

Longitudinal Case Study: Stuttering and High Functioning Autism



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Introduction

- Past research has suggested that individuals with high functioning autism or Asperger's Syndrome (HFA/AS) produce sound-syllable and whole word repetitions and one-word revisions on 25% of utterances as opposed to 14% of utterances produced by a neurotypical comparison group (Shriberg, Paul, McSweeney, Klin, Cohen & Volkmar, 2001).
- Specific lexical retrieval or "semantic/phonemic fluency" difficulties have been found to occur in speakers with HFA/AS (Spek, Schatorje, Scholte & Van Berckelaer-Onnes, 2009; Turner, 1999).
- Some types of disfluencies can be noted as a positive prognostic sign or sign of therapy progress, such as when a person with AS produces revisions in the form of appropriate self-corrections.

Rationale and Purpose

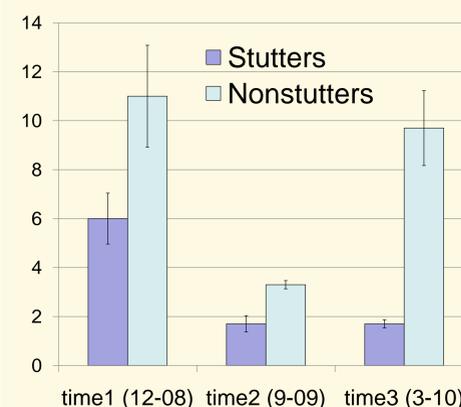
- Longitudinal research regarding the fluency of individuals with HFA is needed in a field that is currently bereft of such data.
- The purpose of this study was to determine frequency and type of disfluencies, specifically types of revisions, and how they change over time for a school-aged male with HFA while he was receiving fluency and social skills therapy.

Methods

- Spontaneous speech samples were collected over a two year span of time. Echolalia (i.e., pathological repetition of what is said by other people/movie characters as if echoing them) was excluded from 300-word samples, and disfluency types were coded.
- **Time1** includes a baseline sample when Client was 5 yrs or 64 mos of age at the time of initial evaluation (12-08).
- **Time2** was 9 mos later; Client was 81 mos (6 yrs) of age; UWEC CCD/school fluency/language therapy began (9-09).
- **Time3** was 6 mos later from Time2; 15 mos from Time1. Client is 87 mos of age, continuing UWEC CCD/school therapy services, primarily language/social skills based.

Results and Discussion

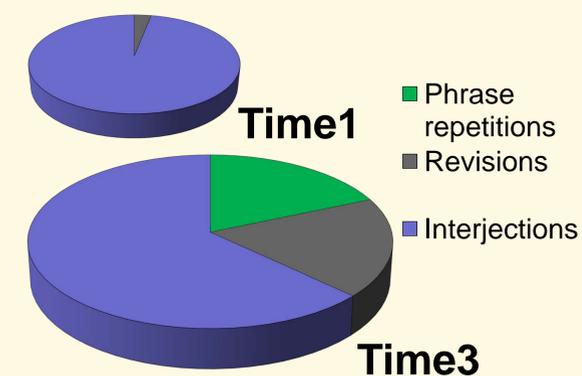
Figure 1: Mean Frequency per 100 words



- **Fig. 1** shows that client decreased mean frequency of Stutters (i.e., whole-word repetitions, sound-syllable repetitions, and prolongations) from Time1 to Time2, as might be expected due to the fluency therapy he was receiving. Standard error bars show a decrease in variability, as well.
- However, Nonstutters (i.e., phrase repetitions, revisions and interjections) increased between Time1 and Time2.

- **Fig. 2** shows an increase in phrase repetitions from Time1 to Time3 from 0 to 5 (19%), and an increase in revisions from 1 to 5 (19%).
- A decrease in the proportion of semantic/pragmatic revisions occurred between Time2 (4/5; 80%) and Time3 (3/5; 60%), and warrants more extensive sampling, as Spek et al. (2009) and Turner's (1999) findings would suggest.

Figure 2: Types of Nonstutters



- About 40% (4/11) of the revisions were one-word in type, as might be expected from Shriberg et al's (2001) study. Semantic/pragmatic revisions consisted of more than one word, but one-word revisions were mostly production-based (i.e., phonological/morphological).
- Perhaps production-based revisions increase at certain stages/phases of language development in a speaker with HFA/AS.
- Some revisions show Theory of Mind and disfluency cluster applications. For example, "Dad showed me the turkey that he brought. Cuz-cuz-cuz [W] I > [R] cuz he thought I liked turkey."

References:

- Shriberg, L., Paul, R., McSweeney, L., Klin, A., Cohen, D., & Volkmar, F. (2001). Speech and prosody characteristics of adolescents and adults with High Functioning Autism and Asperger's Syndrome. *Journal of Speech Language and Hearing research*, 44, 1097-1115.
- Spek, A., Schatorje, T., Sholte, E. and Van Berckelaer-Onnes, I. (2009) Verbal fluency in adults with high functioning autism or Asperger's syndrome. *Neuropsychologia*, 47 (3) 652-656.
- Turner (1999). Generating novel ideas: Fluency performance in high-functioning and learning disabled individuals with autism. *Journal of Child Psychology and Psychiatry and Allied Disciplines* 40 (2): 189-201.