Is Speech Fluency Facilitated by Alignment Between Speakers?

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Alabama

- Civil Rights
- World War II
- The Blues

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Variability of Speech Fluency

- A variable disorder should not be attributed to stable cause (Johnson & Associates, 1959)
- Language and motor processes do not exist in isolation, rather speakers are “embedded” in changing social-communicative contexts (e.g., Marsh et al., 2009)
- Discourse variables thought to affect speech fluency have been examined in children who stutter (e.g., Kelly & Conture, 1992), but what can we learn from typical, adult speakers?
Discourse Variables

- Conversational partners (i.e., interlocutors) thought to “align” their linguistic representations (Pickering & Garrod, 2004)

- With alignment, interlocutors able to infer aspects of each other’s utterances, and thus plan the initiation of an utterance (de Ruiter et al., 2006)

- Initiation of one’s utterance can be planned to occur...
  - Immediately after termination of an utterance (latency)
  - Prior to termination of an utterance (overlap)
Spot the Difference

Speaker 1: h- how many windows do you have?

Speaker 2: got two windows.

Time: 101.49

Overlap

Time: 101.44

Wednesday, March 14, 12
Ability to infer aspects of an interlocutor’s utterance may aid planning, and thus facilitate fluency.

When such inferences cannot be made, frequency of pausing and/or interruptions may be high.

Speaker 1: have you got three-clouds?

Speaker 2: yeah-three-three-uh-clouds of steam.
Study Design

- Variables of interest
  - Discourse: Mean latency and overlap times, utterance length in words
  - Fluency: Interruptions (e.g., repetitions, revisions) and filled pauses (e.g., “um” and “uh”) per 100 words
- Hypothesis 1: If interlocutors align, discourse- and fluency-related variables of one interlocutor would predict those same measures in the other
- Hypothesis 2: If alignment related to fluency, discourse variables of one interlocutor would predict fluency in the other
Results

Hypothesis 1: Do speakers show evidence of alignment in terms of mean utterance length?

\[ p < .001 \]
Results

Hypothesis 1: Do speakers show evidence of alignment in terms of interruptions and filled pauses per 100
Results

Hypothesis 1: Do speakers show evidence of alignment in terms of mean overlap and latency?

![Graph showing mean time of utterance overlap and latency with p < .05 and p > .1 annotations.]
Results

Hypothesis 2: Does mean overlap for one speaker predict fluency in the other?
Results

Hypothesis 2: Does mean latency for one speaker predict fluency in the other?
Main Findings

- When one interlocutor spoke more, the other spoke less (*one interlocutor assumed leadership*)
- The greater mean overlap of one interlocutor, the greater mean overlap of the other (*they inferred aspects off each other’s utterances*)
- Overall, interlocutors appeared to align on some variables, but discourse measures of one interlocutor did not predict fluency of the other
Discussion

- Why so little support for Hypothesis 2?
  - Interlocutors bring different discourse styles and/or fluency styles to a dialogue
  - Interlocutors align to each other to maximize communication, not fluency
  - Factors related to the individual (e.g., emotion) may obscure any discourse-related effects on fluency
Concluding Thoughts

- Worth asking whether variability within a speaker (across situations) is greater than variability between speakers (within a situation)

- Worth considering that we have as much to learn about stuttering from factors shared with typical speakers as factors that are unique to stuttering


