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1. Introduction

- Everyday navigation involves using and switching between different *navigation strategies*¹
- There are two main strategies²:
 - Place strategy (Novel shortcuts)
 - Response strategy (Familiar routes)
- Navigation strategy selection varies by age and gender
 - Young adult men use place strategies³
 - Young adult women, midlife adults, and older adults use response strategies³⁻⁵
- Use of one strategy may not mean inability to use another
 - Young adult women use place strategies when instructed
 - Strategy switches show route *and* survey knowledge⁴

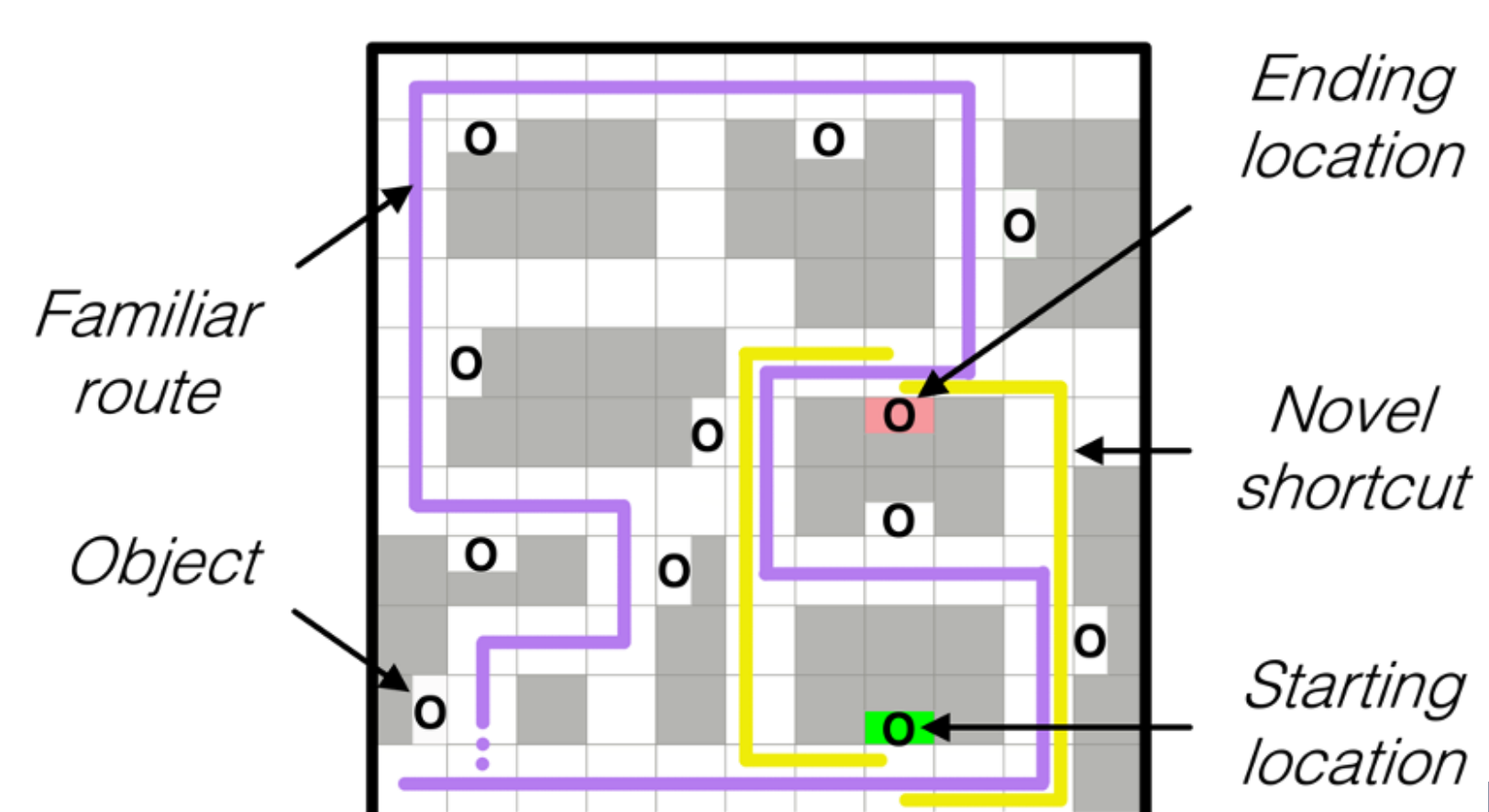
Can older adults switch strategies when instructed?

- YES → older adults have intact survey knowledge
- NO → older adults may have impaired survey knowledge

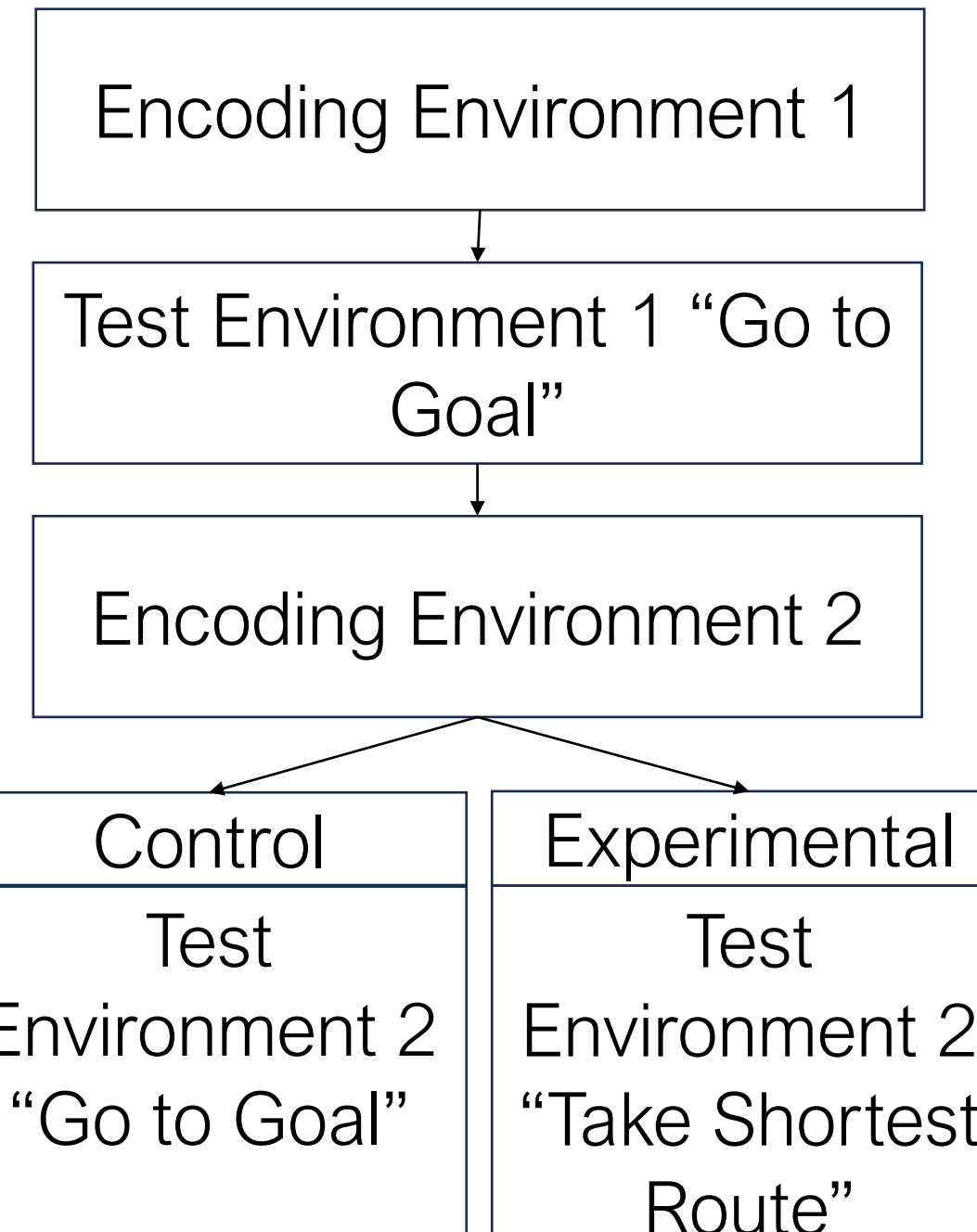
2. Method

	Younger Adults	Older Adults
N	64	65
Age	18-34 ($M = 20.6, SD = 2.8$)	55-92 ($M = 69.2, SD = 7.7$)
Gender	32 women	32 women
MoCA	22-30 ($M = 27.9, SD = 1.9$)	20-30 ($M = 26.9, SD = 2.4$)

Dual-Solution Paradigm (DSP)



Procedure

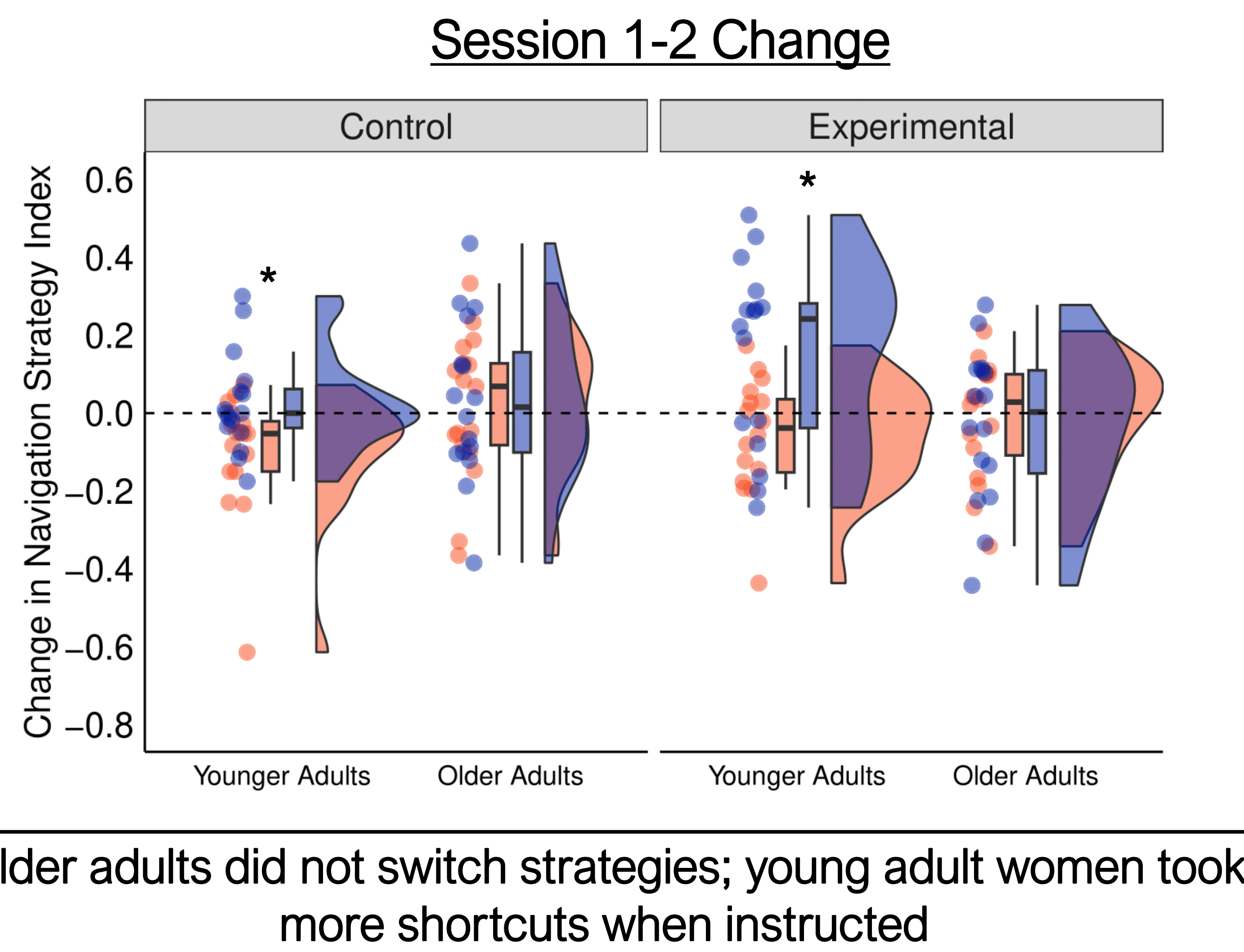
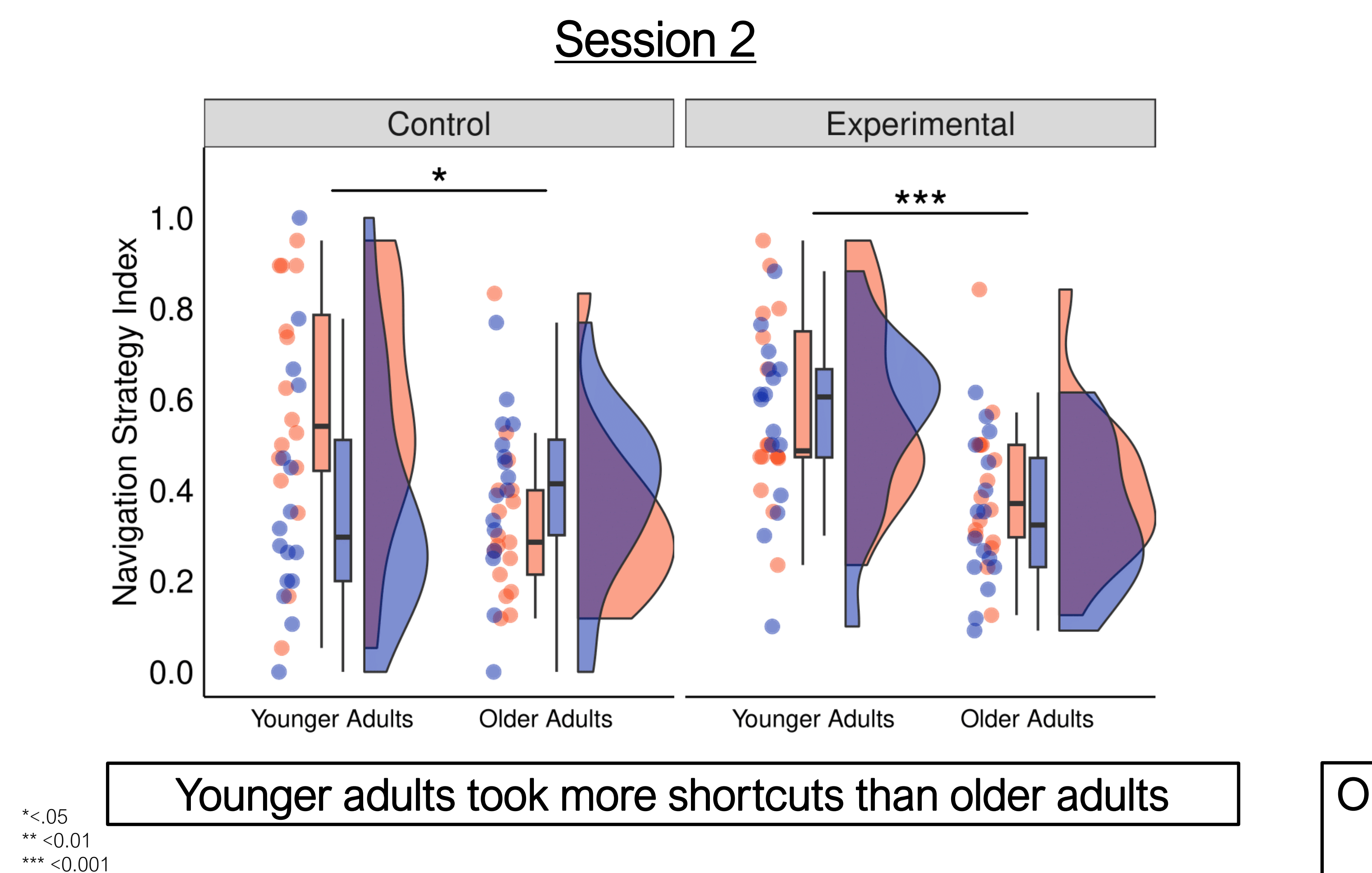
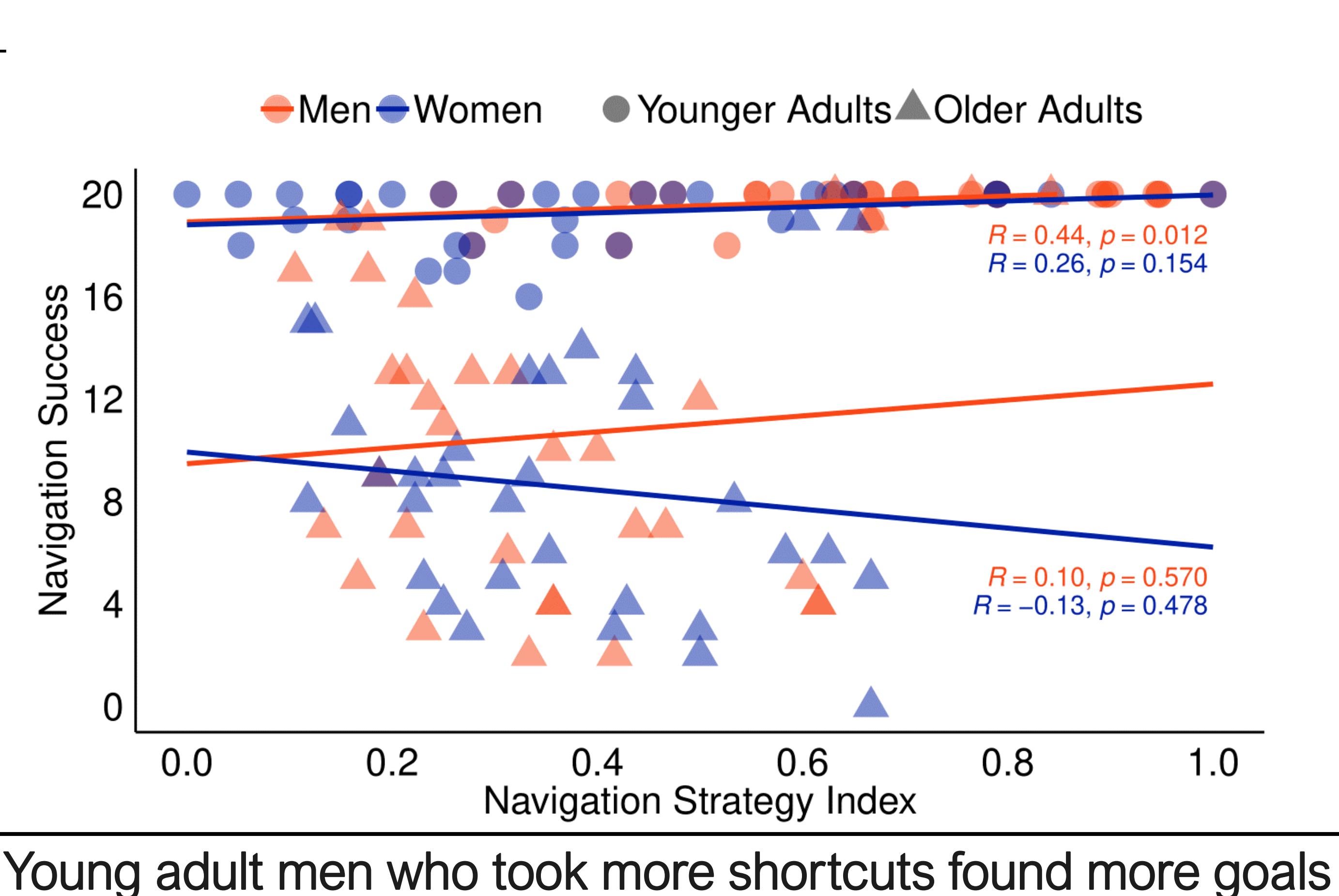
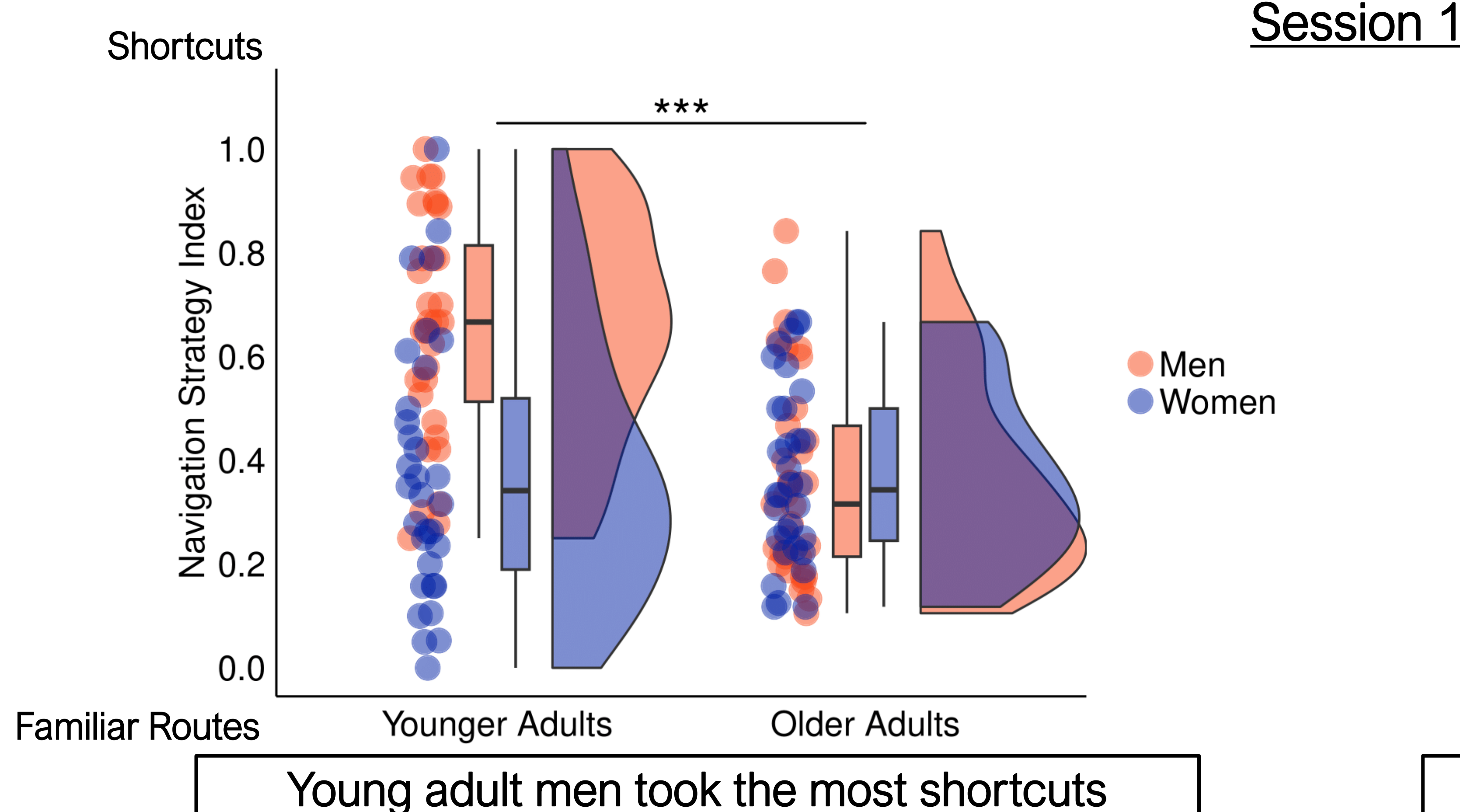


- DSP encoded and tested in virtual desktop environment
- Strategy per trial determined by path planning algorithms⁶

Navigation Strategy Index (NSI)

$$\text{NSI} = \frac{\# \text{ of shortcuts}}{\# \text{ of shortcuts} + \# \text{ of familiar routes} + \# \text{ of reversed routes}} \uparrow \text{NSI} = \uparrow \text{Shortcuts (place strategy)}$$

3. Results



4. Conclusions

Older adults did not switch navigation strategies when explicitly instructed to take the shortest route

- No shift in older adults' navigation strategy might reflect impaired survey knowledge
- Navigation strategy shift in young adult women demonstrates intact survey knowledge
- Future work will correlate navigation strategy and spatial knowledge⁷

5. References

¹Harris et al., (2012) *Front. Aging Neurosci.* ⁵Yu et al., (2021) *Psychol. Sci.*
²Marchette et al., (2011) *J. Neurosci.* ⁶Kirchmar & He, (2021) *Top. Cogn. Sci.*
³Boone et al., (2018) *Mem. Cogn.* ⁷Hegarty et al., (2021) *Top. Cogn. Sci.*
⁴Boone et al., (2019) *Mem. Cogn.*

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