



## Background

- Social communication problems are common among adults with TBI and contribute to negative social outcomes.
- Despite increased incidence of TBI among adults over age 65<sup>1</sup>, little is known about social functioning among older adults with TBI.
- This knowledge gap is concerning because older adults are especially vulnerable to the negative effects of social isolation.
- This preliminary study examined one aspect of social communication-- narrative discourse-- in a sample of older adults with TBI.

## Hypotheses

- Older adults with TBI will tell shorter stories characterized by more frequent repetitions and revisions than typically aging older adults.
- Older adults with TBI will include fewer main concepts in their stories than typically aging older adults.

## Participants

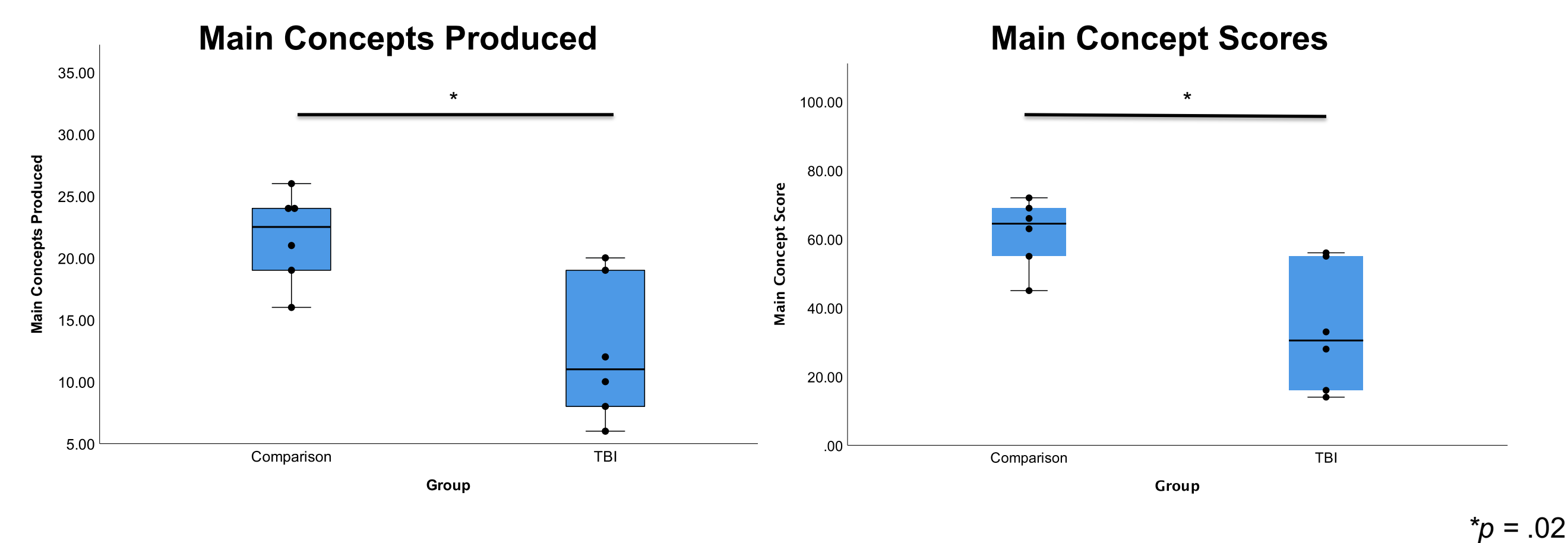
- Participants were 6 adults (2 female; 4 male) who were at least 55 years of age (56-68 years) with moderate-severe TBI and 6 adults with no history of TBI, matched to the TBI group for age and sex.
- Participant language samples were accessed from the TalkBank<sup>2</sup> database (talkbank.org), Togher Protocol (6 months post-injury), Marshfield, and Wright datasets.

## Methods

- Per the TalkBank protocol, participants retold the Cinderella story after viewing a picture book. Narratives were transcribed using the Codes for the Human Analysis of Language<sup>2</sup> (CHAT).
- Transcripts were analyzed for language production, lexical diversity, syntactic complexity, fluency (using Computerized Language Analysis<sup>2</sup>) and Main Concepts<sup>3</sup>.

## Results

- The TBI group included fewer main concepts of the Cinderella story than the Comparison group and their main concepts were less complete.
- The TBI group was similar to the Comparison group on measures of lexical diversity, syntactic complexity, and fluency.



	TBI Mean (SD)	Comparison Mean (SD)	Mann-Whitney U
<b>Total Utterances</b>	29.17	56.33	U = 9.00, p = .18
<b>Total Words</b>	256.67	668.83	U = 5.00, p = .04*
<b>MLU (words)</b>	9.84	11.91	U = 11.00, p = .31
<b>Verbs/Utterance</b>	1.63	1.92	U = 10.00, p = .24
<b>MATTR</b>	.26	.34	U = 13.00, p = .49
<b>Restarts</b>	6.67	16.17	U = 14.00, p = .59
<b>Repetitions</b>	3.33	7.50	U = 13.50, p = .49

\*p = .07 with outlier removed

## Discussion

- Results of this preliminary study suggest that like younger adults with TBI, older adults might be at risk for narrative discourse impairments.
- In this sample of older adults, participants with TBI told less complete stories than the Comparison group.
- Participants with TBI were similar to the Comparison group on measures of productivity, lexical diversity, and fluency.
- This preliminary data suggest that older adults with TBI might experience problems including relevant information in the stories they retell. Further research is needed to determine the effects of TBI and aging on narrative discourse performance, but if replicated in larger studies, this work could indicate potential communication evaluation and treatment targets for older adults with TBI.

## Key References

1. Taylor, C. A., Bell, J. M., Breiding, M. J., & Xu, L. (2017). Traumatic brain injury-related emergency department visits, hospitalizations, and deaths – United States, 2007 and 2013. *MMWR Surveillance Summaries*, 66(9), 1-16.
2. MacWhinney, B. (2000). *The CHILDES Project: Tools for Analyzing Talk*. 3<sup>rd</sup> Edition. Mahwah, NJ: Lawrence Erlbaum Associates.
3. Richardson, J. D. & Dalton, S. G. (2016). Main concepts for three different discourse tasks in a large non-clinical sample. *Aphasiology*, 30(1), 45-73.

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