Communication Attitude of Polish Preschool-Age Children Who Stutter

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Introduction
- Stuttering is a multifactorial disorder and therefore it is necessary to take
  behavioral, affective as well as cognitive aspects into account in the
diagnostic process (Vanryckeghem, 2007).
- Research has shown the existence of stuttering awareness (Ambrose & Tipton, 1994; Buoy et al., 2000; Deutsch-Vanwyk, Pieters, & Tipton, 2001) and a negative speech-related attitude among stuttering preschoolers (Clark, Cournoyer, Frankel, & Winters, 2012; Vanryckeghem, Bruttin, & Hernandez, 2005).
- Cross-cultural studies established that the KidCAT is a useful tool for
differential diagnosis in early childhood stuttering (Clark et al., 2007; Vanryckeghem & Bruttin, 2007).
- Given that there was no Polish diagnostic tool to assess a preschool child’s
  communication attitude, a study with the Polish version of the test
was undertaken.
- The aim of the study was to obtain normative and comparative data on
  the speech-associated attitude of stuttering and non-stuttering preschoolers using
  a Polish version of the Communication Attitude Test for Preschool and
  Kindergarten Children Who Stutter - KidCAT (Vanryckeghem & Bruttin, 2007).

Methodology
- The specific aims of the study were to answer the following questions:
  - Are the attitudes of Polish-speaking stuttering preschoolers different from
the attitudes presented by their fluent speaking peers?
  - If such differences between the two study groups exist, are they statistically
  significant?
- Do hypothetical differences between the attitudes of children who do
and do not stutter depend on age or gender?
- A Polish version of the KidCAT (Vanryckeghem & Bruttin, 2007) translated by
Wegierski (2015) was individually administered to 129 preschoolers, 58
diagnosed as CMS (19 females) and 70 as CMWS (49 females).
- Participants were no younger than 3 years, and none of them exceeded the
age of 5 years and 11 months. The average age in the experimental group
(CMS) was 5 years and 7 months (SD = 0.31), and the average in the control
group (CMWS) was 5 years and 1 month (SD = 0.31). Children in the control
and experimental groups were matched by age and gender in the experimental
group.
- All children were native speakers of Polish and had no known or reported
hearing, neurological or intellectual problems.
- Both groups consisted of urban and rural areas of the
Województwo, Opolskie, Łódźkie and Śląskie provinces of Poland.
- The results obtained with the KidCAT test were statistically analyzed using
Statistica 10.0.

Results
- CMS obtained statistically significantly higher scores than children in the
  control group, which indicates the presence of a negative attitude relative to
  communication among stuttering children (Table 1).

<table>
<thead>
<tr>
<th></th>
<th>CMS (% of Total)</th>
<th>Experimental Group (% of Total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joke</td>
<td>1,7</td>
<td>2,6</td>
</tr>
<tr>
<td>Meal</td>
<td>1,0</td>
<td>2,2</td>
</tr>
<tr>
<td>Wake up</td>
<td>1.0</td>
<td>1.9</td>
</tr>
<tr>
<td>Wash</td>
<td>0.9</td>
<td>1.2</td>
</tr>
<tr>
<td>Play</td>
<td>0.6</td>
<td>0.6</td>
</tr>
<tr>
<td>10</td>
<td>4.0</td>
<td>5.8</td>
</tr>
</tbody>
</table>

Table 1. Measure of Central Tendency and Variation of Children Who Do Not
Stutter (CMS) and Children Who Stutter (CMS), n = 129

Age:
- Comparison of the results from both experimental and control groups by age
  indicates that younger CMWS manifested a somewhat more negative attitude
  compared to their older peers. The opposite tendency was observed in the
  experimental group.
- However, the mean scores obtained by the younger and older CMS did not
differ from each other in a statistically significant way (F = 0.931, p = 0.351).
- Similarly, no statistically significant differences were observed between the
  results of both age groups of CMS (F = 0.915, p = 0.34). (Table 2).

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<tr>
<td>Joke</td>
<td>1.9</td>
<td>0.9</td>
</tr>
<tr>
<td>Meal</td>
<td>1.8</td>
<td>2.3</td>
</tr>
<tr>
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<td>2.8</td>
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<td>0.8</td>
<td>1.2</td>
</tr>
<tr>
<td>Play</td>
<td>0.6</td>
<td>1.1</td>
</tr>
<tr>
<td>10</td>
<td>4.1</td>
<td>3.9</td>
</tr>
</tbody>
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Table 2. Means and Standard Deviations of Younger (3,00-4,11) and Older
(5,00-6,11) CMS and CMS on the KidCAT, n = 128

Gender:
- Significant differences in the KidCAT results were obtained when comparing
  the girls in the control group with those in the experimental group (F = 6.112, p = 0.001).
- A similar trend is observed when comparing the boys in both groups (F = 3.339,
p = 0.001).
- In contrast, within-group gender analysis did not reveal significance:
  F = 1.024, p = 0.374 for the control group, and F = 1.133, p = 0.227 for the
  experimental group. In other words, the KidCAT results for boys and girls were
  similar (Table 3).

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Table 3. Means and Standard Deviations of CMS and CMS within Two
Gender Groups, n = 128

Internal Reliability
To evaluate the reliability of the Polish version of the KidCAT, a Cronbach’s
alpha procedure was used. For both groups, CMS and CMWS, the same value
of 0.71 was obtained. This indicates that the Polish version of the KidCAT is
an internally reliable test.

Conclusions
- A study carried out with the Polish version of the KidCAT showed that
children in the experimental group (CMS) received statistically significantly
higher scores than children in the control group (CMWS), which proves the
existence of a negative attitude related to communication among preschoolers
who stutter. The study findings are consistent with the results obtained by the
two developers of KidCAT (Vanryckeghem & Bruttin, 2007, Vanryckeghem et
al., 2005) and other colleagues (Clark, Cournoyer, Frankel, & Winters, 2012).
- Given the study findings, the use of the KidCAT will allow clinicians to
identify which test results obtained in the assessment of a preschooler are
optimal of a CMS, and which ones are atypical and could therefore be
representative of a CMS.
- The study findings may find practical application in the differential diagnosis
of early stuttering in Poland.

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