

Effects of Asynchronous Training on Public Speaking Speech Disfluencies

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INTRODUCTION

Many people are uncomfortable speaking publicly; often emitting speech disfluencies such as vocalized pauses and filler words (Bell, 2011).

Previous research has demonstrated that awareness training (AT) in either one-on-one (e.g., Ortiz et al., 2022) and small-group (Perrin et al., 2021) formats is effective at reducing speech disfluencies. However synchronous training may reduce practicality for widespread adoption. Providing training in a computer-based format may be as effective and would allow for asynchronous delivery.

Another consistent aspect of this literature is the use of samples of participants' speech disfluencies during awareness training. It is unclear the extent to which these recordings sampled the array of speech disfluencies emitted by the participant. Also, these samples may not include the non-examples necessary to establish stimulus control. This is especially important for words or phrases that function as both appropriate and disfluent speech (e.g., use of "you know"). A computer-based training could use previously recorded speech samples that provide clear examples and nonexamples of each form of disfluency.

The purpose of this study was to evaluate the effectiveness of asynchronous computer-based awareness training on public speaking speech disfluencies.

METHOD

Participants & Setting

- Four clinicians from a large not-for-profit organization participated in the study.
- Participants were between the ages of 31 and 35 years.
- Three of the participants identified as female, while one identified as male.
- None had prior formal training in public speaking.
- Participants received a \$25.00 Visa gift card as compensation for their time.

Dependent Variable and Data Analysis

- All data were collected from recordings of the speeches using BDataPro (Bullock et al., 2017).
- Frequency data were collected for filled pauses, tongue clicks, and inappropriate word use and combined into a single measure, disfluencies (see Perrin et al. (2021) for operational definitions).
- Exact agreement IOA was calculated for at least 30% of sessions. Across participants, mean IOA was 93.5% for filled pauses, 95.5% for tongue clicks, and 94.4% for inappropriate word use.

Procedures

- A concurrent multiple baseline design was used to evaluate the effectiveness of asynchronous AT on speech disfluencies.
- Data were collected during two Zoom® meetings (baseline and post-training) between the experimenter and a participant.

Baseline

- All speeches followed the same sequence.
 - The participant chose between two randomly selected novel speech topics.
 - The participant was provided 3 min to prepare for the speech.
 - To start the speech, the experimenter counted down from three and said "begin".
 - After 3 min, the experimenter held up a red card to signal the minimum duration was met.
 - If the participant was still speaking after 5 min, the experimenter stated, "Time is up, thank you".
 - If the participant, stopped speaking prior to 3 min the experimenter stated "please continue".
- Speeches were conducted until data were stable or trending upward.

Asynchronous AT

- Participants completed an interactive computer-based training that consisted of (a) a description of each type of speech disfluency, (b) audio samples of each type of speech disfluency, (c) and practice identifying whether or not a brief audio sample contained a speech disfluency.
- Following the training, participants took a quiz in which they identified the number of speech disfluencies in a 60 s vignette.
- The quiz continued until participants (a) correctly identified the number of speech disfluencies in a vignette, (b) identified at least 85% of the speech disfluencies for two consecutive vignettes, or (c) completed four questions.
- To progress to post-training participants were required to meet one of the first two criteria on the quiz.

Post-Training

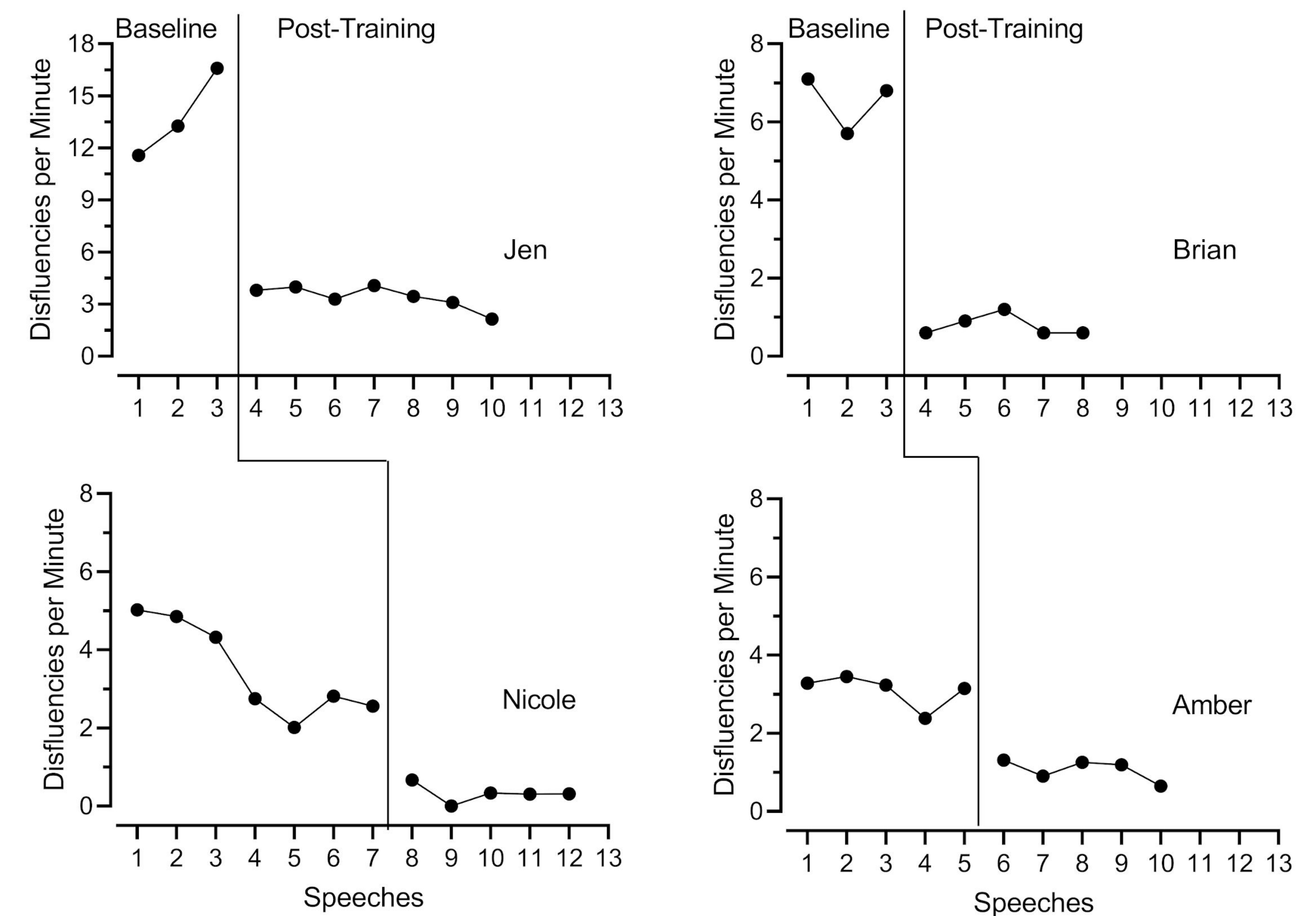
- Post-training was conducted no more than 72 hours after completing asynchronous AT.
- Procedures were identical to those described in baseline.
- Speeches were continued until data were stable or trending downward.

Rating scales

- Using a 5-point Likert-type scale, participants rated their public speaking abilities as well as the acceptability and effectiveness of the training.

Figure 1

Disfluencies per minute across baseline and post-training conditions for all participants.



RESULTS & DISCUSSION

- During baseline, all participants emitted moderate to high rates of speech disfluencies.
- Following asynchronous AT, speech disfluencies immediately decreased to low rates for all participants.
- Comparison of baseline and post-training responses on the public speaking abilities rating scale indicated that asynchronous AT led to (a) improvements in comfort, confidence, anxiousness, use of fillers, and inappropriate word use for all participants, and (b) improvements in public speaking ability for three out of four participants.
- Although preliminary, these data suggest asynchronous AT is effective at reducing speech disfluencies.
- Future research should evaluate the effects of asynchronous AT on speech disfluencies emitted during naturally occurring public speaking events.

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