

Are stuttering-like disfluencies in autistic persons part of a wider perseveration problem? A case study of three young adults

Veera Pirinen^a, Soile Loukusa^a, Katja Dindar^a, Leena Mäkinen^a, Tuula Hurtig^{bc}, Katja Jussila^{cde}, Marja-Leena Mattila^{ce}, and Kurt Eggers^{fgh}

^aResearch Unit of Logopedics, University of Oulu, Finland; ^bResearch Unit of Clinical Medicine, Psychiatry, Child Psychiatry, University of Oulu, Finland; ^cChild Psychiatry, Oulu University Hospital, Finland; ^dDivision of Psychology, VISE, Faculty of Education, University of Oulu, Finland; ^eResearch Unit of Clinical Medicine, Child Psychiatry, University of Oulu, Finland; ^fDepartment of Rehabilitation Sciences, Ghent University, Belgium; ^gDepartment of Speech-Language Pathology, Thomas More University College, Antwerp, Belgium; ^hDepartment of Psychology and Speech-Language Pathology, University of Turku, Finland

Introduction

In our previous study (Pirinen et al., 2023), we observed that in addition to the characteristics usually observed in stuttering, autistic adults produced other disfluency features, such as word-final disfluencies and atypical insertions. The aim of this study is to present these features in more detail in three persons who experienced these atypical disfluencies as well as other perseverative features, such as palilalia.

Methods

The cases of this study (C1, C2, & C3) were autistic young adults with a General Ability Index above 70. The age of the participants were 23, 23, and 33 years, respectively.

Frequencies for:

- 1) Total disfluencies
- 2) Stuttering-like disfluencies (SLD)
- 3) Other disfluencies (OD)
- 4) Atypical disfluencies (AD)

(Ambrose & Yairi, Pirinen et al., 2023)

Speech sample: Seven narratives about the content of the video clips.

Table 1. Disfluency classification

Stuttering-like Disfluencies	Other Disfluencies	Atypical Disfluencies
Sound and syllable repetition	Filled pause	Word-final repetition
Monosyllable word repetition	Revision	Word-final prolongation
Prolongation	Abandoned utterance	Atypical insertion
Block	Multisyllable word repetition	
Broken word	Phrase repetition	

Results

All the cases had total disfluency frequency above 10% (Figure 1).

Case 1:

- AD types were the most common features (57% word-final disfluencies, 43% atypical insertions).
- Part-word repetitions were the most common in the word-initial positions, whereas sound prolongations were the most common in the word-final positions.

References:
Ambrose, N.G., & Yairi, E. (1999). Normative disfluency data for early childhood stuttering. *Journal of Speech, Language, and Hearing Research*, 42, 895–909.
Pirinen, V., Loukusa, S., Dindar, K., Mäkinen, L., Hurtig, T., Jussila, K., Mattila, M.-L., & Eggers, K. (2023). A Comprehensive analysis of speech disfluencies in autistic young adults and control young adults: Group differences in typical, stuttering-like, and atypical disfluencies. *Journal of Speech, Language, and Hearing Research*, 66(3), 832–848.

Contact: veera.pirinen@oulu.fi

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- Word-final prolongations were more common in vowels than in consonants, and they were accompanied with atypical, strongly ascending intonation. An addition of an neutral schwa or /h/ (labeled as atypical insertion) was used to prevent or end the word-final prolongations.
- Lots of multisyllable repetitions.

Case 1 examples*:

- They walk there through three spaces and this ((cough)) **ap-appart-apparmentttt**.
- Along the corridor**(eh)**, and from there to o-then outside
- And talk and talk there**eee** at the **saaaame** time exactly about these**eee** ((cough)) **these things**
- Then meet this**sss** ((cough)) **this man here ou-outside**.
- Umh **blo-blond women(eh)** introduces da-him to the **dark dark womennnn**
- **A-a-a**-after that certainly books them a bit like ironically **orrrr(eh)** mentions that the dark woman would like to**(h)** be by herself which apparently**yyyy(h)** would **be(h)** be a **bitttt** opposi**(h)**te what the dark woman would have really **wannnted** which makes the whole situation a bit **i(h)-irooooooni(h)-ironic**.

Case 2:

- OD were the most common features.
- Part-word repetitions occurred in word-initial, word-middle, and word-final positions.
- Word-final repetitions were most often repetitions of the final sound, yet few instances of repetitions of the final syllable or part of the final syllable (rhyme) were observed. In some cases, the repetition occurred after a short delay (walking [pause]-ing).

Case 2 examples*:

- Young women-**n** are walking-**ing**, the other-**er**, the dark-haired, tells a bit of her own problems that-**t** she has to be the center of attention.
- She was a bit ove-**e-erly** smart maybe.
- They are walking unti-**i-il** the other, I don't remember the name-**e**, meets the ot- one-**e** young man.
- They leave by a car, and the othe-**e-e-er** girl-**i** is not anymore at- a bit in a center of attention.

Case 3:

- High frequencies of SLD and OD.
- Multiple continuous perseverative features that consisted of multisyllable word and phrase repetitions.
- Few instances of word-final disfluencies

Case 3 examples*:

- Quite lively imag- quite a such lively imagination in that daughter that live- lively imagination in that daugh- **[block]** quite lively imagination in that daughter and then probably that quite lively imagination in that daughte-**te**
- That cataract lear- fictional blindness and cataract cataract surgery even that cataract surgery and e-even uhm fictional bli- blindness and mom reads as astonished that progress book and are amazed that-**at-at-at** is it true

Conclusions

While some disfluency characteristics in autistic persons are similar to what is typically seen in developmental stuttering, others clearly differ. Difficulties in terminating sounds and repeating syllables in word-final position, multisyllable word repetitions, and continuous perseveration could be indicative of a more widespread inflexibility and perseveration problem. Thus, in addition to stuttering, some speech features of these autistic persons resembles characteristics associated with palilalia and/or logoclonia

*Please note that the linguistic characteristics of the examples differ between the original Finnish samples and translations.

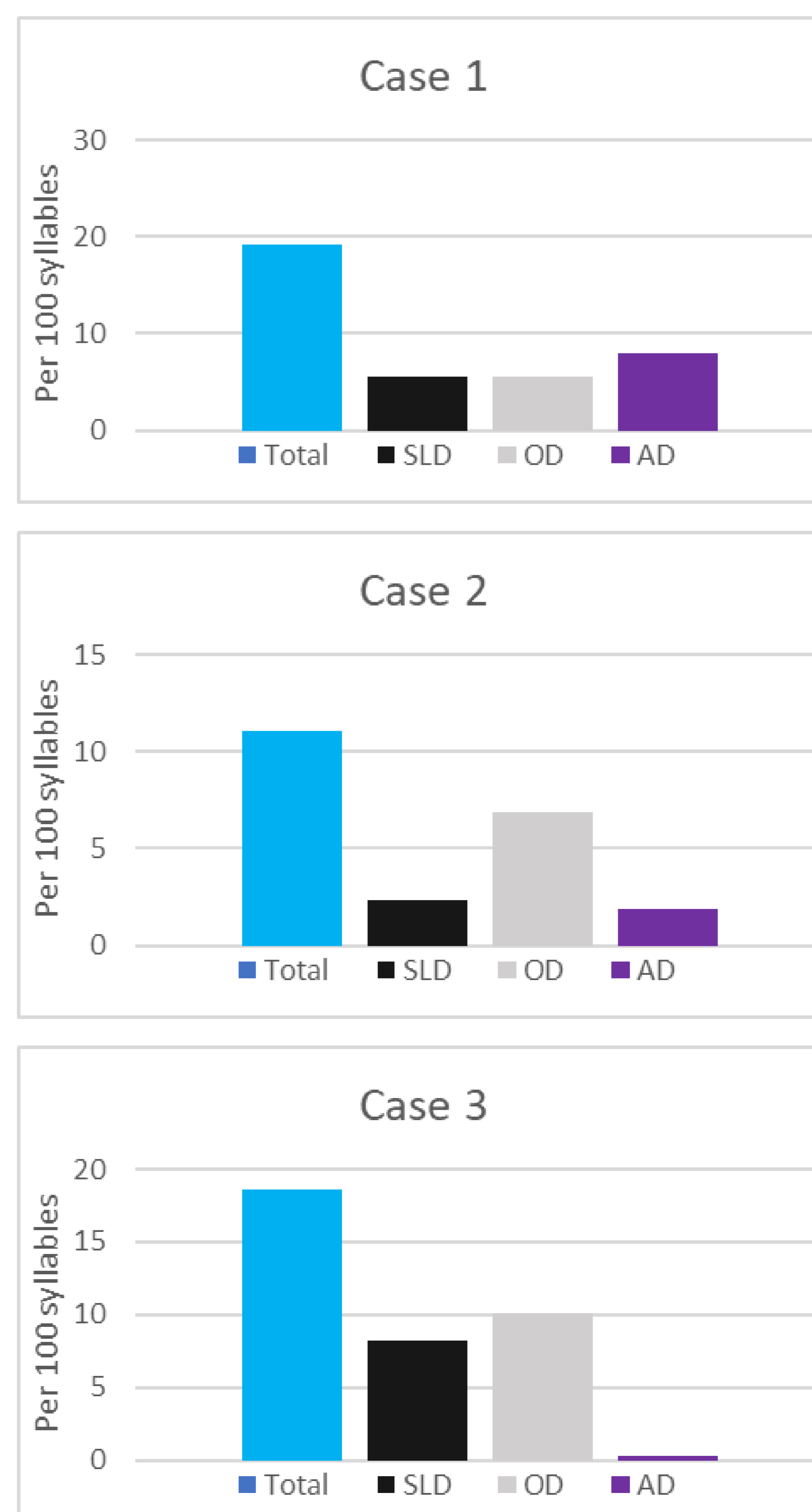


Figure 1. Disfluency frequencies per 100 syllables for each cases.