Examining the Relationship Between Confrontational Naming Tasks & Discourse Production in Aphasia

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Method (Cont.)

Procedures

Language Sample Elicitation

Language samples were elicited using the AphasiaBank protocol. One technique was used: story telling of the Cinderella story.

Transcription & Language Sample Preparation

Samples digitally recorded & orthographically transcribed; paraphasias in samples were coded by a licensed SLP from AphasiaBank. Percentages of paraphasias per total number of content words produced were estimated and correlated with (i) the Western Aphasia Battery – R Naming Subtest, (ii) the Boston Naming Test, and (iii) the Verb Naming Test. Analyses were conducted in SPSS 21.

Results

Table 1

Correlations among Study Measures

<table>
<thead>
<tr>
<th>WAB Object</th>
<th>BNT*</th>
<th>Naming</th>
<th>VNT Total Paraphasias</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNT*</td>
<td>-</td>
<td>.793**</td>
<td>-.509**</td>
</tr>
<tr>
<td>WAB Object Naming</td>
<td>.785**</td>
<td>-</td>
<td>.492**</td>
</tr>
<tr>
<td>VNT*</td>
<td>.793**</td>
<td>.866**</td>
<td>-.424**</td>
</tr>
</tbody>
</table>

*Boston Naming Test; *Western Aphasia Battery — Revised; *Verb Naming Test.

** p < .001.

Table 2

Percentages of Shared Variance among Study Measures

<table>
<thead>
<tr>
<th>WAB Object</th>
<th>BNT*</th>
<th>Naming</th>
<th>VNT Total Paraphasias</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNT*</td>
<td>-</td>
<td>.6162%</td>
<td>.6289%</td>
</tr>
<tr>
<td>WAB Object Naming</td>
<td>.6162%</td>
<td>-</td>
<td>.2519%</td>
</tr>
<tr>
<td>VNT*</td>
<td>.6289%</td>
<td>.7850%</td>
<td>.1798%</td>
</tr>
</tbody>
</table>

*Boston Naming Test; *Western Aphasia Battery — Revised; *Verb Naming Test.

Discussion

Main Findings

Statistically significant, very strong correlations were observed between % of paraphasias in discourse and confrontational naming tests. Correlations ranged from .42-.51 and shared variance ranged from 17.9% to 25.9%, respectively.

It is common in practice to refer to performance on confrontational naming tests to presume a patient’s performance in discourse. This study investigated the magnitude of the correlation between confrontational naming test and word retrieval during discourse production to explore the validity of making that assumption.

While confrontational naming tests are informative about performance at the discourse level, there is a large proportion of unique variance at the discourse level.

These results do not support the common practice of reaching conclusions about discourse based on performance on confrontational naming tests.

Statistically significant, very strong correlations were observed among confrontational naming tests. Tests showed a statistically robust correlation of .78 -.89.

The magnitude of these results suggest that confrontational naming tests may reflect the same underlying psychological construct (i.e., single word retrieval).

These findings can be attributed to sentence and discourse effects which may significantly alter the nature of word retrieval processes.

Further, this pattern of results could be at least in part, an indication of poor reliability of discourse based indices.

Implications

Given the capacity, professionals may gain additional information from assessing both the patient’s ability to retrieve single words by way of confrontational naming tests and also assessing discourse by way of a language sample.

Further, it may be reasonable to expect patients to perform similarly across the confrontational naming tests utilized in this study.

Future Directions

Employ a more detailed coding system for paraphasias.

Utilize information from multiple language samples to take into account the (un)reliability of the indicators.

Investigate other aspects of lexical item deployment during discourse (e.g., depth and breadth, efficiency).

Acknowledgements

Research reported in this poster was supported by the McNair Scholars Program. We would like to thank Caroline Crone and the Portland State University Aging and Adult Language Disorders Lab for their support.
Introduction

- The cardinal deficit of people with aphasia (PWA) is anomia.
- Anomic deficits can significantly impact the ability to produce discourse thus limiting the ability to perform simple daily activities and imposing significant life participation restrictions.
- Assessment of anomia typically involves the use of confrontational picture naming tests which are (i) relatively quick and inexpensive, (ii) simple to administer and score, and (iii) observed behaviors can be analyzed to identify impaired word retrieval processes.
- Professionals typically use confrontational naming tests to determine the efficacy of experimental treatments, assess impairment severity, and quantify the improvement of patients.
- A strong implicit assumption of this process is that data collected using confrontational naming tests lead to valid inferences regarding performance at the discourse level. However, there are significant differences in the nature of the processes involved in confrontational naming and discourse production.
- Recent studies have yielded some evidence that naming accuracy obtained through picture-naming may generalize to the discourse level.

Purpose of the Study

- Our overarching goal is to study the implicit assumption that performance in single-word, picture naming tasks is directly and strongly related to word retrieval performance during discourse production.
- Anomic deficits can significantly impact the ability to produce discourse (e.g., depth and breadth, efficiency).
- The magnitude of these results suggest that confrontational naming tests may reflect the same underlying psychological construct (i.e., single word retrieval).
- These findings can be attributed to sentence and discourse effects which may significantly alter the nature of word retrieval processes.
- Further, this pattern of results could be at least in part, an indication of poor reliability of discourse based indices.

Method

Participants and Inclusion Criteria

Language samples containing the Cinderella story from 45 PWA retrieved from AphasiaBank.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years of Age</td>
<td>M = 67 (SD = 10.4)</td>
</tr>
<tr>
<td>Gender</td>
<td>26 M : 19 F</td>
</tr>
<tr>
<td>Education</td>
<td>M = 15.4 (SD = 3.2)</td>
</tr>
<tr>
<td>WAB-R Anomic</td>
<td>23 Conduction = 14</td>
</tr>
<tr>
<td>Aphasia Type</td>
<td>Wernicke’s = 8</td>
</tr>
<tr>
<td>WAB-R AQ</td>
<td>M = 75.06 (SD = 20.88)</td>
</tr>
<tr>
<td>BNT</td>
<td>M = 7 (SD = 4.16)</td>
</tr>
<tr>
<td>Criteria</td>
<td>Chronic aphasia, Single L.CVA, No Hx of psychiatric or neurodegenerative Dx</td>
</tr>
<tr>
<td>Language sample</td>
<td>Normal aided or unaided hearing and visual acuity &amp; monolingual English speakers</td>
</tr>
</tbody>
</table>

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- Utilize information from multiple language samples to take into account the (un)reliability of the indicators.
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