

# Elementary School Students' Perceptions of Stuttering

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## INTRODUCTION

Past research has shown that negative attitudes and listener perceptions of stuttering can contribute to the maintenance of stuttering in children. In particular, classroom teachers, special educators, and even speech-language pathologists have been found to have negative stereotypes and attitudes toward children who stutter (Crowe & Walton, 1981; Ruscello, Lass, Schmitt, & Pannbacker, 1994; Yairi & Williams, 1970; Yeakle & Cooper, 1986). A study by Horsley and Fitzgibbon (1987) found that the use of the label "stutterer" elicited negative judgements regarding personality traits when comparing young children who do and do not stutter. Their research showed that children who do not stutter were viewed as more "open," "approaching," and "confident" while children who stutter were considered more "guarded," "avoiding," and "afraid."

More recently, a study by Franck, Jackson, Pimentel, and Greenwood (2003) asked fourth and fifth grade children to rate various traits of an adult who stuttered. The results showed that children who watched the person who stuttered had significantly more negative ratings than the group who watched the sample of the fluent speaker. These findings are consistent with the results of the Culatta and Sloan (1977) study and provide important insights into children's perceptions regarding speech samples that contain stuttering.

To date, few, if any studies have examined normally-fluent children's perceptions of stuttering when viewing a peer who stutters. Moreover, children's perceptions of stuttering may vary as the frequency of stuttering increases such that children might be more tolerant of mild stuttering than moderate or severe stuttering.

## PURPOSE

The purpose of this study was to examine the quantitative and qualitative reactions of elementary school-aged children to an audiovisual sample of a peer exhibiting fluent speech as well as a 5%, 10%, and 15% frequency of stuttering.

## METHODS

### Participants

• A total of 87 participants (48 males and 39 females) were selected from third, fourth, and fifth grades within the Edwardsville, Illinois community. Specifically, students were recruited through the YMCA Kid's Network (Latchkey afterschool program). They ranged from 8 to 11 years of age.

- Participants had little to no knowledge, familiarity, or contact with people who stutter.
- Participants had normal hearing based on hearing screening results.

### Construction of Speech Sample

• A nine-year-old female was used to videotape the samples for the passage used in this study. The speaker was capable of simulating part-word repetitions (PWR), whole-word repetitions (WWR), and audible sound prolongations (Pro) in locations of the passages predetermined by the investigators. All samples were verified by five graduate students who completed a course in fluency disorders.

### Audiovisual Conditions

1. 0% Frequency
2. 5% Frequency
3. 10% Frequency
4. 15% Frequency

### Procedure

• Participants were randomly assigned to view one of the four audiovisual samples. After viewing the sample each participant rated five Likert statements and answered three open-ended questions.

### Stimuli

The following is the passage used in this experiment. The italicized words were those used to create the stuttering moments within the different conditions. The superscript numbers that follow the italicized words represent in which conditions the stimulus words were used (5 = 5% level, 10 = 10% level, etc.).

John Chapman was born in *Massachusetts*<sup>5,10,15</sup> in 1774. *He*<sup>10,15</sup> became a farmer and grew different *kinds*<sup>15</sup> of crops and trees. John especially liked to grow *and*<sup>5,10,15</sup> *eat*<sup>5</sup> *apples*<sup>5</sup>. John knew that *apples*<sup>10,15</sup> were a good food for *settlers*<sup>15</sup> to have. *Apple*<sup>15</sup> trees were strong and easy to *grow*<sup>10,15</sup>. He wanted to plant apple trees for *people*<sup>15</sup> who would build their *new*<sup>10,15</sup> homes there. John first gathered bags of *5*<sup>5</sup> apple *seeds*<sup>5,10,15</sup>. He got many of *his*<sup>15</sup> seeds from farmers who squeezed apples *to*<sup>15</sup> make a drink called cider. Then, in the spring, he left for the *western*<sup>5,10,15</sup> frontier. He planted seeds as he *went*<sup>10,15</sup> along. Also, *he*<sup>5,10,15</sup> gave them to people who knew how valuable apple trees were. John *walked*<sup>5,10,15</sup> many miles in all kinds of weather. He *crossed*<sup>15</sup> dangerous rivers and found *his*<sup>5,10,15</sup> way through strange forests. *Often*<sup>5,10,15</sup> he was hungry, cold, and wet *but*<sup>10,15</sup> never gave up. He carefully *planted*<sup>10,15</sup> them where they *had*<sup>10,15</sup> the best chance of growing into strong trees. John's fame spread. He was nicknamed *Johnny*<sup>5,10,15</sup> Applesseed. *New settlers*<sup>15</sup> welcomed him and gratefully accepted a gift of *5,10,15 apple seeds. Thanks to *Johnny*<sup>15</sup> Applesseed, apple trees now *grow*<sup>15</sup> in parts of America where they once *never*<sup>10,15</sup> did.*

**Likert Statements** (each statement rated using a 5-point scale from strongly disagree → strongly agree)

- 1) This girl is a good speaker.
- 2) This girl has smooth speech.
- 3) This girl had an easy time telling the story.
- 4) I felt comfortable listening to this girl.
- 5) I would feel comfortable making friends with this girl.

### Open-ended questions

- 1) Tell me what you thought about this girl's speech?
- 2) Was it easy or hard to listen to the way she talked? Why?
- 3) What did you notice about the way she talked?

### Data Analysis

#### Quantitative

- A one-way ANOVA was used to determine if significant differences exist across different fluency/stuttering frequencies. The Likert statements were analyzed for significant differences.

#### Qualitative

- Participant responses were analyzed and coded as being positive or negative about the speech and/or the speaker. Also, listener comments were placed into one of four theme clusters: 1) **speech characteristics**, 2) **speaker characteristics**, 3) **listener comfort**, and 4) **listener comprehension**.

#### Reliability Measurement (Qualitative Responses)

- Interobserver Reliability (unit-by-unit agreement ratio) **97%**
  - Intraobserver Reliability (unit-by-unit agreement ratio) **93%**
- Positive/Negative comment data

Statistical analyses of the Likert data revealed the following significant differences among the statements:

**Q1:  $F = 6.20, p = .001$**

**Q2:  $F = 5.39, p = .002$**

**Q3:  $F = 8.23, p = .000$**

Further post hoc testing revealed significant differences between the following conditions for Q1, Q2, and Q3:

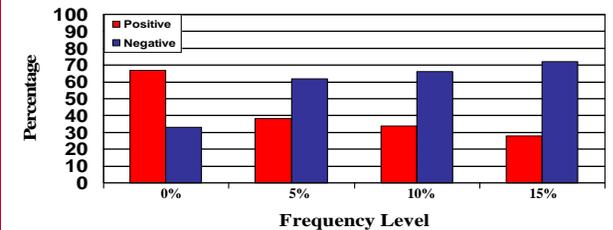
**Q1: 0% - 5%, 0% - 10%, 0% - 15%**

**Q2: 0% - 15%**

**Q3: 0% - 10%, 0% - 15%**

## RESULTS

## Percentage of Positive and Negative Comments



## Examples of Listener Comments Across Theme Clusters

Theme Cluster	0%	5%	10%	15%
<b>Speech Characteristics</b>	•She seemed to have some pretty good speech •The speech wasn't put together very well	•She said stuff over and over again •She held the first letters and made words really long	•When she talked it was kind of bumpy •She kind of repeated it a little bit	•She would say words like three times and hold out the first letter •She had a lot of points in the story where she has bumps
<b>Speaker Characteristics</b>	•She spoke very clearly •She seemed kind of nervous while saying it	•From the movie I think she had disabilities •She was trying very hard	•I don't think she was really comfortable b/c when you stutter you're not confident •She's probably not very good at talking	•I thought she had a little trouble in saying some words clearly •She was good at pronouncing words. She felt comfortable with what she was saying
<b>Listener Comfort</b>	•I thought it was easy to listen to b/c she enunciated well •I thought it was kind of hard b/c she mumbled a bit	•She kept making the same sound which made it hard to listen to •It was pretty easy to listen to but she had a little trouble sometimes	•It was a bit more easy b/c she definitely talked clearly •She didn't finish some of the sentences so that made it hard to listen to	•It was fairly easy to listen to •It was hard to listen to b/c she kept on stopping and repeating a couple of words
<b>Listener Comprehension</b>	•I could understand all of her words •It was easy to understand her	•When she said the whole word I could understand her •I could understand what she was saying except where she couldn't say the whole word at once	•It was just hard to understand her •It was only the first couple of letters that were messed up but the rest just went through it so I could understand it	•It was easy to make sense of what she was saying and understand it •It was a little difficult to understand what she was saying

## CONCLUSIONS

- Despite the level of fluency, the children tended to make responses about a variety of aspects of the speech instead of focusing just on the presence of stuttering.
- Four major themes were found within the responses to the four speech samples. Two themes were related to the speaker while two themes focused on listener judgements.
- Since listener perceptions can be influenced by social, cultural, and experiential factors, future research might include a more multiculturally diverse sample of listeners.
- Future research in this area might examine how the presence of secondary coping behaviors within the speech samples influences listener perceptions.
- Furthermore, future research should investigate children's ability to recall and comprehend information after listening to varying levels of stuttering spoken by a peer who stutters.