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Introduction

People who have recovered from aphasia according to the Western Aphasia Battery Revised (WAB-R, Kertesz, 2007), often continue to experience communication difficulties (Fromm et al., 2017). The cognitive-linguistic deficits of these "recovered" PWA are not being fully captured by most assessments, which focus on single words and simple sentences. Discourse analysis, often measured through retelling *Cinderella*, can identify the subtle communication deficits (Fromm et al., 2017). However, retelling familiar stories like *Cinderella*, may not be the most effective way to investigate discourse impairments. Stockbridge and Newman (2019) report that people with a history of concussion have limited difficulties with *Cinderella* retelling, but produce less informative and less cohesive narratives when retelling a story, specifically recounting the short, animated film, *Pigeon Impossible*. The goal of the current novel work is to investigate whether "recovered" people with aphasia (PWA) also show greater discourse and narrative impairments for unfamiliar than familiar stories.

Methods

Two right-handed females with a single left-hemisphere stroke and 20 control participants were tested for the current study. During the most recent assessment with the WAB-R both patients either met or were close to the cut-off for the "no longer aphasic" classification. Participants retold two familiar stories (*Cinderella* and *Goldilocks and the Three Bears*) and two novel stories (*Pigeon Impossible* and *Snack Attack*). Elicited narratives were analyzed using Story Grammar (SG), a measure of narrative discourse that allows for identification of story elements necessary to build a complete story within the given context (Roth & Spekman, 1986).

Table 1 includes a summary of the results. For both familiar stories, both JS and RV are slightly below the control mean, but within the control range of number of episodes produced (combined across familiar story: JS, z = -1.31, RV, z = -1.31). Using SG as a tool to analyze discourse for these familiar stories, neither JS nor RV would be identified as having a discourse level impairment. In contrast, for the novel stories, JS and RV were below the control mean and outside of the control range (combined across novel story: JS, z = -3.71, RV, z = -2.74). Using the same data analysis approach, but with the novel storytelling task, both JS and RV are identified as impaired in their discourse production.

Table 1: Summary of story grammar analysis of storytelling data

	# of episodes	Control mean (Standard Deviation)	JS	RV
Cinderella	41	20.6 (4.8)	19	18
Goldilocks	35	28.6 (3.6)	23	24
Snack Attack	34	20.9 (5.3)	7	14
Pigeon Impossible	42	21.5 (5.6)	5	6

Conclusions

Storytelling provides a subtle measure of impairment in "recovered" PWA, with novel stories providing a more sensitive measure than familiar stories. From a clinical assessment perspective, these results suggest that only administering *Cinderella* may result in clinicians missing important language processing deficits. From a cognitive science perspective, this distinction between novel and familiar story telling raises interesting questions about discourse processing. Given the clear dissociation between novel and familiar storytelling observed in these two participants, it is critical to investigate the differences in the cognitive processes involved in these two minimally different tasks. A deeper understanding of why novel storytelling is more difficulty that familiar storytelling could provide clearer insights into the cognitive and linguistic deficits in these "recovered" people with aphasia, and is an area of ongoing investigation.

References:

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