

Discourse Coherence Analysis Provides New Insights into Cognitive Decline in aMCI

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Introduction

- Amnestic mild cognitive impairment (aMCI) is a condition that can lead to Alzheimer’s disease (AD) (1).
- Episodic memory is impaired in aMCI, however semantic memory has been known to be spared (2).
- To date no studies have attempted to test whether specific memory impairments are related to deficits in discourse production, such as difficulty maintaining discourse coherence (the interrelatedness of utterances in a topic of discourse).

Objectives and Hypotheses:

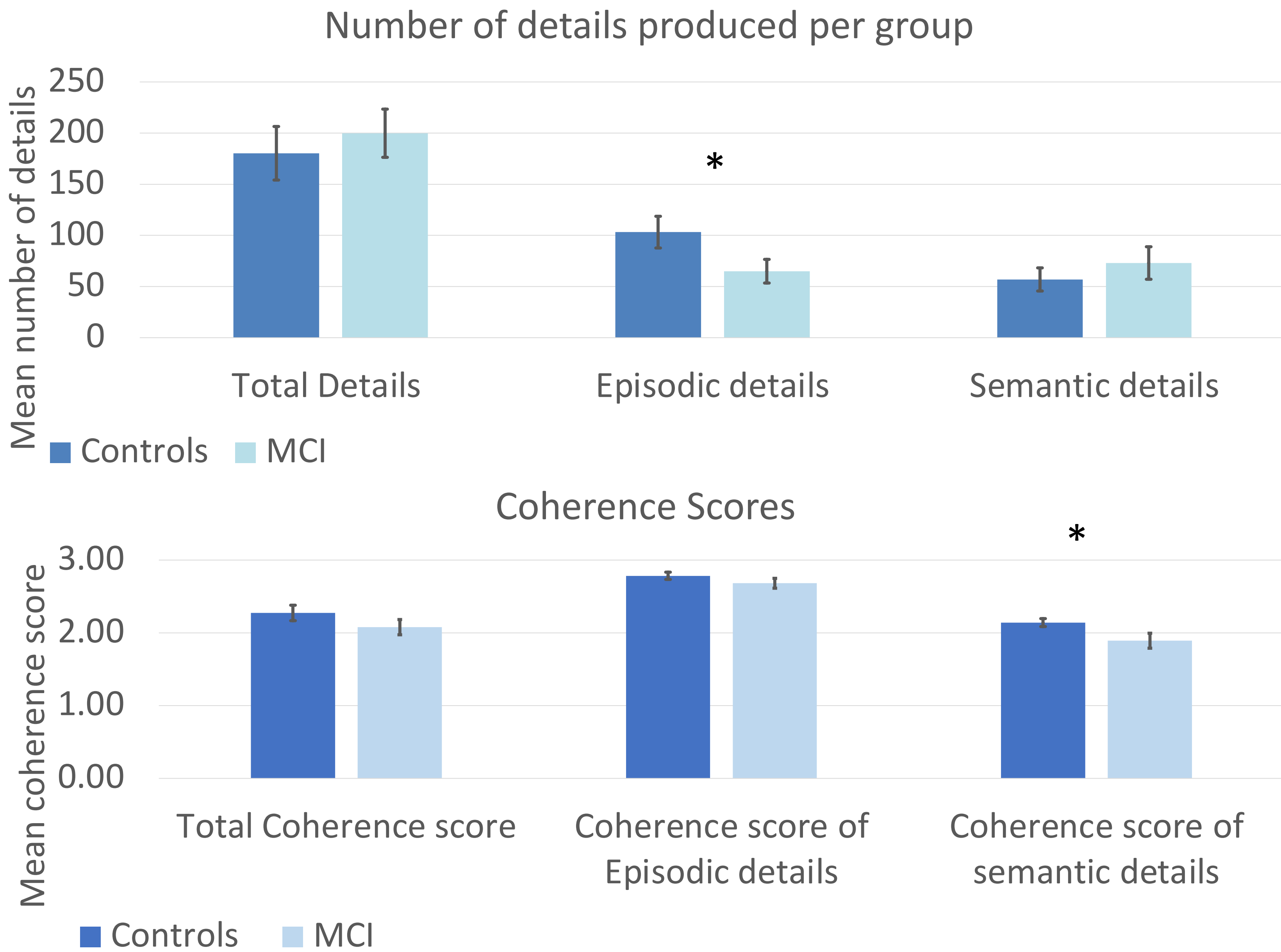
- To investigate the production of episodic and semantic memory details and the levels of coherence of discourse in an aMCI group.
- We hypothesise that aMCI patients will be less coherent than controls generally and possibly more so when producing episodic details.

Methods



- aMCI patients and controls were asked to tell stories about past events
- We used the Autobiographical Interview (3) in order to investigate memory recall
- Coherence of discourse was measured with a coherence rating scale developed for this study

Results and Discussion



- As expected, aMCI patients produced fewer episodic details than controls ($p=.01$, $d=.99$);
- Marginally significant difference between groups in total coherence ($p=.08$, $d=.65$)
- No difference was found in episodic coherence; however, there was a marginally significant difference in semantic coherence between groups ($p=.07$, $d=1.11$);
- Analysis of semantic memory may identify early cognitive deficits in aMCI patients.

Coherence scores	"Who was the best man at your wedding?"
3 detail is an element of the semantic frame	"um the best man would have been a friend of mine"
2 detail is a relevant implication of the frame	"who I went to university with back in 1958 to 1964" "um who now lives in Vancouver"
1 detail is neither an element of the frame nor relevant to the topic	"actually lives up not in Vancouver but in..." "um where's where's the Olympics going to be this Winter?" "um that's where he lives"
0 detail is devoid of semantic content	"you know?" "yeah"

References

- 1- Artero et al., 2006. *Dem and geriatric cog dis*, 22(5-6), 465-470.
- 2-. Murphy et al., 2008. *Neuropsych*, 46(13), 3116-3123.
- 3- Levine et al., 2002. . *Psych and aging*, 17(4), 677
- 4- Taler & Phillips, 2008. *J Clinical and Exp Neuropsych*, 30 (5), 501-556.

Participants	Task	Coding
14 aMCI patients 16 healthy matched controls	Participants were administered the Autobiographical Interview (AI) and reported memories of personal past events (1).	1- Answers were transcribed and segmented; 2-The segmented details were analysed using a coherence rating scale; 3- The details were categorized as episodic or semantic and the coherence score was calculated for each composite