Examining cognitive training and executive function in older adults

Meggan Porteous, Sheida Rabipour, Patrick S. R. Davidson

School of Psychology, University of Ottawa, Canada

INTRODUCTION

- Studies have shown that cognitive functions decline with increasing age \(^{1,2}\).
- As the population of older adults (OA) grows, interest in cognitive training programs is steadily expanding.

OBJECTIVE

We sought to investigate whether cognitive training programs can lead to improvements in the performance of OA on measures of working memory and inhibition.

METHODS

- Participant Recruitment (\(n = 67\))
  - Younger Adults (\(n = 32, 17\) to 27 years of age)
  - Older Adults (\(n = 35, 60\) to 87 years of age)
- Pre-Assessment (Flanker task of inhibition + N-back task of working memory)
- 5-week cognitive training program
- Post-Assessment (Flanker task of inhibition + N-back task of working memory)

RESULTS

- Reaction time on congruent Flanker trials
  - Young Adults
  - Older Adults Pre-Assessment
  - Older Adults Post-Assessment
- Reaction time on incongruent Flanker trials
  - Young Adults
  - Older Adults Pre-Assessment
  - Older Adults Post-Assessment
- Reaction time on N-back task
  - Young Adults
  - Older Adults Pre-Assessment
  - Older Adults Post-Assessment

DISCUSSION

- Our results supported our initial hypothesis that cognitive training may explain improvements in executive functions.
- While our results do not indicate a causal link between cognitive training and executive function enhancement, they provide evidence justifying further investigation.
- Possible limitations include the sample composition: YA exclusively included university students and OA were self-selected and high performing at baseline.

CONCLUSION

- Follow-up studies will determine whether other factors can also lead to improvement.
- Determining whether cognitive training programs can improve cognitive performance in older adults can help determine the potential of such approaches to prevent or rehabilitate age-related cognitive decline.

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