

Leila D. Luna & Gerasimos Fergadiotis
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Introduction

- The cardinal deficit of people with aphasia (PWA) is anomia¹.
- Anomic deficits can significantly impact the ability to produce discourse thus limiting the ability to perform simple daily activities and imposing significant life participation restrictions².
- 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^{3,4}.
- Recent studies have yielded some evidence that naming accuracy obtained through picture-naming may generalize to the discourse level^{5,6,7}.

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.

Research Question: What is the magnitude of the the relationship between performance in confrontational naming tests and the number of paraphasias from language samples of people with aphasia?

Method

Participants and Inclusion Criteria

Language samples containing the Cinderella story from 45 PWA retrieved from AphasiaBank⁸.

	PWA (N = 45)
Years of Age	M = 67 (SD = 10.4)
Gender	26 M : 19 F
Education	M = 15.4 (SD = 3.2)
WAB-R ⁹ Aphasia Type	Anomic = 23 Conduction = 14 Wernicke's = 8
WAB-R AQ ¹⁰	M = 75.06 (SD = 20.88)
BNT ¹¹	M = 7 (SD = 4.16)
Criteria	Chronic aphasia, Single L CVA, No Hx of psychiatric or neurodegenerative Dx Normal aided or unaided hearing and visual acuity & monolingual English speakers

⁹Western Aphasia Battery—Revised; ¹⁰WAB – Revised Aphasia Quotient; ¹¹Boston Naming Test

Method (Cont.)

Procedures

Language Sample Elicitation

- Language samples were elicited using the AphasiaBank⁸ 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 AphasiaBank⁸.
- 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 Test¹². Analyses were conducted in SPSS 21.

Results

Table 1
Correlations among Study Measures

	WAB Object		%
	BNT score	Naming	
BNT ^a	-	.785**	.793**
WAB ^b Object Naming	.785**	-	.886**
VNT ^c	.793**	.886**	-
% Paraphasias	-.509**	-.492**	-.424**

^aBoston Naming Test; ^bWestern Aphasia Battery—Revised; ^cVerb Naming Test.

** p < .001.

Table 2
Percentages of Shared Variance among Study Measures

	WAB Object		%
	BNT score	Naming	
BNT ^a	-	61.62%	62.89%
WAB ^b Object Naming	61.62%	-	78.50%
VNT ^c	62.89%	78.50%	-
% Paraphasias	25.91%	24.21%	17.98%

^aBoston Naming Test; ^bWestern Aphasia Battery—Revised; ^cVerb Naming Test.

Discussion

Main Findings

- Statistically significant, 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

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