



# Global Coherence of Story Narratives in Right Hemisphere Brain Damage (RHD)

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## Purpose

To compare global coherence scores of participants with RHD to that of healthy controls using the Cinderella story task.

## Literature Review

- Individuals with right hemisphere brain damage (RHD) often exhibit deficits in discourse.<sup>1</sup>
- Some individuals with RHD have difficulty with maintaining vocational or avocational pursuits, or disrupted social relationships do to cognitive-communication deficits.<sup>3</sup>
- Global coherence of discourse is the degree to which specific utterances relate to the main topic.<sup>4</sup>
- Many speech-language pathologists have been unable to reliably rate discourse of people with RHD.<sup>2</sup>

## Methods

- Language samples were elicited from participants as part of the RHDBank project (<http://talkbank.org/RHDBank/>).
- Participants were presented with an illustrated Cinderella story book with the narrative hidden. The book was removed and participants were asked to tell the story.
- Sessions were videotaped and language samples were transcribed using the Codes for the Human Analysis of Transcripts (CHAT) format.<sup>6</sup>
- Computerized Language Analysis (CLAN)<sup>6</sup> programs were used to analyze a range of linguistic variables and to summarize the coherence and main concept coding.
- Two raters independently used the 4-Point Global Coherence Rating Scale<sup>5</sup> to score each utterance in the samples.
- G1 = utterances that were entirely unrelated to the stimulus or contained tangential information.
- G2 and G3 = utterances that were indirectly related to the stimulus or contained non-essential information.
- G4 = utterances that contained main details and were overtly related to the stimulus
- Interrater reliability was examined and discrepancies were resolved through discussion and consensus.

## Participants

Table 1. PARTICIPANT DEMOGRAPHICS

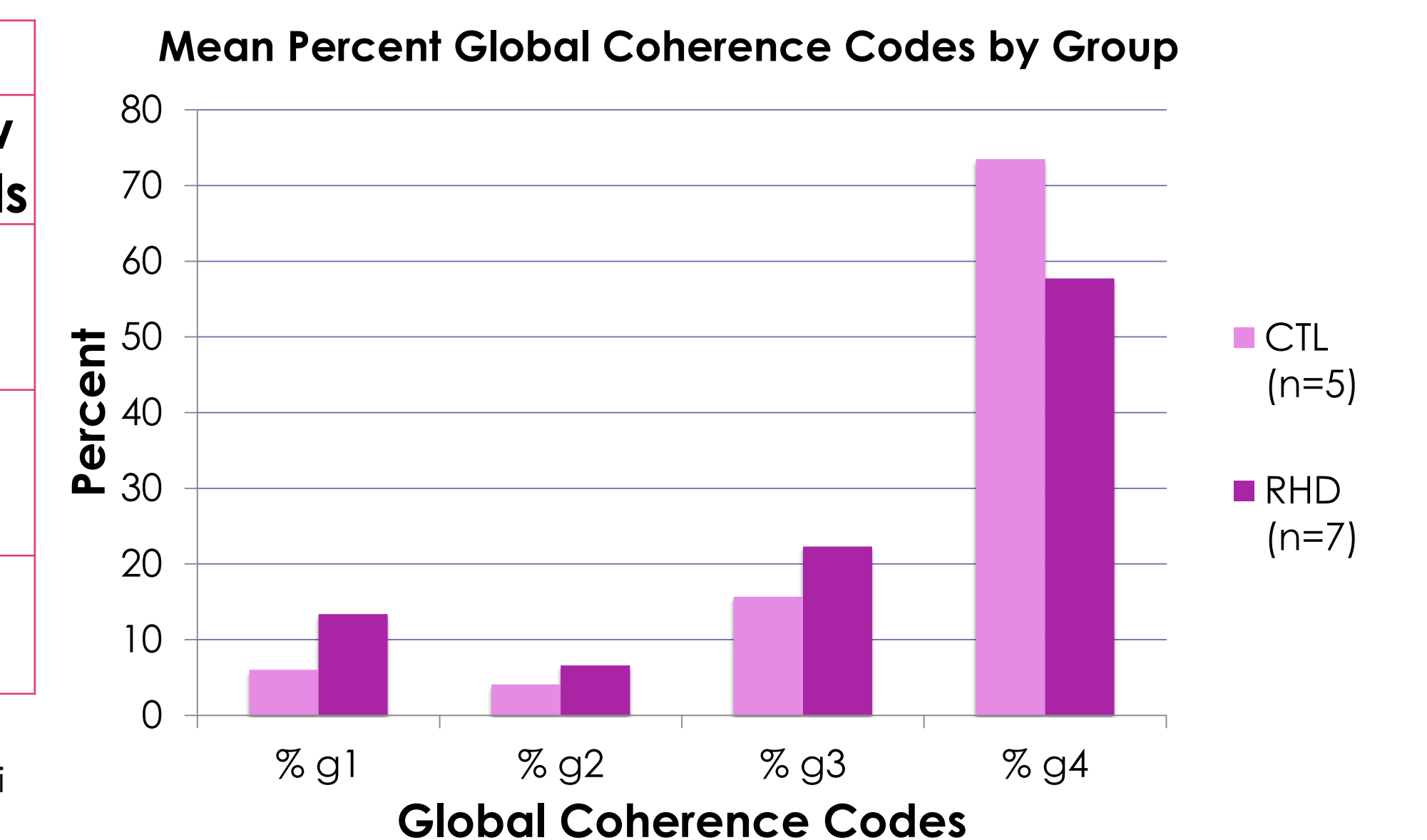
	RHD (n = 8)	Controls (n = 5)
AGE RANGE (YRS)	53 – 81 (mean = 63.5)	44 – 57 (mean = 51.9)
SEX	4 females	5 females
EDUCATION RANGE (YRS)	15 – 24 (mean = 19.4)	14 – 21 (mean = 16.6)
HANDEDNESS	7 right	5 right
CLQT COMPOSITE SCORE	1.8 – 4 (mean = 3.25)	N/A

## Results

	g1	g2	g3	g4	Row totals
Control	11 (18.27) [2.89]	10 (12.59) [0.53]	40 (46.29) [0.85]	155 (133.86) [1.88]	216
RHD	34 (26.73) [1.98]	21 (18.41) [0.36]	74 (67.71) [0.58]	187 (203.14) [1.28]	316
Column Totals	45	31	114	342	532

Note: Columns represent observed cell totals, 9expected cell totals), [chi square statistics]

The chi-square statistic is 10.3624. The p-value is .0157.



Average inter-rater reliability across cases = 77.35%

## Discussion

- Participants with RHD demonstrated lower average global coherence than healthy controls.
- Participants with RHD produced a statistically significantly higher proportion of G1, G2 and G3 codes than healthy controls.
- Inter-rater reliability was challenging to achieve. Coding scheme was continuously refined.

## Future Research

- Continue to refine coding scheme to increase inter-rater reliability.
- Assess intra-rater reliability.
- Conduct main concept coding as a further analysis of global coherence.
- Recruit and assess additional participants with RHD and healthy controls.
- Conduct additional statistical and qualitative analyses to more clearly describe discourse in people with RHD.

## References

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