Introduction

What are pronominal words (pronouns)?
- Linguistic items used to refer to contextual information and rely on intact syntactic and semantic processing ability for successful interpretation.
- Are crucial in functional expressive and receptive communication.
- Do not naturally occur on their own without a contextual antecedent (i.e. a girl → she/her).

Why pronouns?
- Demonstrable difficulty for people with aphasia (PWA).
- Knowledge gaps and asymmetry in the current literature re: pronoun comprehension in PWA.
- Insufficient knowledge at word and discourse levels.
- Inconsistent findings at sentence level using online and offline methodologies with both simple transitive sentences and complex sentences.

In sentences:
- PWA show inconsistent performance of pronoun comprehension during sentence processing (Varlokosta & Edwards, 2003).
- Representational account:
  - Interpretation failure attributed to an underlying syntactic impairment in which PWA are unable to extract and resolve grammatical information (Edwards & Varlokosta, 2007; Love et al., 1998).
- Processing account:
  - Interpretation failure attributed to extra-linguistic impairments e.g. general depressed aptitude for syntactic and/or semantic computations, delayed processing, restricted working memory, or lexical integration difficulties (Caplan et al., 2007; Choy & Thompson, 2005, 2010; Grotzinsky et al., 1993; Phinno & Burkhardt, 2001; Ruigendijk & Avrutin, 2001).

In discourse:
- PWA demonstrate a select difficulty when processing discourse-linked information compared to pronoun comprehension in non-discourse-linked information (Avrutin, 2000, 2006; Bes et al., 2014; Persister & Timpf, 2013; Pesetsky, 1987).
- Implicit discourse-linked pronoun processing: pronouns and their contextual antecedent must be bound locally within the same sentential cause.
- Explicit discourse-linked pronoun processing: pronouns are coindexed with a contextual referent, or set of referents, in a different location within the discourse matrix.

Methodology

Participants:
- Study group: 20 people with aphasia (13 fluent, 7 nonfluent) 12 males, 8 females; aged 50 to 80 years, X=66.75.
- Control group: 10 healthy adult speakers was used, and matched appropriately.

Method:
- Experiment: auditory sentence-picture matching task.
- Measure: 2-pronoun comprehension in discourse.
- Task Paradigm: auditory comprehension task + who-comprehension probes.

Sentence Comprehension Results

- Sentence Comprehension Results Table:
  - Experiment: auditory sentence-picture matching task.
  - Measure: 2-pronoun comprehension in discourse.
  - Task Paradigm: auditory comprehension task + who-comprehension probes.

Discussion

- Pronoun processing difficulties arise when pronouns are processed as explicitly discourse-linked elements rather than when processed as implicitly-discourse-linked elements.
- PWA process pronouns similarly to healthy controls when the pronoun and its contextual antecedent occurs within the same sentence.
- Processing multiple pronouns (pronoun competition) does not appear to negatively impact pronoun processing.
- Working memory ability does not appear to be negatively impacted by pronoun processing in PWA.
- People with fluent and nonfluent aphasia process pronouns similarly within sentences.
- People with nonfluent aphasia process pronouns with significantly more difficulty in discourse when compared to people with fluent aphasia.

References: