



Stuttering Behaviors in a Virtual Job Interview

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INTRODUCTION

- Stuttering is “an abnormally high frequency or duration of stoppages in the forward flow of speech” (Guitar, 1998).
- Stuttering has affective, behavioral, and cognitive components (Yaruss, 1998)
- Stuttering impacts quality of life, employment opportunities and choices, and psychosocial well-being (Yaruss and Quesal, 2004)

Stuttering Treatment

- Current treatments of stuttering are efficacious (Bloodstein, 1995; Conture, 1996) and involve learning new ways of talking or managing the stuttering
- To promote generalization, clients may practice techniques with different listeners and in different settings (Manning, 2001; Finn, 2003).

Challenges

When clinicians practice skills outside the treatment room, they may

- Fail to maintain client confidentiality
- Require significant time and resources
- Lack control over the environment in which new techniques are practiced.
- Risk negative outcomes that compromise therapy gains

Current Study

Develop and testing of a VR Job Interview (VRJI) in which persons who stutter interact with two different interviewers (Challenging and Facilitative) while their fluency was assessed.

The overall purpose of this study was to evaluate the feasibility of applying VR Technology to stuttering treatment.

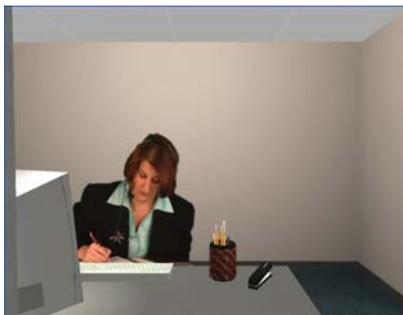
Research Design

- We hypothesized that more disfluencies would occur during the challenging VRJI, when compared to the facilitative VRJI.
- Within subjects design with repeated measures: Each subject participated in two interviews, one challenging and one facilitative
- Content of questions were the same in both interview conditions, but delivery was different.
- Order of interviews counterbalanced.
- Interviewer gender counterbalanced.

Participants

- 20 Persons who stutter (PWS)
- Exclusion criteria: self-reported speech disorders other than stuttering, psychiatric disorders, severe motion sickness
- Stuttering severity calculated using the standardized *Stuttering Severity Instrument-3*
 - Mild-to moderate severity, N = 16
 - Severe stuttering, N = 4

Waiting Room



Reception person set tone for coming interview through interactions with participants and interviewers.

e.g., "I bet your here for the interview....."

"You are scheduled to see our CEO and I have to tell you that they are really busy...."

Job Interviews



Challenging

Facilitative

Interview Styles

Challenging Interviewers:

- Spoke under increased time pressure (said they were in a hurry)
- Interrupted (posed questions, then took phone calls)
- Repeatedly broke eye contact
- Were introduced as the CEO of the company

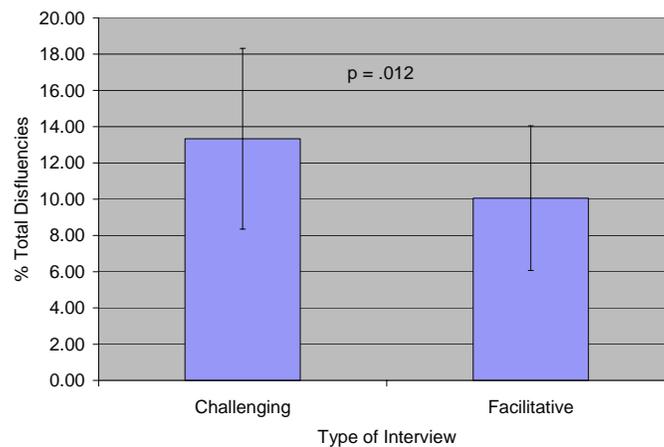
Facilitative Interviewers:

- Were relaxed
- Maintained eye contact and did not interrupt
- Were not company CEOs
- Advertised that they themselves were a PWS

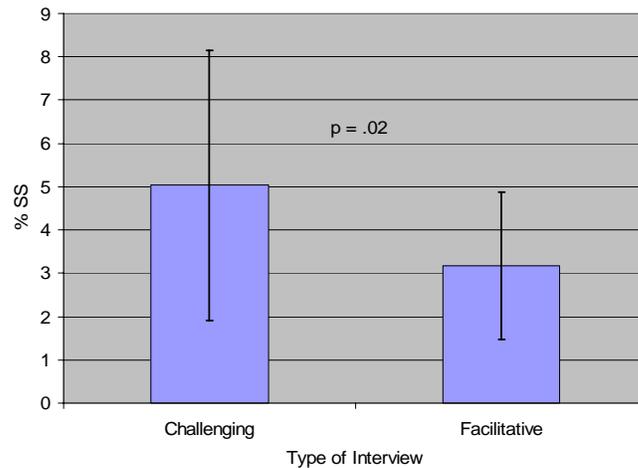
Analyses

- Four severe PWS removed from analyses, because they were statistical outliers.
- Paired t-tests comparing dependent measures in challenging and facilitative conditions
- Reliability of stuttering measures was assured through multiple independent judges scoring speech samples.
 - Point to point reliability was >80%

% Total Disfluencies



% Stuttered Syllables



Participant Comments about the VR Experience

- "I thought it really simulated a true-life experience. When I was walking in, my hands were nervous, it felt like I was going to a real interview, I was frankly surprised. I thought the technology was great, I didn't think you could simulate it any better than that."
- "Felt very stressed out"
- "Felt like I was right there in there"
- "Felt fear and avoidance about stuttering"
- "It simulated me when I'm bad. All the physical responses and reactions, eyes and mouth and tension, it was all there."

Discussion

- Increased stuttering during challenging job interview
- Subjective experience of being in job interview

Future Directions:

- Analysis of cortisol samples obtained during virtual job interviews
- Using VR to enhance assessment and treatment of stuttering and other communication disorders

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