

MILD COGNITIVE IMPAIRMENT PATIENT INTERVENTION TRIAL: CHALLENGES AND APPROACHES

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BACKGROUND

- Mild Cognitive Impairment (MCI) is an intermediate condition between healthy aging and dementia.
- Approximately 10-15% of people with MCI transition to Alzheimer's disease, compared to 1-2% of healthy older adults.^{1,2}
- There is limited literature on computer game use amongst people with MCI.
- Recent studies with healthy older adults set frequency of game play to 1 hour/day, 5 days/week for 3 months.³

OBJECTIVE

- Conduct a pilot project to prepare for a longitudinal cognitive intervention trial. Specifically, we wanted to see if we could recruit sufficient MCI patients, test an intervention schedule and identify any other project constraints.

METHODS

- We aimed to enroll 30 amnesic MCI participants from the Memory Clinic at the Elisabeth Bruyère Hospital in Ottawa.
- The Memory Clinic sees approximately 333 patients per month with about 15% MCI.
- Participants were identified through physician diagnosis, chart review, cognitive testing, and interdisciplinary team diagnosis consensus.
- Games played: BrainHQ by Posit Science (Fig. 1) or Sudoku / word search games (Fig. 2) designed by one of our collaborators (BW).
- Intervention plan: 1 hour game play, 3 times per week, for 9 weeks in 4 different locations in the city of Ottawa, ON, Canada.
- Pre- and post- intervention cognitive testing: Trails A and B, Montreal Cognitive Assessment (MOCA), and Repeatable Battery for the Assessment of Neuropsychological Status (RBANS).
- Observations during game play.

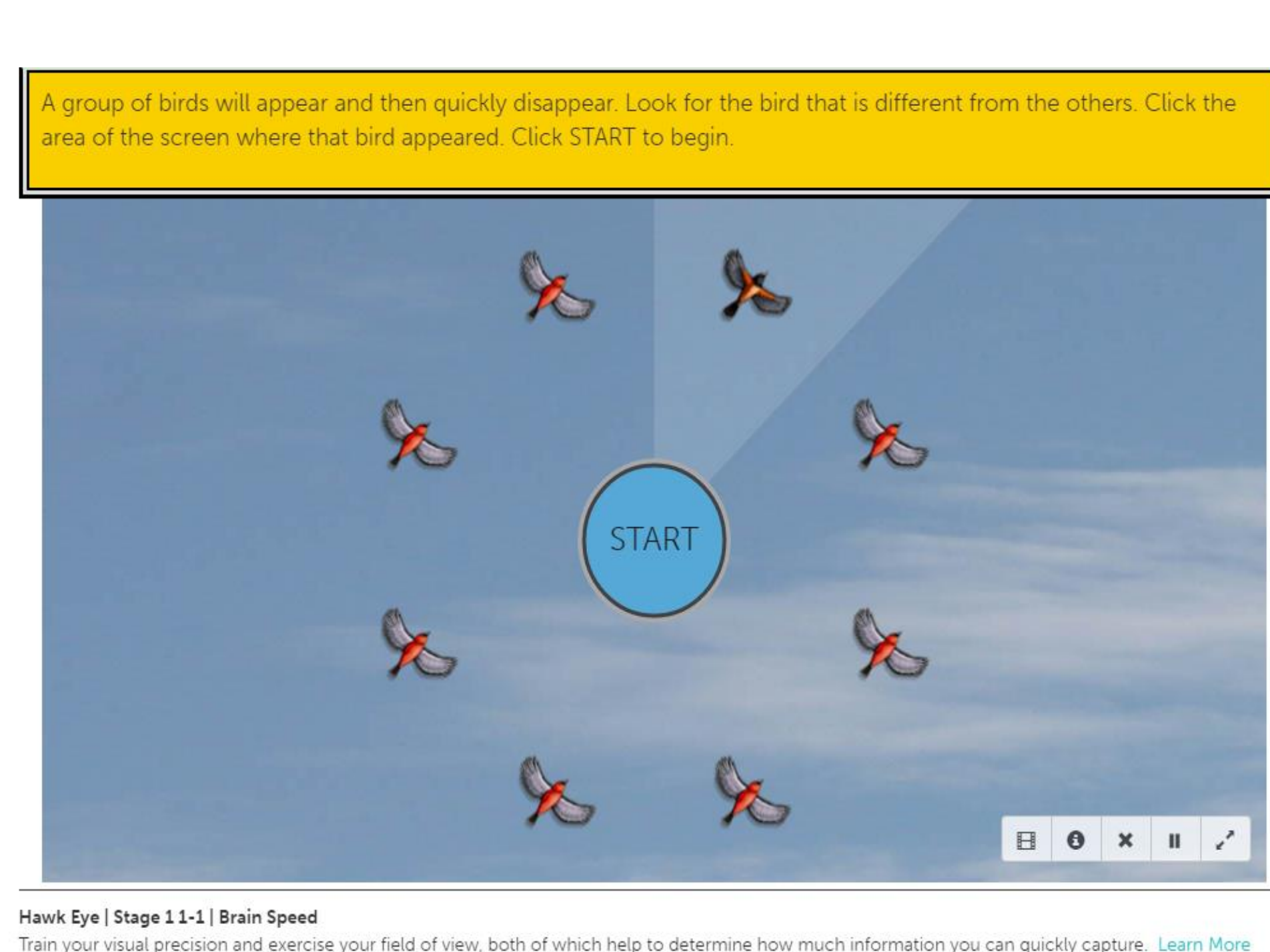


Figure 1. Example of an activity played by participants on the BrainHQ website

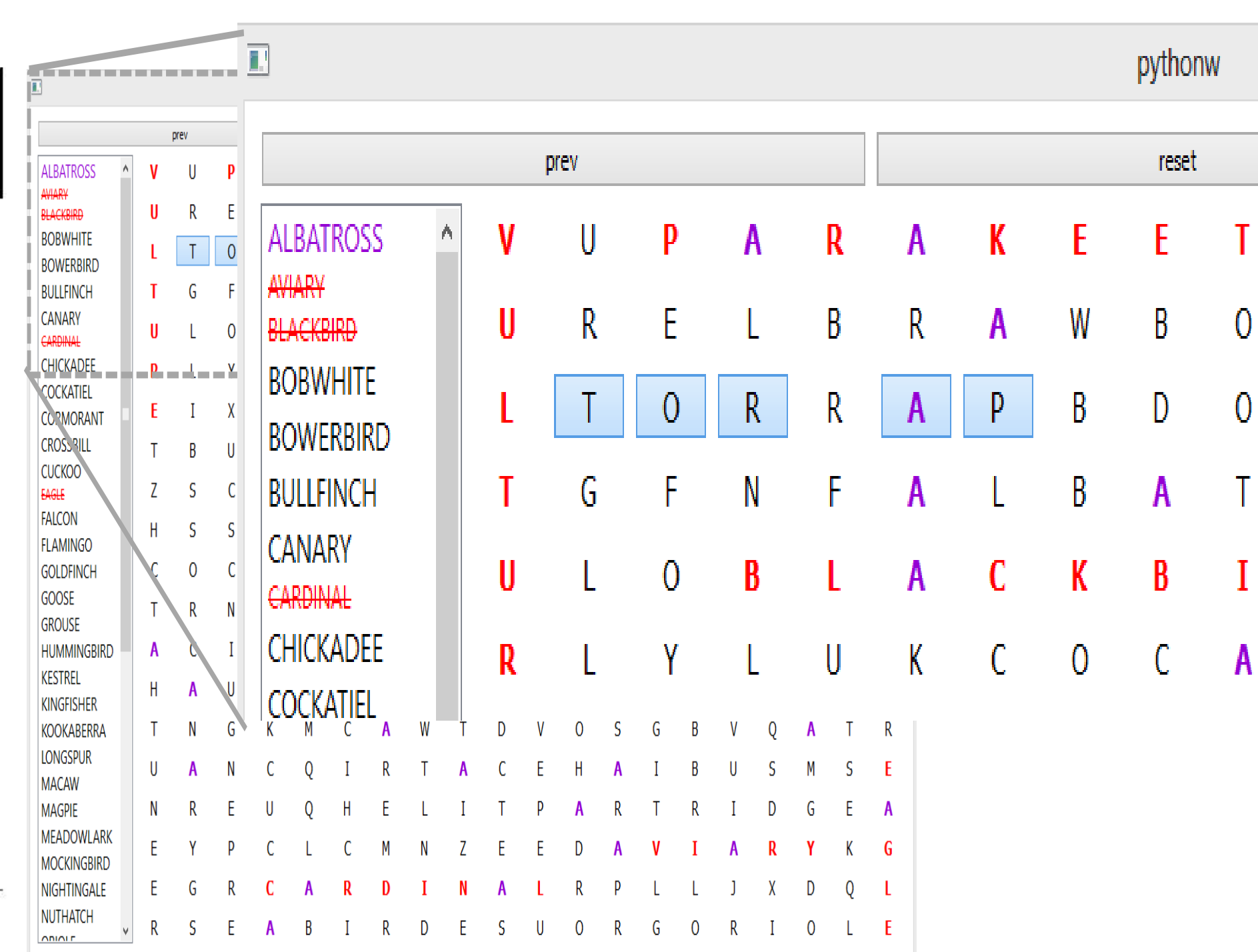


Figure 2. Carleton Word Search Game

RESULTS

- Patients enjoyed the games and tolerated the intervention schedule.
- Solid retention record: only one participant dropped out during the intervention.
- Many challenges during recruitment and intervention:
 - Chart reviews were time consuming.
 - Only a fraction of MCI patients were purely amnesic, prompting a revision to the participant definition to include amnesic MCI plus one other affected cognitive domain (Fig. 3).
 - After 6 months, only 17 individuals were recruited.
 - Many participants missed sessions for a variety of reasons including personal appointments as well as winter and summer vacations.

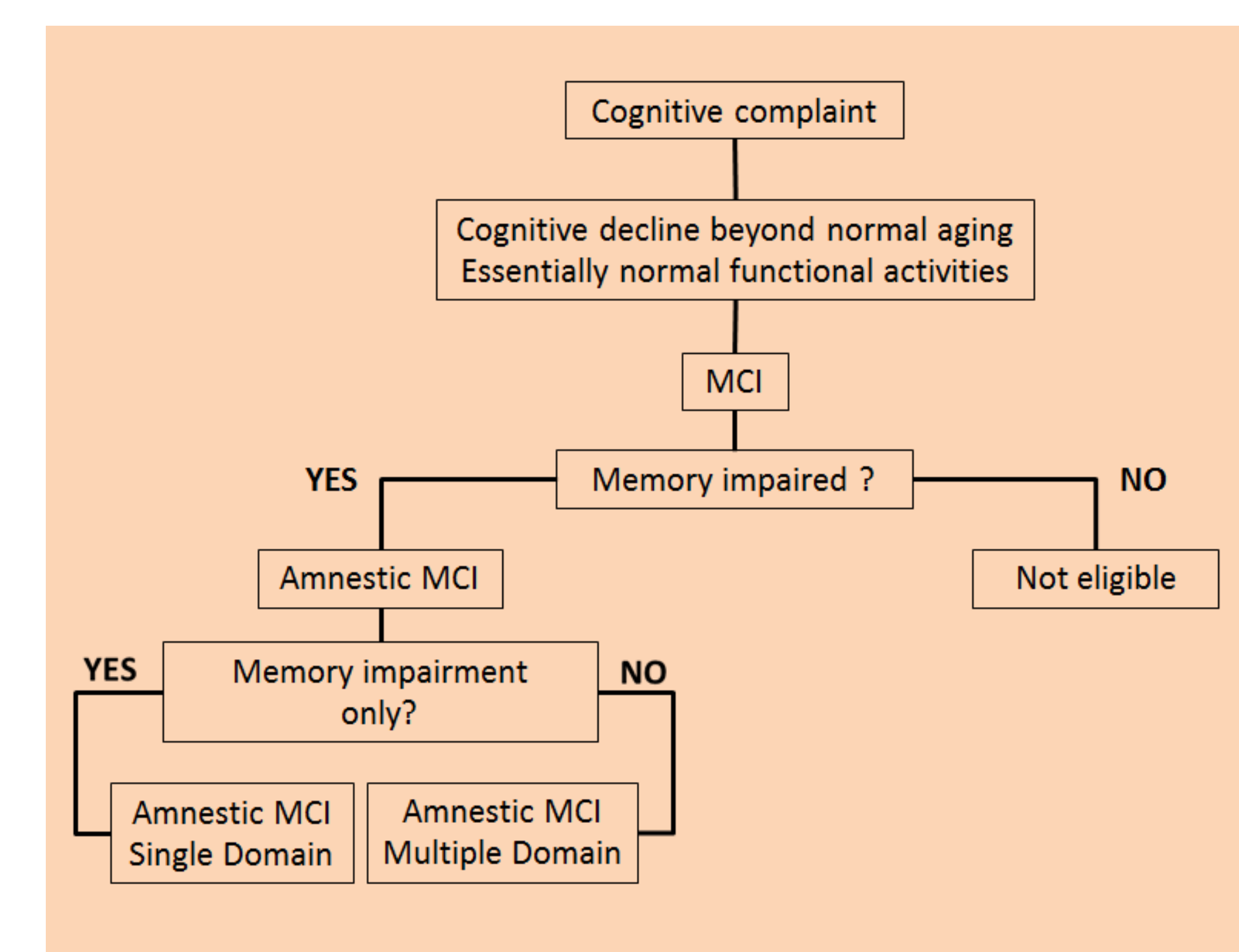


Figure 3. Flow-chart of eligibility criteria⁴

DISCUSSION

- Recruitment of MCI participants for a cognitive intervention trial is feasible but difficult.
- While the intervention schedule appeared to be well-tolerated, the design for a broader study needs to consider time of year, scheduling difficulties, and study location.
- We believe that the research assistant's enthusiasm was a key factor in participant retention.

ACKNOWLEDGEMENTS

- We gratefully acknowledge the collaboration of the participants, Dr. Vanessa Taler's laboratory, as well as the administrative oversight of our Research Manager, Jodie Taylor. This study was supported by the Bruyère Academic Medical Organization Incentive Fund.

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