

# *Case Study of SpeechEasy use Combined with Traditional Stuttering Treatment*

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## Introduction



- SpeechEasy (SE) first made available in 2001
- Utilizes delayed auditory feedback (DAF) and frequency altered feedback (FAF)
- For some, SE is sole treatment method (Ramig, Ellis, Pollard, & Finan, in press)
  - rural, out-of-the-way areas
  - schedules preclude regular clinical contact
  - past unsuccessful treatment experiences
- Manufacturer recommends device use combined with traditional stuttering treatment

## Aims, Methods

- Measure & describe effects of combined SE use & traditional stuttering treatment
  - overt stuttering frequency
  - self-report data
- 3 speech tasks
  - reading passage aloud
  - conversation with experimenter
  - asking questions to strangers
- Self-report measures
  - Perceptions of Stuttering Inventory (PSI)
  - Likert questions
  - final questionnaire
  - informal conversations

## Subject characteristics

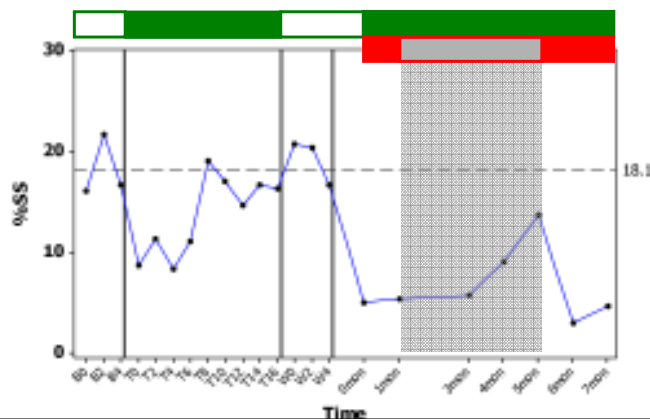
- Utilized convenience sample of one
  - 19 yr-old male
  - recently completed longitudinal SE project
  - chose to purchase device, begin treatment
- Sporadic tx in public schools through age 15
- Primary stuttering pattern: Excessive initial part-word repetitions/recoils (3-6); silent blocking as well, but to much lesser degree

## Treatment approach

- Therapy: Integrated approach, 1x a week
  - Board Recognized Fluency Specialist
- Goals:
  - 1) Replace repetitive recoil behavior with prolonging initial sound while emphasizing forward movement
  - 2) Lessen duration of silent blocks by turning on voicing & reducing tension
- Techniques:
  - easy onsets to initiate voicing & transition into next sound
  - desensitization exercises (e.g., voluntary stuttering)

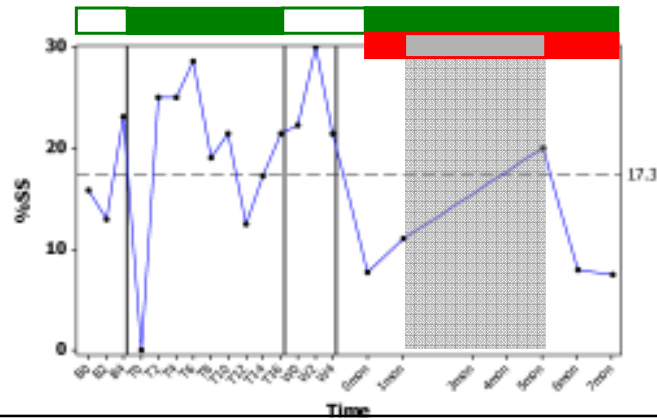
## Conversation Samples

- Green = wearing device; Red = traditional treatment
- Immediate effect of SE is evident
- Gradual relapse during longitudinal SE study
- Regressed over summer break (sporadic use of device)
- Maintained improvement for 2 months with treatment



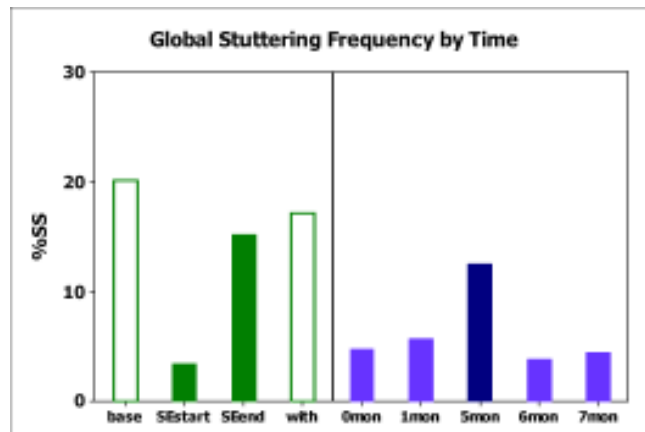
## Question Samples

- Green = wearing device; Red = traditional treatment
- Immediate effect of SE is evident
- No clear device effect during longitudinal SE study
- Regressed over summer break (sporadic use of device)
- Maintained improvement for 2 months with treatment



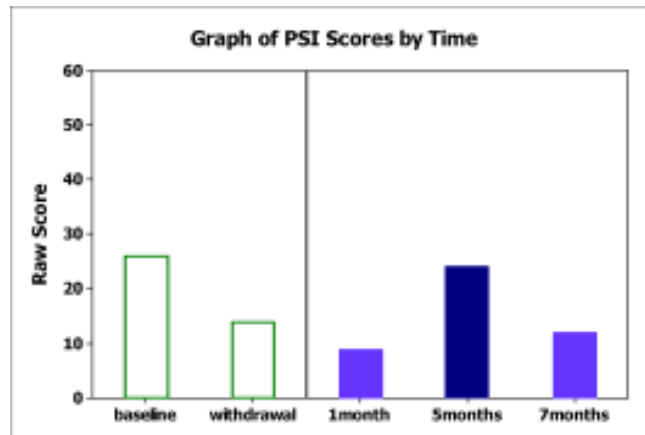
## Collapsed Stuttering Counts

- Filled bars = wearing device
- Gradual relapse without traditional treatment



## PSI Scores

- Showed improvement following longitudinal SE study
- Regressed over summer break (sporadic use of device)
- Improved score after 2 months of therapy



## Questionnaire Responses

Strongly disagree 1    Disagree 2    Somewhat disagree 3    Neutral 4    Somewhat agree 5    Agree 6    Strongly agree 7

- Compared to my speech right after participating in the longitudinal project, I am more fluent now
- The techniques I've learned in treatment have lessened my need and/or desire to use my SpeechEasy device
- Based on my experience, I would recommend that other SpeechEasy users seek stuttering therapy in a manner similar to myself

	start	1mon	7mon
Compared to my speech right after participating in the longitudinal project, I am more fluent now	4	6	7
The techniques I've learned in treatment have lessened my need and/or desire to use my SpeechEasy device		6	6
Based on my experience, I would recommend that other SpeechEasy users seek stuttering therapy in a manner similar to myself			7

## Usage Patterns

- Subject wore SE sporadically over the summer
- **In general, how did you feel over the summer while speaking with the SpeechEasy?**
  - SE had “more of an effect” after not wearing it for a while
  - found himself “tuning out” the signal after prolonged use
- Now restricts SE use to higher stress environments
  - class presentations, speaking in front of groups
  - study groups
- Reports that he maintains fluency in other situations without SE

## Clinical Recommendations

- Manufacturer guidelines confirmed (for this ONE individual):
  - 1) combining SE use with traditional therapy
    - easy onsets to initiate voicing:  
*“I find exercises to prolong the first sound of a word to be very helpful, especially in concert with the SpeechEasy”*
    - desensitization to minimize struggle, avoidance, expectancy behaviors (PSI)
  - 2) Attending to second speech signal from SE to maximize benefit

## Discussion

- For this ONE individual:
  1. Usage pattern became more situation-specific over time
    - *“Since I have resumed therapy, I feel less inclined to use the device in most situations.”*
    - reports that it is still helpful to wear SE in higher stress environments
  2. Traditional, active stuttering management techniques improved fluency
    - with device (%SS, PSI graphs)
    - without device (self-report)
  3. **Active monitoring of techniques and device use were needed to maximize outcomes**

