

Is There Fluency After Aphasia?
(Abstract)

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Terminology in the classification of types of aphasia continues to be a controversial issue in the aphasia literature. Recently, there has been an increase in the use of the terms fluent and nonfluent to more adequately assess and describe expressive language functioning in aphasic speakers (Eisenson, 1984). The terms fluent and nonfluent, when applied to an aphasic speaker, imply that specific speech characteristics will be exhibited by that speaker.

Characteristics that are used to differentiate fluent from nonfluent aphasic subjects include; rate and rhythm of speech, articulation, word choice, effort in speaking, length of phrases, and grammatical form (Benson, 1979). However, which of these characteristics are most important in making these categories clinically distinct remains unresolved.

The purpose of this study was (1) to compare some of the more commonly used measures of fluency, such as rate, mean length of utterance (MLU) and two associated naming tasks among two groups of brain-injured subjects (an aphasic and non-aphasic group) and a control group of non-brain-injured subjects (normal elderly adults), (2) to determine which measures help differentiate the right-hemisphere-damaged adult from the left-hemisphere-damaged adult, and (3) to determine which measures help differentiate the normal non-brain-damaged adult from the left- and right-hemisphere-damaged adult.

METHOD

Subjects consisted of three groups. The control group consisted of nine females and one male ranging in age from 67-87 years with a mean age of 76 years. No control subject had a previous history of injury to the brain and no suspected neurological damage or disease which would affect speech or language functioning. The aphasic group consisted of four males and one female ranging in age from 39-83 years with a mean age of 60.8 years. All subjects were right-handed, suffered a CVA to the left hemisphere, and were evaluated by a speech pathologist who held the CCC in Speech Pathology (ASHA) and was experienced in aphasia assessment. Post-onset time ranged from three months to four years. Four were one year or less post-onset and the fifth subject was four years post-onset. The nonaphasic group consisted of three males and two females ranging in age from 63-81 years with a mean age of 72 years. All subjects were right-handed, suffered a CVA to the right hemisphere and were evaluated by an experienced speech pathologist with a CCC in Speech Pathology.

All 20 subjects were required to pass a screening test which consisted of naming the ten items on the PICA and to point to the ten items when named by the examiner. Each subject was required to pass an audiometric screening test, although the presence of a mild loss in one or both ears was acceptable because of the age of the subjects. No subject reported difficulty or was

observed to have difficulty in hearing the examiner at a conversational level of 65 dB.

The six measures of fluency examined in this study were: syllable/minute rate in conversation, syllable/minute rate in picture description ("cookie theft"), mean length of utterance (MLU), the Rating Scale Profile of six speech characteristics from the BDAE, the Borkowski, Benton and Spreen Word Fluency test (1967), and a naming task of as many objects in the room as possible in one minute.

RESULTS

Scores were analyzed by appropriate ANOVA procedures followed by Duncan Multiple Range tests when applicable and significant group differences were determined ($p < .05$) (Winer, 1971).

Results of the analyses showed that the normal elderly group differed significantly from the brain damaged groups on measures of rate and scores on the letter association task (Word Fluency Test). While mean length of utterance distinguished the normal from the aphasic speakers, it did not prove to be a significant characteristic to help distinguish the two brain damaged groups from each other. The controlled association naming task and the BDAE rating scale measures did not differentiate the three groups in this study. However, the relative ranking of the groups remained consistent for all tasks. Normal elderly speakers performed best (most fluent), right-hemisphere damaged speakers next (less fluent) and aphasic speakers poorest (least fluent) on all tasks.

The results of this investigation would support the view that neither right- nor left-hemisphere-damaged subjects are as "fluent" as normal non-brain-damaged subjects. Furthermore, fluency would be better considered within the context of a continuum rather than a diagnostic category of "fluent" versus "nonfluent." In fact, the dichotomy between fluent and nonfluent needs to be examined more rigorously before it is readily accepted and applied to our aphasic patients.

REFERENCES

- Benson, D.F., Aphasia, Alexia and Agraphia. New York: Churchill Livingstone, 1979.
- Borkowski, J., Benton, A., and Spreen, O., Word fluency and brain damage. Neuropsychologia, 5, 135-140, 1967.
- Eisenson, J., Adult Aphasia. New Jersey: Prentice-Hall, 2nd ed., 1984.
- Goodglass, H. and Kaplan, E., The Assessment of Aphasia and Related Disorders. Philadelphia: Lea and Febiger, 1972.
- Goodglass, H., Quadfasel, F., and Timberlake, W., Phrase length and the type and severity of aphasia. Cortex, 1, 133-153, 1964.
- Kerschensteiner, M., Poeck, K., and Brunner, E., The fluency/non-fluency dimension in the classification of aphasic speech. Cortex, 8, 233-247, 1972.
- Kreindler, A., Mihailescu, L., and Fradis, A., Speech fluency in aphasics. Brain and Language, 9, 199-205, 1980.
- Wagenaar, E., Snow, C., and Prins, R., Spontaneous speech of aphasic patients: A psycholinguistic analysis. Brain and Language, 2, 281-303, 1975.
- Winer, B.J., Statistical Principles in Experimental Design. New York: McGraw-Hill, 1971.
- Yorkston, K., and Beukelman, D., An analysis of connected speech samples of aphasic and normal speakers. Journal of Speech and Hearing Disorders, 45, 27-36, 1980.