Lying, in a manner of speaking
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Introduction
A speaker’s manner of delivery often varies with the context of production and may influence a listener’s interpretation of the utterance. How do listeners rely on prosodic information when judging deception? Do their expectations align with cues produced by speakers when lying/truth-telling?

Previous work on deception

For speakers
1. Pitch variation due to various emotions associated with deception (the emotional hypothesis) [1]
2. Increased speech disturbances due to greater mental load (the cognitive hypothesis) [2]
3. Studies fail to identify a consistent pattern, e.g., [2] and [3]
   - Behaviour may be modulated by additional factors, e.g., speaker’s culture
   - Listener’s state of mind [5]

For listeners
- Speech rate and speech disturbances often perceived as cues to deception
- Direction of correlation inconsistent across studies, e.g., [6] and [7]
- Paralinguistic cues such as disfluencies often analysed collectively

Current study

Investigate the production and perception of paralinguistic cues to deception in the context of an interactive, two-person dialogue game.

Motivations
- Different disfluency types may arise from distinct processes (evidence from non-deception studies)
- Interactive element of task adds ecological validity (problems associated with cued lying paradigms or using scripted utterances)

Experiment

Participants
- 24 same-sex, native British English speaking dyads
  - Two roles: Speaker (lia) and Guesser (lie detector)

Stimuli
- Visually-related object pairs
- Motivation manipulation: Gold coins (20 points) and silver coins (5 points)

Design
- 48 trials; 8 lists
- Objects counterbalanced for role (treasure/non-treasure image), position (treasure on left/right) and motivation to lie (gold/silver coins)

An example trial:

Speaker’s perspective

Guesser’s perspective

Task
- Speakers specified an object as the one concealing the treasure (free to lie or tell the truth)
- Guessers clicked on object with the aim to find the treasure
- Players awarded points for treasure retained (Speakers) or found (Guessers)
- Winner received £1 cash reward

Results

Across 1,149 utterances
- 53.9% truthful, 55.8% judged to be truthful
- In line with truth bias observed by lie production/perception studies

For Guessers
- Utterances characterised by disfluency were more likely to be judged as deceptive
  - (a) Silent pauses, $p < .01$
  - (b) Filled pauses, $p = .07$
  - (c) Silent pause duration, $p < .05$
  - (d) Onset latency, $p = .08$

For Speakers
- Utterances were more likely to contain disfluencies when speaker told the truth
  - (a) Filled pauses, $p < .01$
  - (b) False starts, $p < .05$

No effect of motivation on any cues

Conclusions

1. There appears to be a disconnect between Guessers’ expectations and Speakers’ production of paralinguistic cues to deception
2. Pattern aligns with the attempted control approach to deception — Ss took into account G’s stereotypes of deceit and manipulated their manner to project an image of perceived veracity
3. Differences in mapping of individual cues between Gs and Ss may be due to
   - (a) Different disfluencies arising from separate causes (cf. Ekman & Friesen’s ‘leaky channels’)
   - (b) Too few occurrences of some disfluencies for a difference to be observed
4. G’s persistent (misguided) interpretation of cues reflects the ingrained nature of stereotypes of deceit

References