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Measuring Global Coherence in Aphasia

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Introduction

Discourse coherence may be conceptualized as representing the listener's ability to interpret the overall meaning conveyed by the speaker. Discourse schemas serve as the organizing frameworks for placing the essential discourse elements within a language sample (Bloom, Borod, Santschi-Haywoor, Pick, & Obler, 1996; Peterson & McCabe, 1983). When the essential elements are provided a logical consistency of the discourse schema is maintained and the listener perceives the discourse as coherent (Ditman & Kuperberg, 2010; Trabasso, van den Broek, & Suh, 1989; van den Broek, Virtue, Everson, Tzeng, & Sung, 2002). Global coherence refers to the ability to semantically relate remote utterances in the framework of a given discourse (Marini et al., 2011) and is the focus of the current study. Utterances that are tangential, conceptually incongruent with the story, repetitions, and fillers may all negatively affect maintenance of global coherence.

Relatively little is known about global coherence in persons with aphasia (PWA). Review of studies investigating global coherence indicates a range of performance across PWA (e.g., Christiansen, 1995; Coelho & Flewellyn, 2003; Glosser & Deser, 1990; Ulatowska, et al., 2004). Findings may reflect differences in how global coherence is conceptualized, how it is measured, the type of discourse elicitation task used, as well as the specific language of the participants.

The main goal of this study is to explore different methods used for estimating global coherence in adults with aphasia. We are interested in exploring validity and reliability of different global coherence methods over repeated samplings of different narrative tasks collected from English speaking and Italian speaking adults with aphasia.

Method

Study participants included 24 PWA – 14 English speaking PWA (EngPWA) and 10 Italian speaking PWA (ItaPWA). The EngPWA told stories depicted in two wordless picture books and the ItaPWA provided narratives from one single picture and two sequential picture stimuli. The language samples were orthographically transcribed and subjected to global coherence analyses.

Marini et al.'s (2011) global coherence error measure and Wright et al.'s (n.d.) global coherence density were calculated. The global coherence error measure is computed by calculating the percent of utterances that are tangential, conceptually incongruent, propositional repetitions, and filler utterances. Global coherence density is computed by determining the number of coherence units per utterance. A coherence unit is a phrase that follows the correct story sequence and continuously

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maintains thematic relevancy of the discourse topic.

Results & Conclusions

Preliminary analyses were conducted. The preliminary results indicated that the global coherence scores for the two scoring systems significantly correlated, r = -.48, p < .001. Further, reliability of the measures was evaluated for each group. Preliminary results indicated that both measures were reliable across stories (See Table 1). Theoretical implications for evaluating global coherence in adults with aphasia across different languages and using different discourse elicitation tasks will be discussed. Finally, clinical implications of the findings will be discussed.

Table 1. Pearson correlation coefficients among the % global coherence errors and global coherence density across stories (Good Dog Carl & Picnic).

	%GCE[1] GDC[2]	GC Density GDC
%GCE Picnic	.55*	
GC Density Picnic		.88**

[1]Percent global coherence errors; [2]Good Dog Carl; *significant at p < .05; ** significant at p < .001