Phonemic & Semantic Verbal Fluency Normative Data for the Lakota

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(1) Introduction

How can you identify a deficit if you do not know what is typical?

→No verbal fluency normative data were available for the Lakota of western South Dakota

→Verbal fluency tasks are used as part of neurological assessments
- Montreal Cognitive Assessment (MoCA; Nasreddine et al., 2005)
- Boston Diagnostic Aphasia Examination (Goodglass & Kaplan, 1983)

→Lack of normative data can skew evaluation results

Types of Verbal Fluency Tasks

Phonemic

In 1 minute, name as many words as possible that begin with a specific letter of the alphabet

Semantic

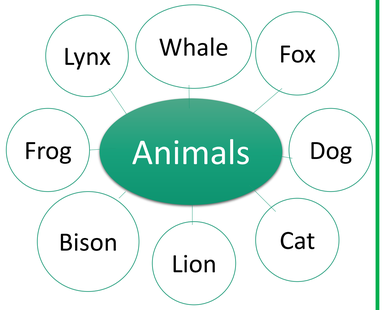
In 1 minute, name as many words as possible in a specific semantic category

? Questions ?

- What are bilingual Lakota verbal fluency normative data?
- Are they comparable to monolingual English normative data?

Phonemic Verbal Fluency

Semantic Verbal Fluency



(2) Methods

Adults (over 18)	Monolingual English	Bilingual Lakota
Males	18	23
Females	35	20
Total	53	43

Procedure

Phonemic Task:
Name as many words beginning with "P" as possible in 1 minute

Semantic Task:
Name as many animals as possible in 1 minute

Monolingual English speakers – both tasks in English
Bilingual Lakota speakers – both tasks in English then both tasks in Lakota
Alternating order of task presentation

(3) Results

Monolingual vs. Bilingual in English

Phonemic

- Monolingual speakers named more “P” words than bilingual speakers
  - $t(94) = 2.18$, $p = .032$

Semantic

- Monolingual and bilingual speakers named equivalent number of animals
  - $t(74.26) = .199$, $p = .843$

Bilingual in English and in Lakota

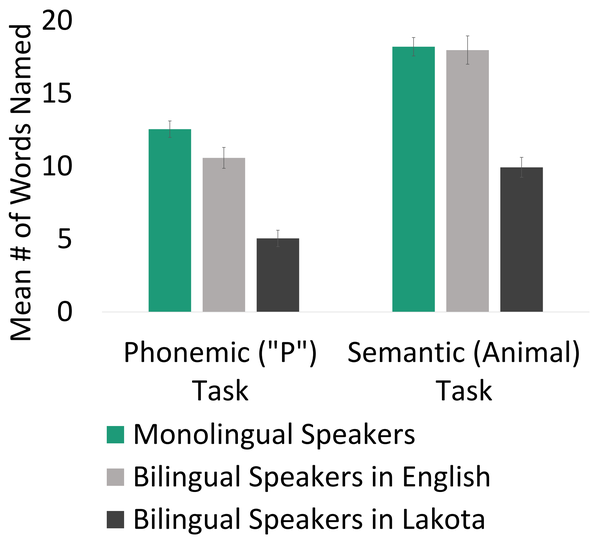
Phonemic

- Bilingual speakers named more “P” words in English than in Lakota
  - $t(42) = 6.58$, $p < .001$
  - The number of “P” words and frequency of use likely differ between these languages

Semantic

- Bilingual speakers named more animals in English than in Lakota
  - $t(42) = 8.66$, $p < .001$

Phonemic and Semantic Task Means



(4) Discussion

- Bilingual Lakota speakers named fewer English “P” words than monolingual English speakers
  - ➢ Use caution when comparing Lakota phonemic fluency results to English normative data
- Bilingual Lakota and monolingual English speakers named equivalent number of animals
  - ➢ Consider using semantic tasks rather than phonemic tasks when evaluating this population
- Bilingual Lakota gave more responses in English than in Lakota on both tasks
  - ➢ Participants were typical and this finding may not be true for those with neurological impairments

(5) Future Directions

- Evaluate other phonemic and semantic categories with the Lakota
- Examine potential differences between age and education levels
- Gather normative data for other minority populations

(6) References

Goodglass, Harold, and Edith Kaplan. *Boston Diagnostic Aphasia Examination*. Philadelphia: Lea and Febiger, 1983.

Nasreddine ZS, Phillips NA, Bédirian V, Charbonneau S, Whitehead V, Collin I, Cummings JL, Chertkow H. The Montreal Cognitive Assessment (MoCA): A Brief Screening Tool For Mild Cognitive Impairment. Journal of the American Geriatrics Society 53:695-699, 2005.

(7) Acknowledgements

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In Memoriam
Dr. Regina Blass