

Beyond stuttering

Speech disfluencies in normally fluent, French-speaking children at age four

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Introduction

Stuttering diagnosis: 3% stuttered disfluencies (e.g., Boey et al., 2007; Yairi & Ambrose, 2005).

Monosyllabic word repetitions are the prime characteristics that prompt identification of early stuttering by parents (Yairi & Ambrose, 2013). But should all monosyllabic word repetitions be considered as stuttered disfluencies, given their high frequency in typically developing young children (Howell, 2013; Wingate, 2001; Yairi et al., 2001)?

Few normative data exist concerning the disfluencies occurring in the speech of normally fluent children (Tumanova et al., 2014) and none exist in French.

Aim

→ The aim of the present study is to **establish normative data** concerning the speech disfluencies existing in **normally fluent, French-speaking children at age 4**, an age at which stuttering onset has occurred in 95% of children who stutter (Yairi & Ambrose, 2013).

Methods

Speech samples

- More than 200-word conversational speech sample, based on utterances longer than two words (Boey et al., 2007)
- Speech samples were videotaped for latter transcription (Howell et al., 2011)

Participants

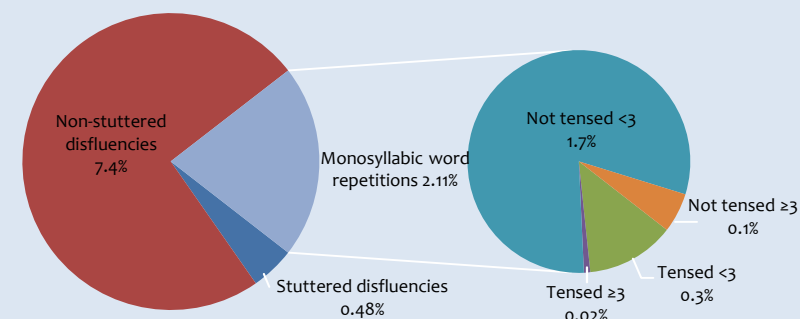
- 66 monolingual, French-speaking children who do not stutter, aged 4 (40 boys)
- They exhibited less than three stuttered disfluencies per 100 words of conversational speech, and scored ≤ 10 on the SSI-IV (Riley, 2009)
- Absence of labelling of stuttering now or in the past by family members and a specialised SLP

Results

Table 1. Descriptive statistics for non-stuttered disfluencies, stuttered disfluencies, monosyllabic whole word repetitions and total disfluencies per 100 words.

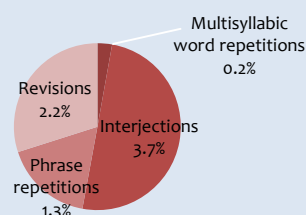
	Non-stuttered disfluencies	Stuttered disfluencies	Monosyllabic word repetitions	Total disfluencies
Mean (SD)	7.42 (2.88)	0.48 (0.50)	2.11 (1.68)	10.02 (4.27)
Range	3.44 – 15.96	0 – 2.09	0.22 – 7.09	3.81 – 23.4

Distribution of the 10% of total disfluencies

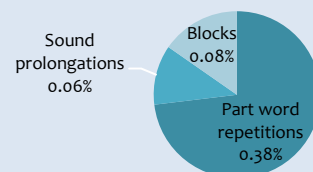


Monosyllabic whole word repetitions were coded as being tensed or not tensed (i.e. repeated fast), and repeated less than three times or three times and more (Ambrose & Yairi, 1995; Throneburg & Yairi, 1994).

Non-stuttered disfluencies: 7.42%



Stuttered disfluencies: 0.48%



Discussion

The average of **total disfluencies** observed in normally fluent children aged 4 was **10 per 100 words**.

As expected, **stuttered disfluencies** (i.e. part-word repetitions, sound prolongations and blocks) occur less frequently than 3 in 100 words, ranging **from 0 to 2.09%**.

The frequency of **non-stuttered disfluencies (7.42%)** was slightly higher than previously observed in other languages (from 1.5 to 5.4%; Johnson et al., 1959; Pellowski & Conture, 2002; Tumanova et al., 2014; Yairi & Ambrose, 2005), probably because we calculated the disfluencies from sentences longer than two words, and from an off-line procedure (Yaruss, 1997). There was a high variability among children: 3.44 to 15.96% non-stuttered disfluencies.

The frequency of **monosyllabic word repetitions is around 2%**, with a high variability among children (ranging from 0.22 to 7.09%), but **most (1.7%) are repeated less than three times and are not tensed**. This corroborates previous result that for non-stuttering children, repetitive disfluency usually have one iteration (Natke et al., 2006).

Our results support the **need to be careful when considering monosyllabic word repetitions as stuttered disfluencies**: when incorporating all kinds of monosyllabic whole word repetitions into stuttered disfluencies, 15 of the 66 children could be considered as producing $\geq 3\%$ 'stuttered' disfluencies. Two criteria should be taken into account when deciding whether or not a monosyllabic word repetition is stuttered in young children: the tension and the number (three or more) of repetitions – corroborating previous data in English (Ambrose & Yairi, 1995; Throneburg & Yairi, 1994).