

Measuring Lexical Retrieval in Older Adults' Discourse

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BACKGROUND

- **Confrontation naming:** Commonly used to measure language abilities in aging, but scores on standard tests do not necessarily reflect age-related **word-finding problems in natural speech**.
- **Word retrieval in discourse**
 - Measuring the quality of retrieval in discourse is not easy; it is often **unclear** what the **target words** should be.
 - Lower frequency lexical selection in discourse of older adults (Kavé, Samuel-Enoch, & Adiv, 2009).
 - Less-relevant word choice (Kavé & Nussbaum, 2012).
- **Comparison of the two tasks:** Mixed findings
 - Discourse lexical retrieval is better when not balancing tasks for lexical characteristics (Pashek & Tompkins, 2002).
 - Confrontation naming is better when lexical characteristics are balanced for (Law et al., submitted).

RESEARCH QUESTIONS

- **Does performance on confrontation naming tasks predict lexical retrieval in discourse?**
- **Does lexical retrieval performance differ for nouns and verbs when items are matched for word frequency across the two tasks?**

METHODS

- **Participants**
 - 135 **Narrators**, and 30 age- and education-matched **Raters**
 - Community-dwelling
 - Narrators: Age: 72.55 years (range 55-84)
Education: 14.9 years (range 9-17+)
- **BNT & ANT** (Boston Naming Test, Kaplan, Goodglass, & Weintraub, 1983; Action Naming Test, Obler & Albert, 1985)
- **Discourse:** Picture-book *Frog, Where Are You?* (Mayer, 2003)
 - Participants were asked to narrate the story and include 31 circled target objects and 15 target actions.
 - Raters rated the appropriateness of the narrators' responses for each target item on a 7-point Likert scale.
- To directly compare performance across the two tasks, we selected a **subset of 19 nouns and 13 verbs with comparable word frequencies** (CELEX).
- Discourse item **appropriateness** (conversion to percentage) =
$$\frac{\text{Rating of a response for a target item}}{\text{Highest rating for a target item}} \times 100$$
- Analyses: Multiple regression & repeated-measures ANOVA

RESULTS

All item analysis

After age, education and gender were controlled for, BNT and ANT accuracy predicted appropriateness of lexical responses in discourse ($p < .001$ for nouns, $p < .01$ for verbs).

Matched-subset item analysis

- After education and gender were controlled for, age predicted noun but not verb retrieval on both tasks.
 - BNT, $p = .005$; nouns-in-discourse, $p = .009$
 - ANT, $p = .071$; verbs-in-discourse, $p = .300$
- A significant main effect was found for both Task and Word Class as well as a Task x Word Class interaction.
- Lexical retrieval was poorer in discourse than in confrontation naming, with verbs showing lower accuracy than nouns only in discourse ($p < .001$).

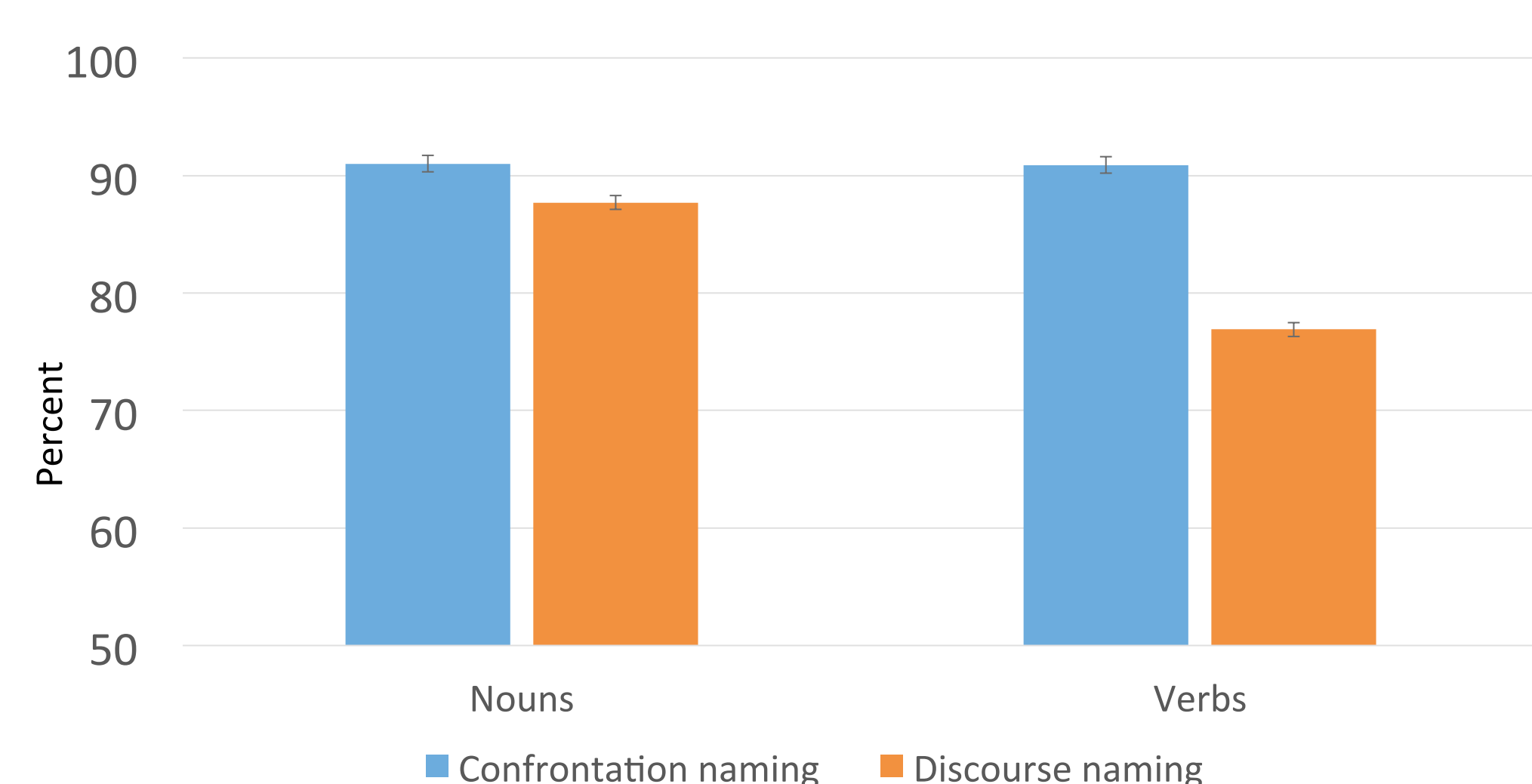
Discourse Appropriateness and Confrontation Naming Accuracy (all items) – Discourse (0-6 points)

	N	Range	Mean	SD
Discourse Nouns	135	3.74 – 4.94	4.51	.21
Discourse Verbs	135	2.96 – 4.41	3.91	.27
BNT (%)	134	45 - 100	84.41	10.11
ANT (%)	132	65 - 100	88.17	6.61

Repeated Measures ANOVA (32 subset items)

	F value	Significance
Task	253.54	$p < .001$
Word Class	91.51	$p < .001$
Task x Word Class	99.27	$p < .001$

Discourse and Confrontation Naming Performance (32 items)



CONCLUSIONS

- **Word-finding in confrontation naming predicts lexical retrieval in discourse.**
- **When word-frequency is controlled for, lexical choice in discourse is less precise than on confrontation naming tasks (consistent with Law et al., submitted).**
- **Discourse permits great variability in lexical selection, leading to less precise word-choice in older adults.**