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

Methods

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

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)

Introduction

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

<table>
<thead>
<tr>
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<th>Non-stuttered disfluencies</th>
<th>Stuttered disfluencies</th>
<th>Monosyllabic word repetitions</th>
<th>Total disfluencies</th>
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</thead>
<tbody>
<tr>
<td><strong>Mean (SD)</strong></td>
<td>7.42 (2.88)</td>
<td>0.48 (0.50)</td>
<td>2.11 (1.68)</td>
<td>10.02 (4.27)</td>
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<tr>
<td><strong>Range</strong></td>
<td>3.44 – 15.96</td>
<td>0 – 2.09</td>
<td>0.22 – 7.09</td>
<td>3.81 – 23.4</td>
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Non-stuttered disfluencies: 7.42%

Stuttered disfluencies: 0.48%

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, 2003; 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.

Discussion

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 ≥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).

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).