

Methodology and Protocol for Confidence Without Clarity: Overconfidence Bias and Its Impact on Deception Detection

Study Design:

This mixed-methods study explores the relationship between self-assessed deception detection abilities, confidence levels, and performance accuracy. Quantitative and qualitative data were collected using video-based assessments and surveys.

Participants:

- Recruitment: 200 participants recruited via community outreach and professional networks in the United States.
- Eligibility:
 - Minimum age: 18 years.
 - Fluent in English.
 - Exclusion: Individuals with professional experience in interrogation or deception detection.

Materials:

- Stimulus Videos:
 - A set of 16 videos categorized into false confessions, true confessions, false refutations, and true refutations.
 - Sourced from validated archives (e.g., Vrij, 2019).
- Questionnaires:
 - Pre-task self-assessment: Captures confidence levels and perceived deception detection ability.
 - Post-task assessments: Collects judgments (truthful/deceptive), confidence ratings, and relied

cues.

- Linguistic Analysis Software:

- LIWC (Linguistic Inquiry and Word Count) for detecting verbal inconsistencies.

Procedure:

1. Orientation and Consent: Participants were briefed on the study and provided informed consent.
2. Pre-task Survey: Participants assessed their deception detection abilities and confidence levels.
3. Task Phase: Participants analyzed 16 randomized video interviews, recording judgments and confidence ratings.
4. Post-task Reflection: Participants completed additional surveys detailing their reliance on verbal and non-verbal cues.
5. AI Benchmarking: Videos were analyzed by linguistic analysis software for comparative metrics.

Data Analysis:

- Quantitative metrics: Accuracy rates, confidence-performance correlations, and cue reliance analysis using regression.
- Qualitative metrics: Patterns of cultural misinterpretation and reliance on pseudoscientific cues.

Ethics:

- Approved by an institutional review board.
- Anonymized datasets to protect participant identity.