the message instead of the sender
- ❖ Allows for more remote & efficient assessment
- ❖ Studies have shown higher reliability of Verbal Content Analysis than other methods of deception detection (Lee, Klaver, & Hart, 2008; ten Brinke & Porter, 2013; Vrij, 2008).
- ❖ The most empirically-supported measures of verbal content analysis are Reality Monitoring (RM) and Criteria-Based Content Analysis (CBCA).
- ❖ Our research has combined the most empirically-supported criteria/items from the two measures into one test – The FACT.



HOW THE FACT WAS DERIVED: CBCA AND RM MEASURES

Criterion Based Content Analysis

- ❖ Originated in Germany and Sweden
- ❖ Created to verify sexual abuse testimonies in children
- ❖ Adults tend to disbelieve testimony from children in the legal system
- ❖ Composed of 19 linguistic criterion: logical structure, quantity of details, reproducibility, related external associations, admitting to lapses in memory, etc.
- ❖ Posits that genuine experiences are too complex to fabricate



Reality Monitoring

- ❖ Created to distinguish the difference between real and imagined events (Johnson & Raye, 1981)
- ❖ Of concern when a defendant is mentally ill or psychotic.
- ❖ Real events have a higher levels of sensory-perceptual information.



Forensic Assessment of Client Truthfulness

Evaluation of Client

1. Clarity of Detail: The statement is presented in a clear manner and includes vivid details regarding who did what, when and where.

1-----2-----3-----4-----5
None or Almost No Detail Small Amount of Detail Moderate Detail Quite a Bit of Detail Considerable Detail

2. Spatial Details: The statement contains details about location or spatial arrangements of people or objects.

1-----2-----3-----4-----5
None or Almost No Detail Small Amount of Detail Moderate Detail Quite a Bit of Detail Considerable Detail

3. Temporal Details: The statement contains details that place the described event either at a specific point in the day or within a chain of events.

1-----2-----3-----4-----5
None or Almost No Detail Small Amount of Detail Moderate Detail Quite a Bit of Detail Considerable Detail

4. Reconstructability: The statement contains enough consistent, non-contradictory and logically plausible details to fully reconstruct what was said.

1-----2-----3-----4-----5
None or Almost No Detail Small Amount of Detail Moderate Detail Quite a Bit of Detail Considerable Detail

5. Realism: The content of this statement is believable, realistic and makes sense.

1-----2-----3-----4-----5
Not realistic Largely Unrealistic Somewhat Realistic Mostly Realistic Definitely Realistic

6. Contextual Details: The statement provides detail regarding people and events and their relationships to other people and events.

1-----2-----3-----4-----5
None or Almost No Detail Small Amount of Detail Moderate Detail Quite a Bit of Detail Considerable Detail

7. Relevance of Detail: The details presented in the statement are relevant to the question or topic.

1-----2-----3-----4-----5
None or Almost No Detail Small Amount of Detail Moderate Detail Quite a Bit of Detail Considerable Detail

8. Perceptual Information: The statement includes descriptions of sensory information such as sounds, smells, tastes, physical sensations and visual details.

1-----2-----3-----4-----5
None or Almost No Detail Small Amount of Detail Moderate Detail Quite a Bit of Detail Considerable Detail

9. Statement is Truthful: The overall statement seems truthful.

1-----2-----3-----4-----5
Untrue Probably/Mostly Untrue Uncertain/Undecided Regarding Truthfulness Probably/Mostly True True

THE FORENSIC ASSESSMENT OF CLIENT TRUTHFULNESS (FACT)

- ❖ Likert rating scale
- ❖ 8 indirect items
- ❖ 1 direct test of truthfulness – usefulness to psychologists
- ❖ Overall FACT Score ranging from 8-40.
- ❖ Dichotomized Interpretation (for current simplicity)



Examples of Verbal Content from a Truthful Accused Sex Offender

Spatial Details – *“He said he did have to tell these particular girls to remain within the line, something he said they seemed not to like but added that his teaching assistant was standing beside him when this happened.”*

Contextual Details – *“He said that a number of his young students reported being frightened by the presentation and he wondered if it may not have been counterproductive at least with regard to some of the pupils.”*

Realism – *“Beyond this he said he did not feel that the children who had falsely accused him had acted with malice or were specifically trying to hurt him. He did say however it seemed obvious that these children have some emotional problems which he hopes will be dealt with in the future.”*

Relevance – *“He speculated that the false allegations of the children who accused him may have been connected with a presentation earlier that week made to all the children at the school regarding protecting themselves from sexual abuse.”*



WHAT THE PREVIOUS RESEARCH SHOWS:

The Truthful Statement:

- ❖ Higher in realism
- ❖ Contains more clear and rich details (e.g. concrete examples).
- ❖ Details tend to be more relevant to the question/topic at hand.
- ❖ Information provided allows the listener to reconstruct the story.

The Deceptive Statement:

- ❖ Tends to seem less “realistic”
- ❖ Contains less details (e.g. temporal, contextual, spatial, perceptual).
- ❖ Details tend to be lower in relevance to the question/topic.
- ❖ Information provided is not enough or clear enough to reconstruct the story.

(Johnston, Candelier, Powers-Green & Rahmani, S., 2014; Johnston, Candelier, Preston, Powers-Green, & Johnston, in review)



OUR RESEARCH STUDY*

Research Methods:

- ❖ Experimental Study with Two Independent Variables: Truthfulness (1) and Type of Evaluation (2)
- ❖ Research Conditions: four statements by a truthful insanity claimant (1), deceptive insanity claimant (2), truthful accused sex offender (3) and deceptive accused sex offender (4).
- ❖ Procedure: Survey administration to undergraduate student participants.

Hypotheses:

- ❖ Overall FACT score and 8 items will significantly differentiate between true and deceptive statements.
- ❖ The FACT items will cluster into two groups, defined by statement details and statement quality.
- ❖ The FACT will be able to differentiate between different types of true (i.e. confession or exculpatory statement) and deceptive statements (lies of omission or lies of commission) of two different types of offenders
- ❖ The indirect assessment of truth (i.e. FACT scores) will be more accurate than direct assessment (i.e. 9th item of perceived truthfulness).

Statistical Tests:

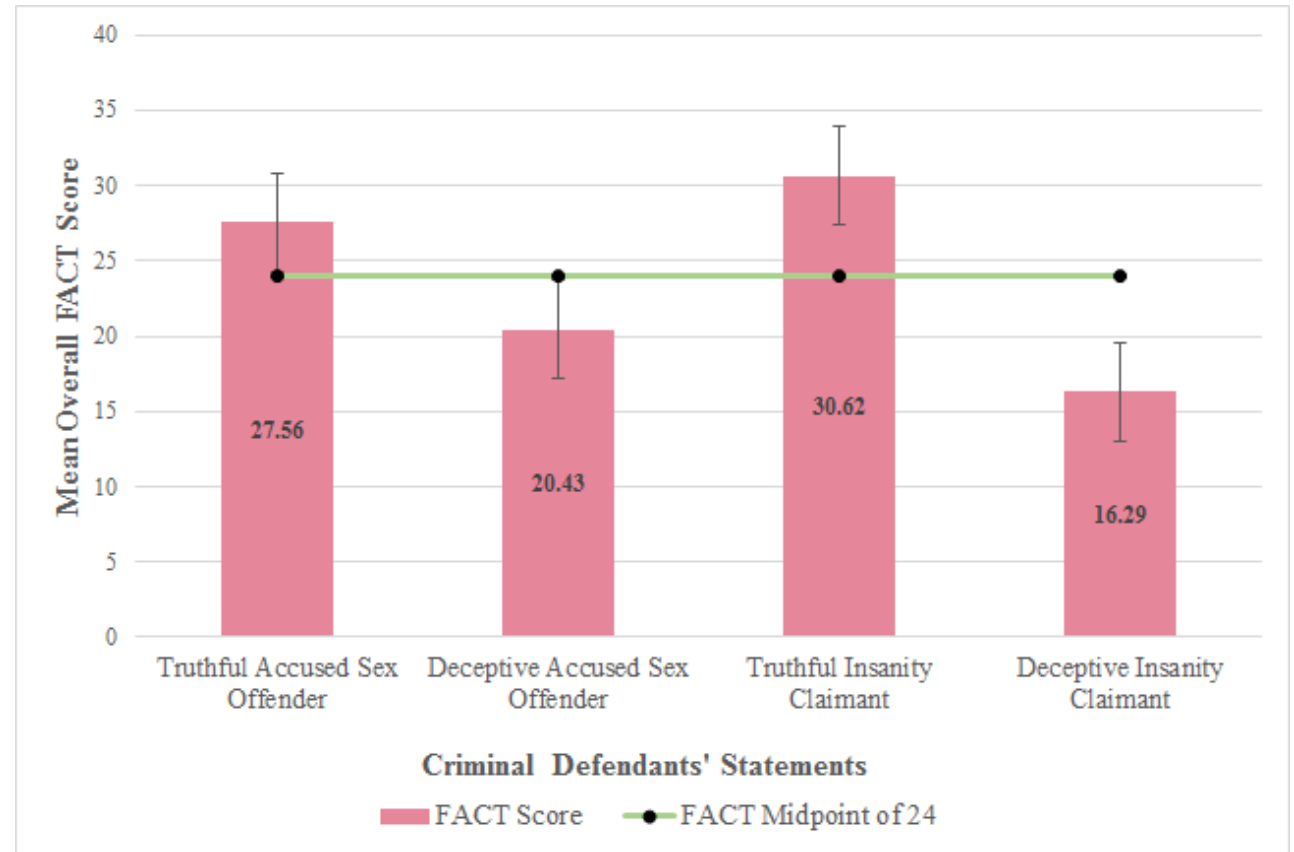
- ❖ Paired T-tests
- ❖ 2-way ANOVAS
- ❖ Factor Analyses
- ❖ Regression Analyses

*In Collaboration with Dr. Shawn Johnston, Alexis Candelier, Gabriel Johnston, & Dana Powers-Green.



PART I: TWO TYPES OF CRIMINAL DEFENDANTS

- Repeated-measures factorial ANOVAs, conducted to test for accuracy in deception detection as a function of truthfulness and evaluations type, revealed a significant interaction effect ($F = 75.97, p < 0.001$) between truthfulness and type of evaluation.
- The truthful insanity claimant whose statement was a *confession* was rated as more truthful than the truthful alleged sex offender whose statement was *exculpatory* ($t = -4.61, p < 0.001$). The deceptive insanity claimant whose statement was categorized by *lies of commission* was rated as more deceptive than the deceptive alleged sex offender whose statement was categorized by *lies of omission* ($t = 5.96, p < 0.001$).



- ❖ Our hypothesis that the FACT would differentiate between true and false statements was confirmed as the overall FACT score and the individual items all significantly differentiate between true and deceptive statements.



PART I: TWO TYPES OF CRIMINAL DEFENDANTS

- Varimax-rotated factor analysis on the eight FACT items results clustered the items into two distinct groups (See Table 1). All details items loading on Factor 1 above 0.50. The items assessing the quality of the statement, however, load above 0.60 on Factor 2.
- Repeated-measures factorial ANOVAs were conducted on the basis of the two subscales, **Statement Details** and **Statement Quality**, which revealed a significant interaction between truthfulness and evaluation type ($F = 76.02, p < 0.0001$).
- Further, the confession ($M = 19.24, SD = 3.39$) provided more details than the exculpatory statement ($M = 12.42, SD = 3.25$), but the lie of commission ($M = 10.54, SD = 3.87$) provided less details than the lie of omission ($M = 12.42, SD = 3.25$).

Table 1

Factor Loadings for the Eight FACT Items in all Four Experimental Conditions

	Factor 1	Factor 2
Spatial Detail	0.816	
Clarity of Detail	0.713	
Temporal Detail	0.709	
Perceptual Detail	0.609	
Contextual Detail	0.507	0.479
Relevance of Detail	0.349	0.627
Reconstructability		0.689
Realism		0.756
% of Cumulative Variance	31.5	54.7

Note: FACT = Forensic Assessment of Client Truthfulness. Factor 1 is the Statement Details subscale. Factor 2 is the Statement Quality subscale.

- ❖ Strong evidence was provided for the existence of two independent components of true and deceptive statements. The eight items are very clearly grouped into conceptual categories, Statement Details and Statement Quality.
- ❖ The subscales speak directly to the idea that truth and deception represent multidimensional concepts: detail quantity and statement quality.



PART II: DIRECT VERSUS INDIRECT

Research Question: Are psychologists more accurate in their detection of deception and truthfulness if they rely on their intuition or on the 8 FACT items?

Direct Assessment: Perceived Truthfulness

- Subjective and Intuitive Conclusion
- “Is this statement true or deceptive?”

Indirect Assessment: 8 FACT Items which are not clearly or overtly related to truthfulness

- Objective Conclusion
- Measured by adding 8 items for Overall FACT Score.

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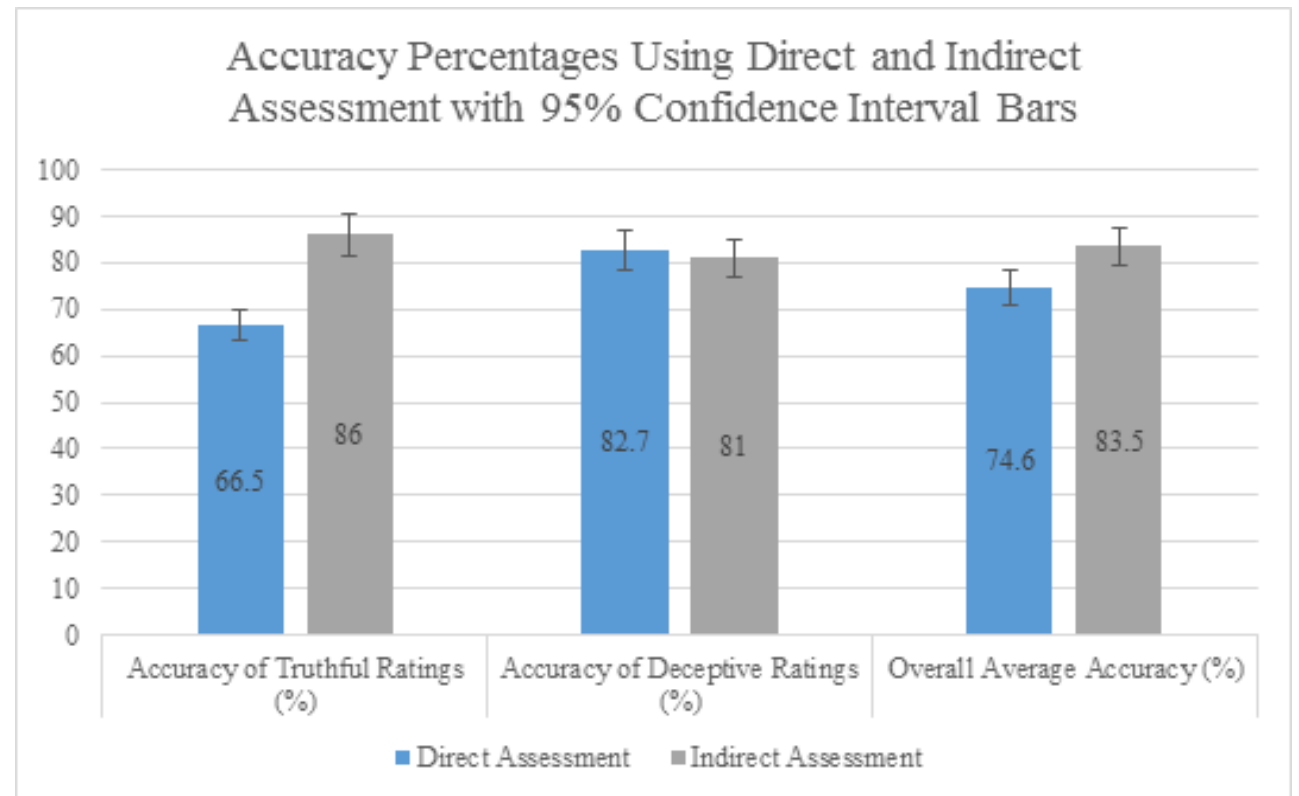
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- 9. Statement is Truthful:** The overall statement seems truthful.

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 Untrue Probably/Mostly Untrue Uncertain/Undecided Regarding Truthfulness Probably/Mostly True True



PART II: DIRECT VERSUS INDIRECT

The regression model using the FACT score (i.e. the indirect measure) as the target variable accounted for 76% of the variance and was highly significant ($R^2 = 0.76$, $F(3, 118) = 198.4$, $p < 0.0001$). The regression model using the direct assessment of truthfulness as the target variable accounted for 66% of the variance, and was highly significant ($R^2 = 0.66$, $F(3, 118) = 120.3$, $p < 0.0001$). The highest regression coefficient in the direct regression model was Realism at 0.447.



- ❖ Indirect assessment is more accurate than direct assessment and accounts for greater variability in the assessment by using variables with no intuitive relationship with veracity.
- ❖ In direct assessment, Statement Quality is more important than Statement Details, which are more important in indirect assessment.
- ❖ Direct assessment is dominated by the judgment of realism, the primary decision-making heuristic.
- ❖ The greater accuracy of indirect assessment may be a function of the greater amount of information available when the assessment of truthfulness is based on multiple factors rather than the heuristic: the simple judgment of realism.



Summary

Results:

- ❖ FACT items and the overall FACT score significantly differentiate between true and deceptive statements, as well as between different types of true and deceptive statements.
- ❖ FACT items divide into two categories – reflecting the nature of truthfulness: Statement Details and Statement Quality.
- ❖ Objective assessment is more accurate than intuition or subjective assessment (83.5% vs. 74.6%).
- ❖ Intuitive assessment relies primarily on judgement of realism while objective assessment relies more expansively on multiple factors.

Limitations:

- ❖ Undergraduate participants – not forensic psychologists nor police officers
- ❖ FACT has not been tested in a cross-cultural analysis
- ❖ Statements elicited by offenders may not be reflective of all possible statements made by defendants.
- ❖ Truthfulness or deception was determined in a court of law – may not always be accurate.

Conclusion:

- ❖ More research is currently being conducted by our research team in terms of generalizing the FACT to different types of criminal offenders and other situations involving the question of truthfulness and deception.
- ❖ The FACT has the potential to be a tool for the forensic psychologist to make a more informed structured judgement about client truthfulness.



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❖ THANK YOU FOR YOUR ATTENDANCE!



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