An Investigation of the Sensitivity of the
Reporter's Test to Expressive Language Disturbances
(Abstract)

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Assessment of the mildly aphasic patient may be difficult because not
enough "top" is built into many standard examinations. Thus the ability to
distinguish the mildly impaired aphasic patient's performance from normal
performance, or the ability to monitor and document subtle changes in
language, may be lacking. The Token Test (DeRenzi & Vignolo, 1962), the
Word Fluency Measure (Wertz, Keith, & Custer, 1971) and the Analysis of
Connected Speech Samples (Yorkston & Beukelman, 1980) are examples of
measures sensitive to mild aphasia.

DeRenzi and Ferrari (1978) presented the Reporter's Test as a sensitive
measure designed to detect mild expressive language problems. The Reporter's
Test is essentially the Token Test in reverse. It is the patient's task to
verbally report exactly what the examiner is doing with the tokens. An
advantageous feature of the test is that it elicits sentence level responses
whose content and general form are known beforehand because they are dictated
by the stimuli. DeRenzi and Ferrari presented data indicating that the
Reporter's Test allows one to distinguish between mild to moderate aphasic
patients and between non-brain-injured and brain-injured nonaphasic subjects.
Therefore, it appeared that the Reporter's Test had promise as a measure
sensitive to mild expressive language impairments.

The purpose of the present study was (1) to develop norms for normal
English-speaking subjects on the Reporter's Test, (2) to examine the perfor-
mance of a group of mild to moderately impaired aphasic subjects on the
Reporter's Test and to compare their performance to that of normal subjects,
and (3) to compare the sensitivity of the Reporter's Test to the sensitivity
of the Token Test, the Word Fluency Measure and the Analysis of Connected
Speech Samples.

METHOD

One hundred and forty-four individuals without history of brain injury
or significant auditory, visual, or motor impairment served as normal sub-
jects. They were selected to fall into one of six age categories with five
of six categories spanning ten-year periods beginning with age fifteen. The
oldest category included people between 65 and 80 years of age. There were
24 subjects in each age category.

Twenty-four medically stable aphasic subjects, with medical evidence of
single unilateral left hemisphere lesions were tested. Severity was rated
using the severity rating scale from the Boston Diagnostic Aphasic Examina-
tion (BDAE) (Goodglass & Kaplan, 1972). Ratings ranged from three to five
on the six-point scale (0-5 points). Fluency was also rated using the BDAE
rating scale profile of speech characteristics; twenty of the 24 subjects
had fluent or predominantly fluent ratings. No subject has a significant
dysarthria or apraxia of speech.

All subjects were given a battery of six tests, which included The Reporter's Test, the Token Test - part V, the Word Fluency Measure, the Analysis of Connected Speech Samples, a ten-item Sentence Repetition Task, and an Imitator's Test. Administration of the Reporter's Test differed slightly from the administration used by DeRenzi and Ferrari. In this study, blue tokens were used instead of the black ones used by DeRenzi and Ferrari, and subjects in this study reported stimuli in the past tense using the form, "pronoun (you) + verb + determiner + (adjective) + token."

RESULTS

Performance on the Reporter's Test was relatively uninfluenced by age and education for both normal and aphasic subjects. Short-term visual memory, as measured by the Imitator's Test, did not appear to play an important role in the performance of normal or aphasic subjects. The Reporter's Test produced significantly inferior performance by aphasic subjects when compared to normal ones. The Reporter's Test also was found to be comparable or superior to the other test measures in distinguishing aphasic from normal performance (as measured by indices of determination and one standard deviation cut-off points for normal performance). The Reporter's Test was not superior to all other measures used and its use in combination with several other measures (in particular, the Word Fluency Measure, Token Test, and Sentence Repetition Task) was more sensitive to the presence of aphasia than was any single measure used alone. The Reporter's Test shows promise as a measure for quantifying predetermined verbal output at the sentence level in a manner that is sensitive to the presence of aphasia and perhaps to changes in verbal output during recovery from aphasia.

REFERENCES

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DISCUSSION

Q: My question isn't about the Reporter's Test but has to do with the word fluency measure. It surprises me it comes out looking so good. We never really thought of it, when we started using it, as being a measure of aphasia. It was used by neuropsychologists as a measure of brain damage. You alluded to the need to look at this with other brain-damaged people. Did you get a chance to do that, or do you have any other views on the matter?

A: You make a good point. We compared aphasic patients to normals and did

not have a nonaphasic, brain-injured comparison group. So what we don't yet know is whether we're detecting aphasia or simply the presence of brain damage. That certainly remains something that needs to be done in terms of test development for all of the measures we used.

Q: Would you describe the Sentence Repetition Task again?
A: The Sentence Repetition Task contined two items from each part of the Reporter's Test, making it a 10 item test. The subject was asked to repeat each stimulus sentence after the examiner.

Q: So essentially you had three cross-modal measures - the Auditory Compre-hension Measure, the Reporter's Test, and the Sentence Repetition Test - all based on the Token Test items. Were there any differences across those tasks?
A: All three measures generated inferior performance by the aphasic group when compared to normal. They all had fairly high indicies of determina-tion and fairly good hit rates for distinguishing aphasic from normal performance. So they were quite comparable. We were surprised at how well the Sentence Repetition Test did when compared to the relatively more complicated tests.

Q: I wonder if you had taken a multivariate approach to analysis if your results would have been different?
A: We did do multiple regression with group membership as the dependent variable and the test measures as predictors. The results, in terms of test contribution to the regression equation, were quite similar to those presented here.

Q: Did you consider multiple discriminant analysis in which you throw out some of the measures and get the best test battery?
A: That's a good idea and maybe the best way of identifying the best pre-dictors. One reason we did the combinations of tests for hit rates is that it is most easily applied in the clinical situation. Using the combinations of tests and one standard deviation cut-offs, you simply have to ask if the patient passed or failed a given combination of measures to come to a decision about the presence of aphasia.

Q: My question is about the combination of tests you used. Even with them you still have a 12% false negative on the first combination and an 8% false negative on the second. Of those aphasic people who are not identified, would they be considered aphasic by the population as a whole?
A: We rated our subjects on the BDAE severity scale and, with the exception of some patients with a rating of 5 (minimal discernable handicap), we could tell they were aphasic during conversation. One thing that will be important for further development of the Reporter's Test and all tests for mild aphasia will be to test people whose aphasia is very hard to detect conversationally or with our usual test measures. Not all of our patients were at the very mildest end of the severity continuum, although they were comparable to DeRenzi and Ferrari's aphasic patients and the mildly impaired group tested by Yorkston and Buekelman.

Q: Was there a relationship between the Sentence Repetition Test and the Token Test - Part 5?
A: There was a moderately high correlation between those measures, but it did not reach statistical significance.

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