



# PWAs and PBJs: Language for Describing a Simple Procedure

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## Background

Closely constrained discourse tasks:

- reduce linguistic diversity and individual variability (Fergadiotis et al., 2011)
- less challenging than personal narrative, story retelling, picture description (Weiss, 2012)
- concerned with specific concrete goals and sequencing (Ulatowska & Bond, 1983)
- familiar and common in everyday discourse (Bartels-Tobin & Hinkley, 2005)

## Research Questions

- Do the total utterances, total words, MLU, words/sec, utterances/sec, and time on task:
  - differ across PWAs and non-aphasic participants; and
  - correlate with aphasia severity within the PWA group?
- Does the essential lexicon (top 10 nouns and verbs) produced for this task differ across PWAs and non-aphasic participants?
- Does the % of certain parts of speech differ for PWAs and non-aphasic participants?
- What errors do the PWAs make on the essential lexicon?

## Participants

Table 1.

### Demographic characteristics

	Control n=144	PWA n=141*
Age (mean, range)	66.5 (23-89.5) years	63.4 years (34.3-90.8)
Gender	50% female	39% female
Testing locations	3	14
Education (mean, range)	15.3(10-22) years	15.8 years (11-25)
WAB Aphasia Quotient	NA	74.2 (20.2-99.6)
Time post-onset	NA	6 years (0.5-30)

- all PWAs had aphasia as the result of stroke
- PWAs who scored above 93.7 on the WAB were considered as a separate group, NotAphasicBy WAB
- Controls were given MMSE and Geriatric Depression Scale
- all sessions were recorded on videotape

## Task and Analysis

Prompt: "Tell me how you would make a peanut butter and jelly sandwich."

### Transcription

- CHAT format (MacWhinney, 2000)
- transcription by 2 trained, full-time research assistants
- error coding by 2 SLPs with aphasia experience
- 33% of samples reviewed by 2 SLPs with aphasia experience
- forced choice agreement on all features of transcription and error coding

### CLAN Analyses (MacWhinney, 2000)

- excluded: repeated words, revised words, fillers, word fragments, unintelligible words

### Statistics

- for question #1a, log transformations were used to correct for outliers and positive skew in the distribution.

## Results

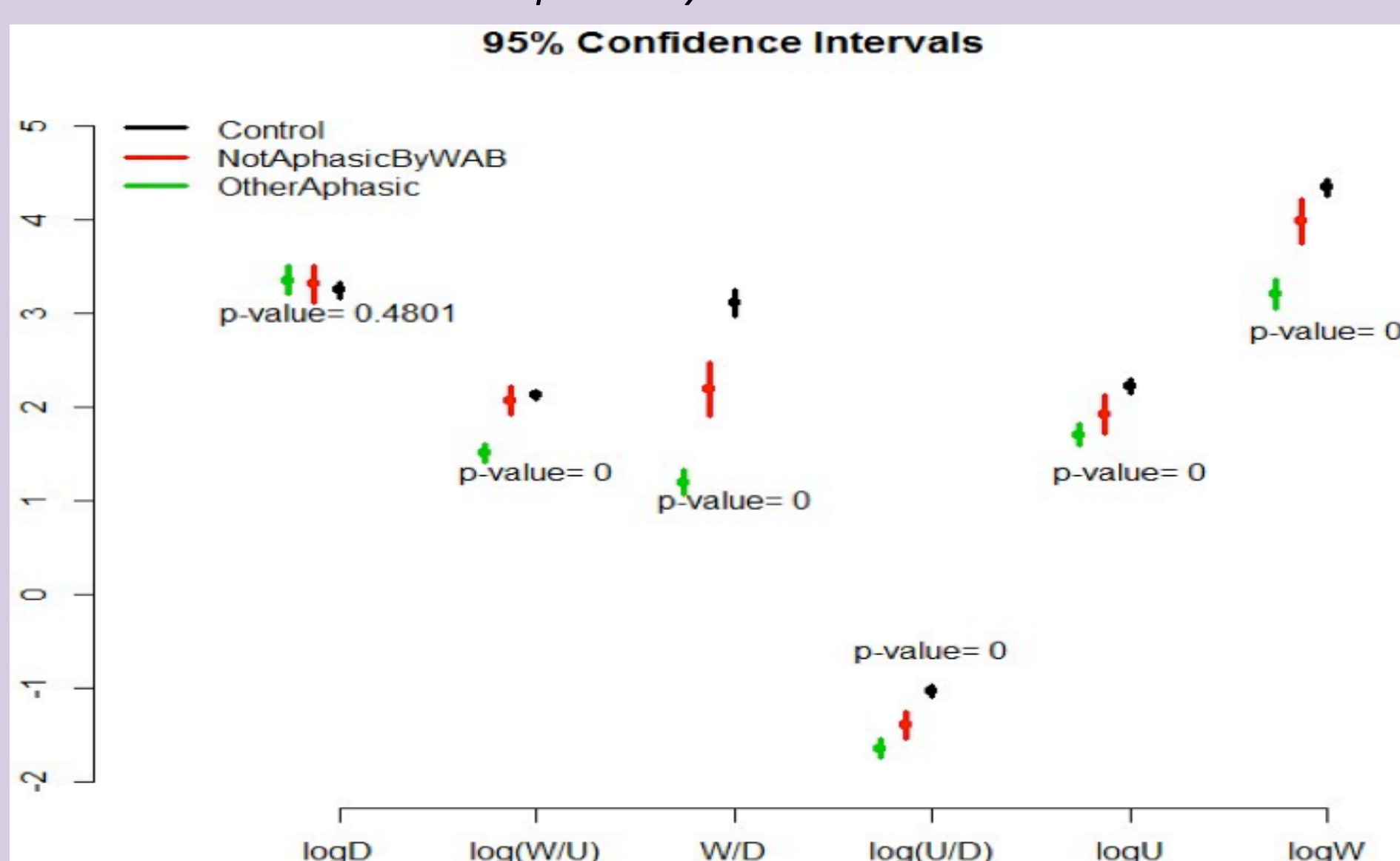
Table 2.

### Means (ranges) for PBJ discourse task measures

	Control n=145	PWA n=141
Duration (in seconds)	30.34 (6-117)	37.71 (3-313)
MLU (in words)	8.49 (4.75-17.4)	5.45 (0.5-14.5)
Total utterances	10.36 (3-42)	6.75 (1-40)
Total words	87.66 (19-363)	38.32 (1-264)

Figure 1.

PWAs vs. Controls vs. NotAphasicByWAB on outcome variables



- With the exception of **duration (time on task)**, the groups differed significantly on all variables: **words/utterance, words/sec, utterances/sec, total utterances, total words.**

Correlations between severity (WAB AQ) and:

- duration** - negligible ( $r = .19$ )
- total utterances** - weak ( $r = .22$ )
- total words** - moderately-strong ( $r = .41$ )

Table 3.

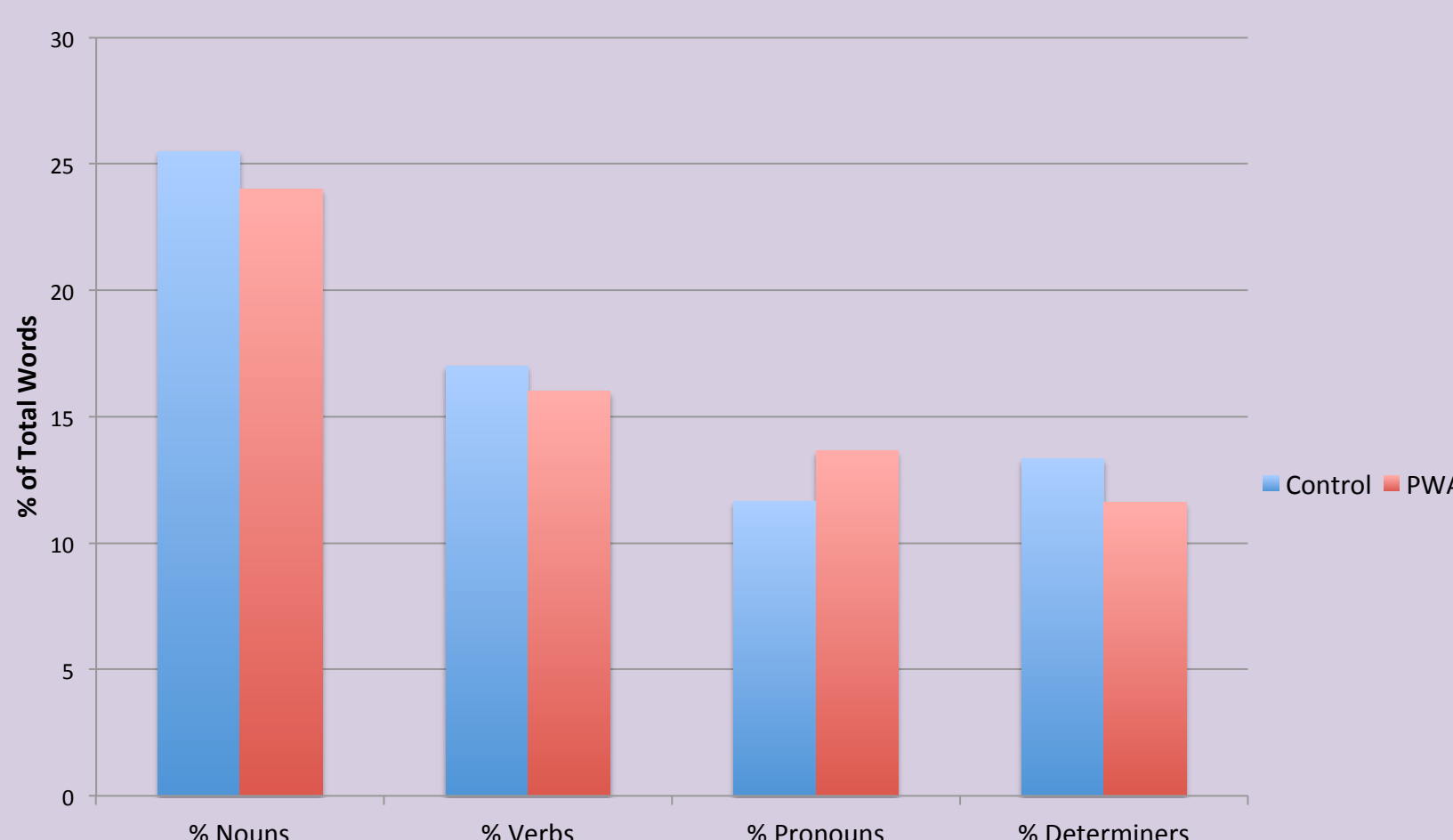
Top 10 NOUNS and VERBS in descending order of frequency (no copulas, auxiliaries, modals)

NOUNS		VERBS	
Control	PWA	Control	PWA
bread	butter	put	put
butter	peanut	get	get
peanut	bread	take	take
jelly	jelly	spread	have
slice	sandwich	have	spread
knife	piece	cut	eat
piece	knife	go	cut
jar	side	open*	make
side	slice	make	go
sandwich	jar	eat	like*

\* words that do not appear in the top 10 for both groups

Figure 2.

Mean % of nouns, verbs, pronouns, determiners – PWAs and Control



## Error Analysis

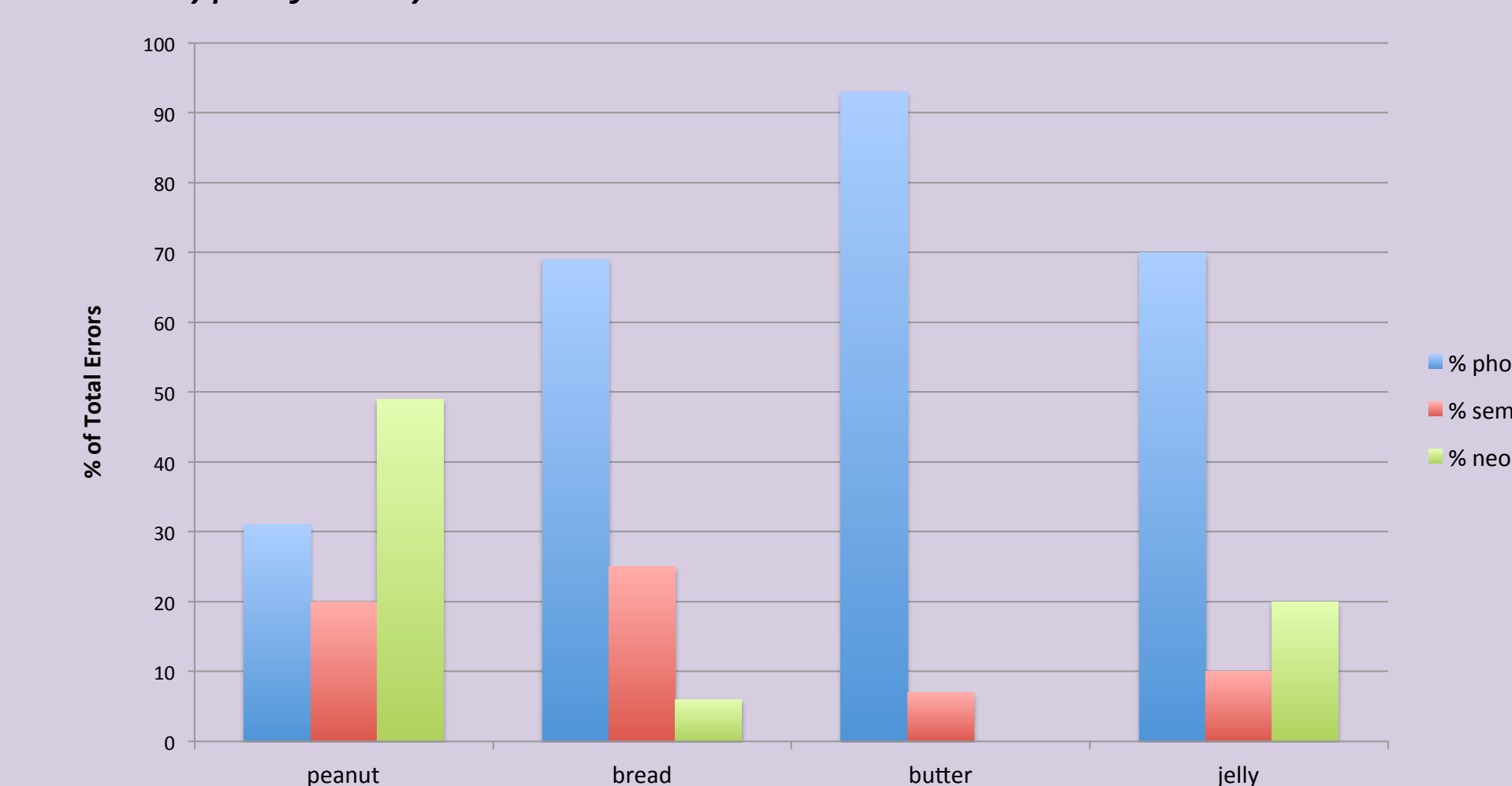
- phonemic paraphasia – word – complete match on all but one element (onset, nucleus, coda) of a syllable
- phonemic paraphasia – nonword
- semantic paraphasia – related
- semantic paraphasia –unrelated
- non-word (not phonemically related)

## SEE HANDOUT FOR:

- sample PBJ transcripts
- error tables

Figure 3.

Error types for key words in PWA lexicon



(Error tables are included in **THE HANDOUT.**)

## Conclusions

- PWAs differed significantly from Controls** on MLU, words/second, utterances/second, total utterances, total words.
- PWAs differed significantly from NotAphasicByWAB participants** on MLU, words/second, total words.
- NotAphasicByWAB participants differed from Controls** on words/second.
- Duration (time on task)** did not differ significantly across groups.
- Aphasia severity correlated moderately** with **total words** and weakly with **total utterances.**
- Essential lexicons were almost identical** across groups.
- Proportions of parts of speech were similar** across groups.
- Error types differed across lexical items, but phonemic paraphasias were the most common.

## References

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