

# Dance and Stretching Effects on Cognition in Young Adults with Childhood Trauma

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## Introduction

- A short, single bout of aerobic exercise produces immediate cognitive benefits predictive of long-term effects seen with repeated exercise.<sup>1, 2</sup>
- Dance exercise is enjoyable<sup>3-4</sup> and may have a positive effect on executive function.<sup>3-5</sup>
- Proactive semantic interference (PSI): prior learning of semantic information interferes with new learning of similar information.<sup>6</sup>
- Failure to recover from PSI could be an early indicator of Alzheimer's disease.<sup>6</sup>
- This study investigated the effects of dance and stretching on PSI, executive functioning, and exercise enjoyment in young adults with childhood trauma.

## Hypotheses

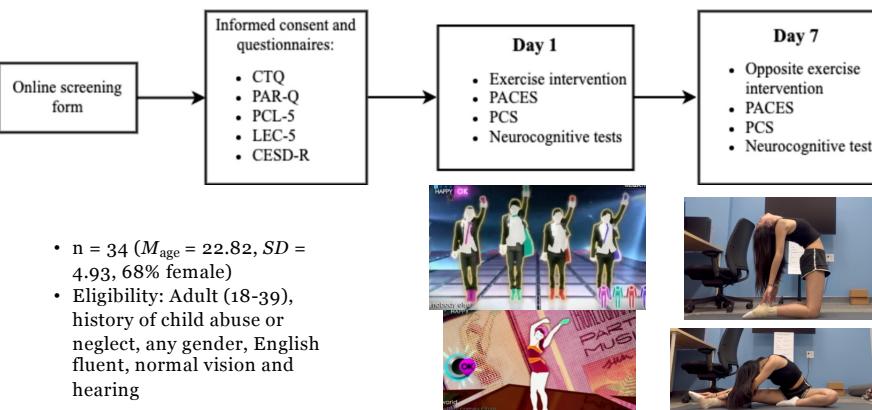
Compared to low-intensity stretching, moderate-intensity dance:

- ↑ ability to recover from proactive semantic interference
- ↑ executive functioning skills
- ↑ enjoyment

## Measures

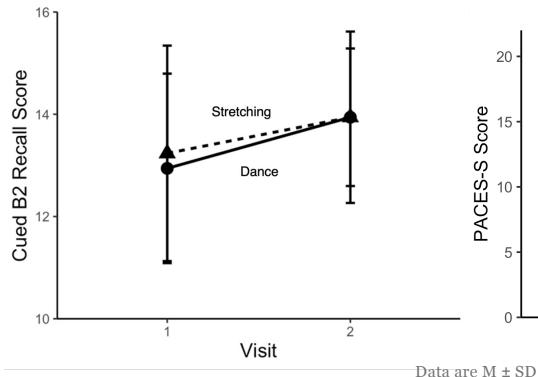
- 30-minute *Just Dance* and stretching videos
- Physical Activity Enjoyment Scale (PACES)
- Perceived Competence Scale (PCS)
- Neurocognitive tests
  - Loewenstein-Acevedo Scales for Semantic Interference and Learning (LASSI-L)
  - Symbol Digit Modalities Test (SDMT)
  - Digit Span Task
  - Letter-Number Sequencing (LNS) Task
  - Trail Making Test (TMT) A and B
  - Controlled Oral Word Association Test (COWAT-FAS)

## Methods

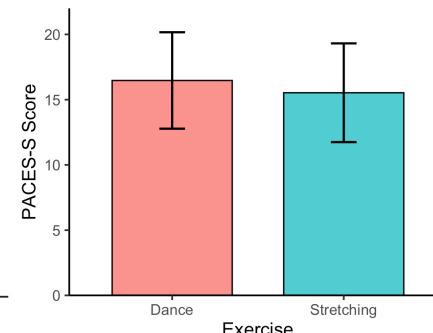


## Results

### Ability to recover from proactive semantic interference did not differ between dance and stretching



### Similar exercise enjoyment of dance and stretching



## Conclusion

- Young adults with childhood trauma have similar executive functioning skills and recover similarly from proactive semantic interference effects after a single bout of dance/stretching exercise.
- A single bout of stretching may be as enjoyable as dance.

## Future Directions

- This was the first study to compare dance and stretching effects on recovery from proactive semantic interference and executive function.
- Since recovery from proactive semantic interference is particularly important for adults with cognitive complaints, further exercise research should be done with this population.

## Acknowledgments

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