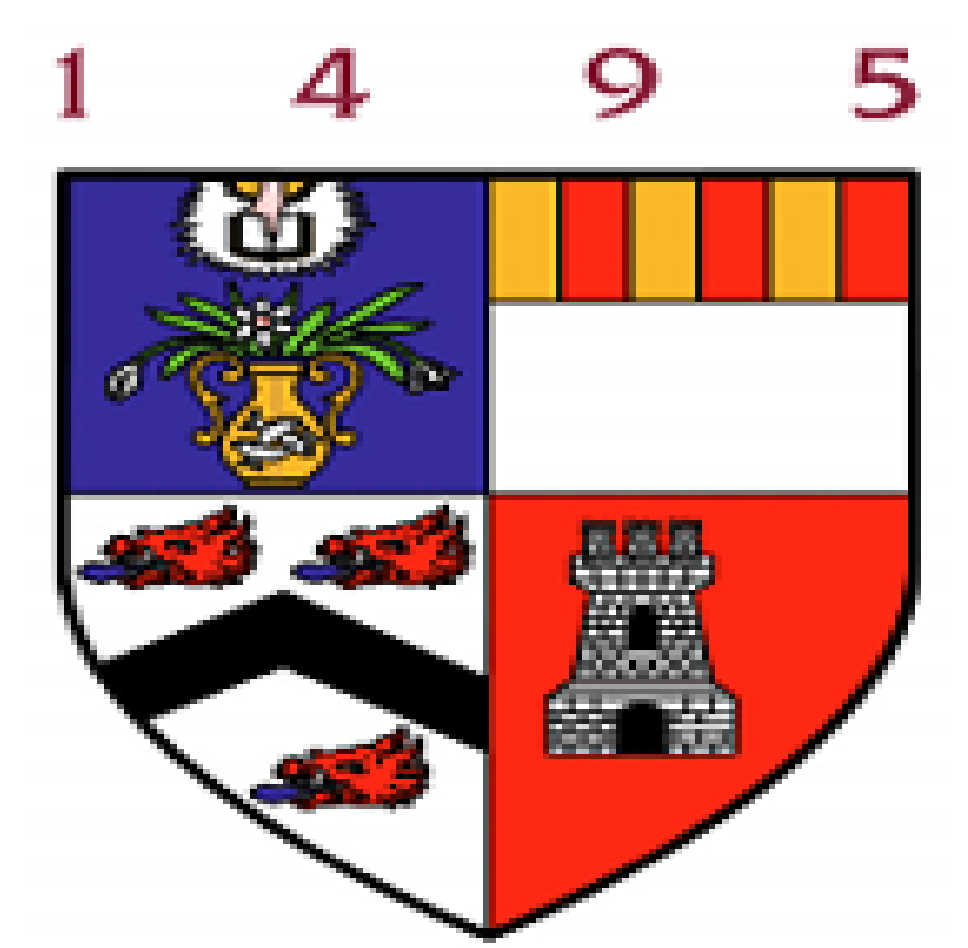


Attention and Biological Motion in Healthy Ageing



Hannah C. Agnew, Louise H. Phillips and Karin S. Pilz
School of Psychology, University of Aberdeen, Scotland, UK
hannah.agnew@abdn.ac.uk

INTRODUCTION

- Biological motion perception and attentional abilities have been shown to deteriorate with age (Norman et al., 2005; Billino et al., 2009; Pilz et al., 2010; Insch et al., 2012).
- A direct link has been found between attentional abilities and performance on biological motion tasks (Thornton, Rensink & Shiffrar, 2003; Cavanagh, Labianca & Thornton, 2001; Chandrasekaran et al., 2010).
- It is not known whether there is a direct link between age-related deficits in biological motion processing and attention.

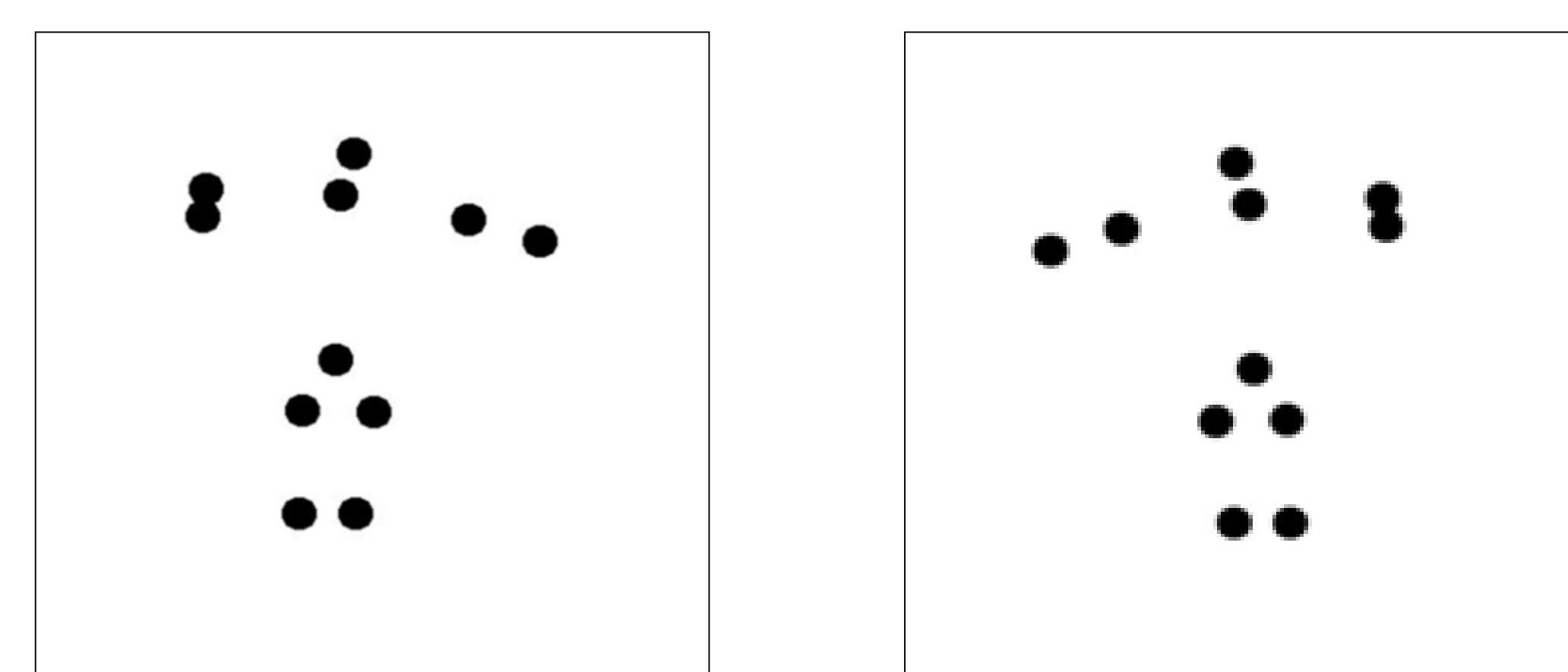
STUDY AIM

To investigate whether age-related decline in biological motion perception is mediated by impaired attentional abilities

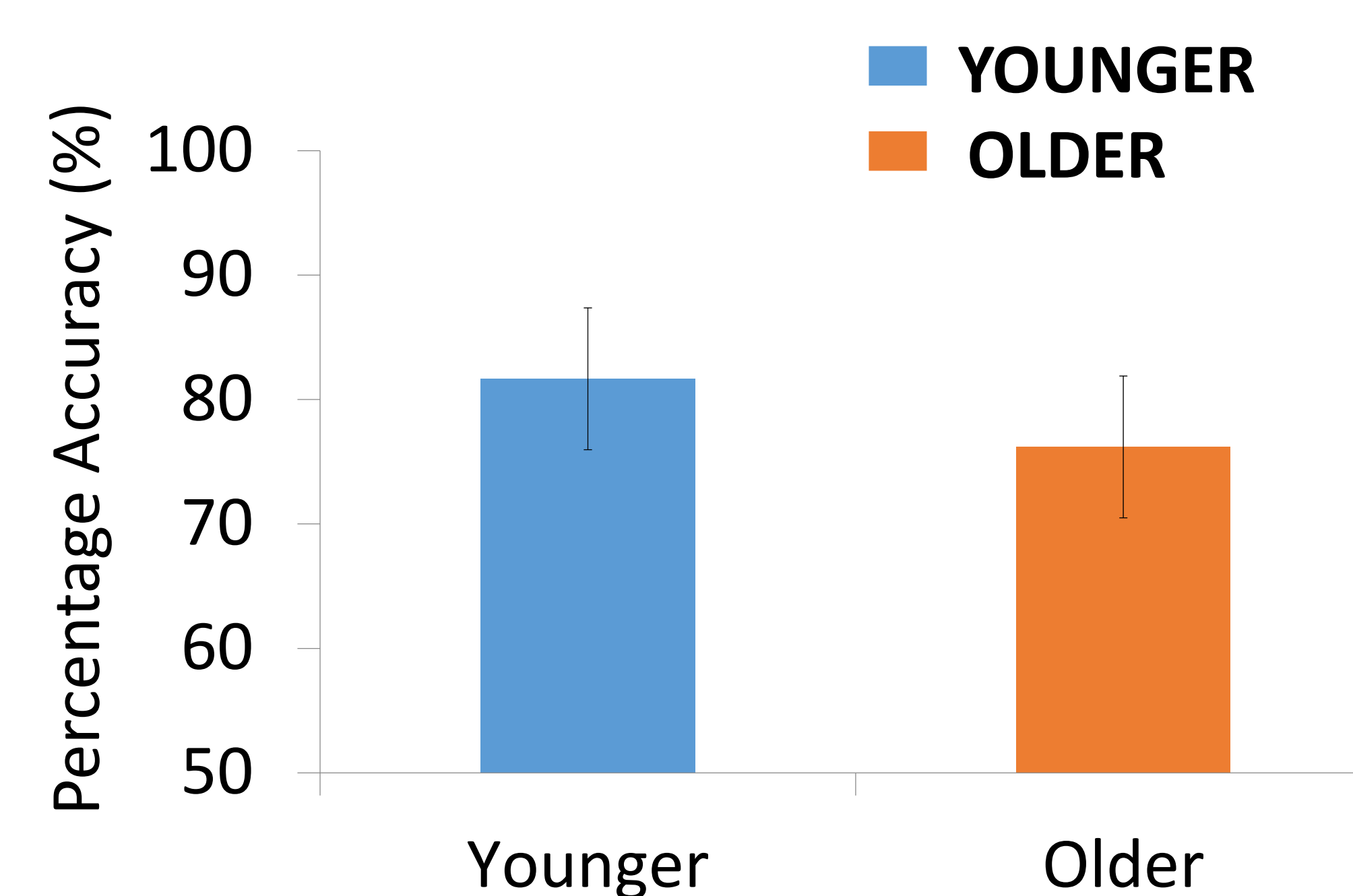
BASELINE TASK

Participants: 18 Younger (M=25;22-31) & 13 Older (M=66;59-73) adults.

Left/rightward facing point-light actions.

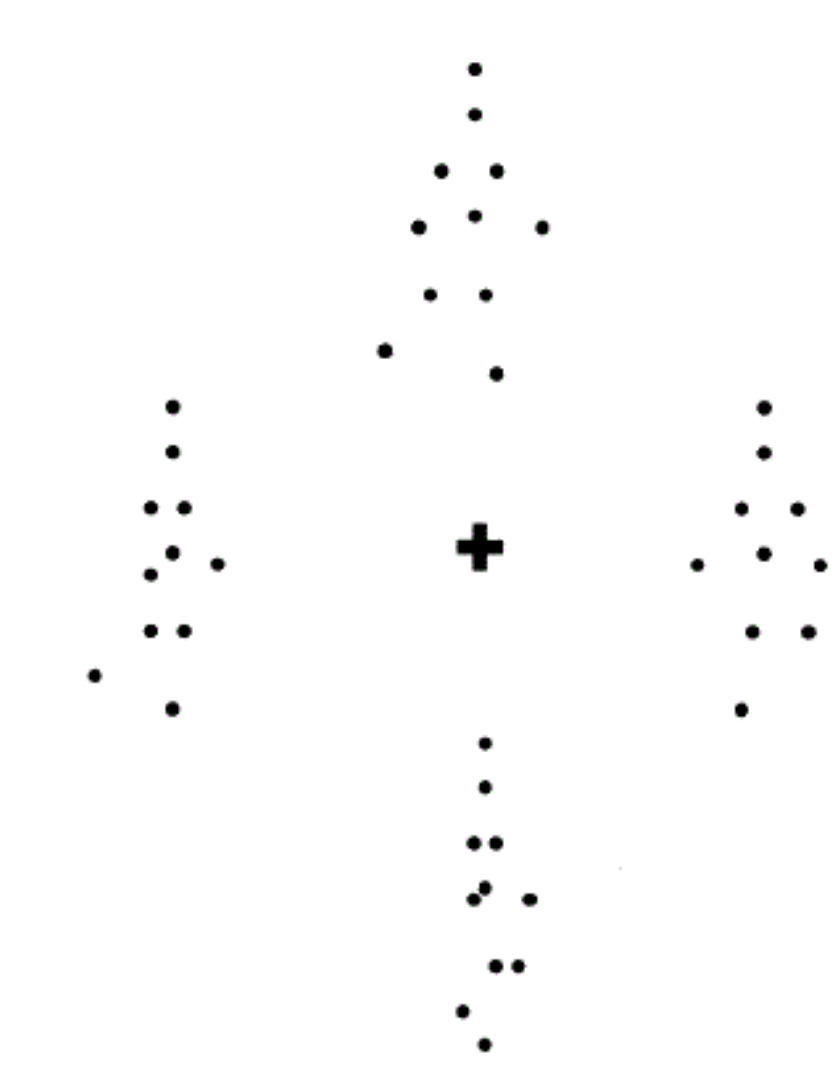


Stimulus Presentation (200ms)



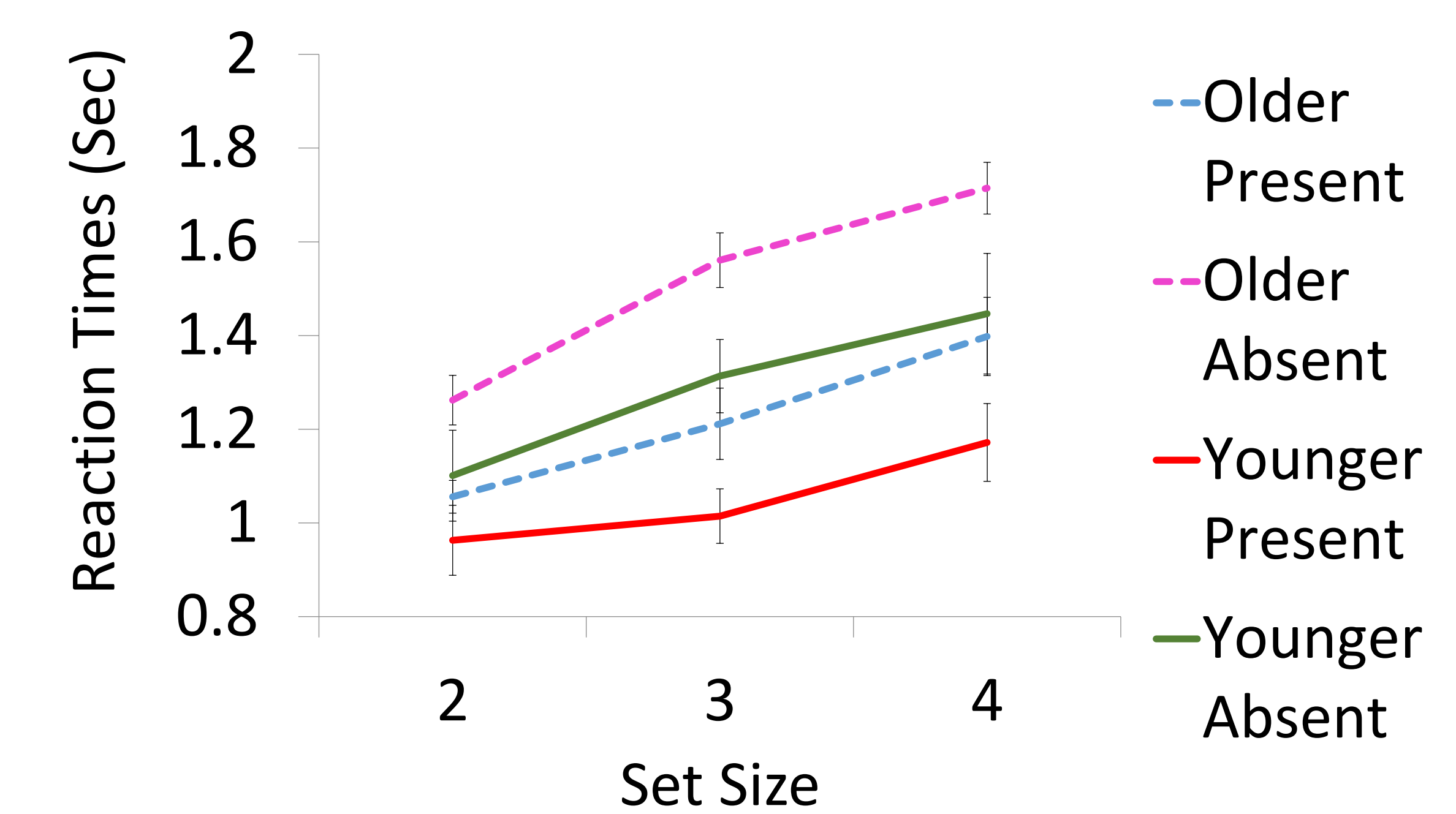
NS age differences.

Left/rightward facing point-light walkers.



Target Detection Set Size (2,3,4)

Stimulus Presentation (5sec)



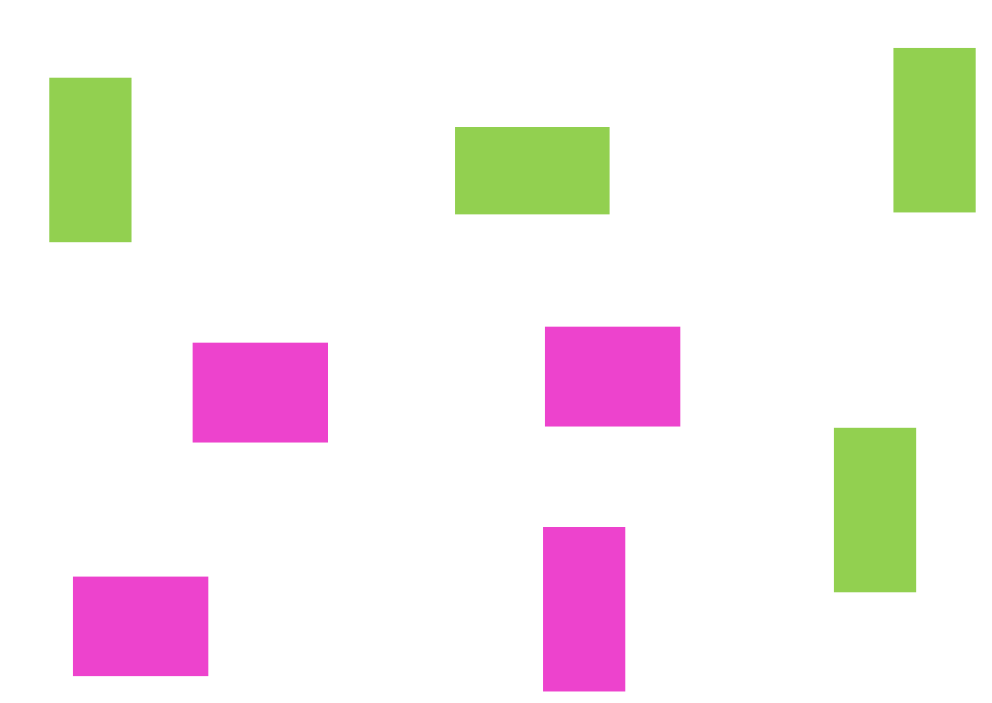
PA x set size interaction ***

Task: What direction is the point-light action facing?

Task: Is the target walker present or absent?

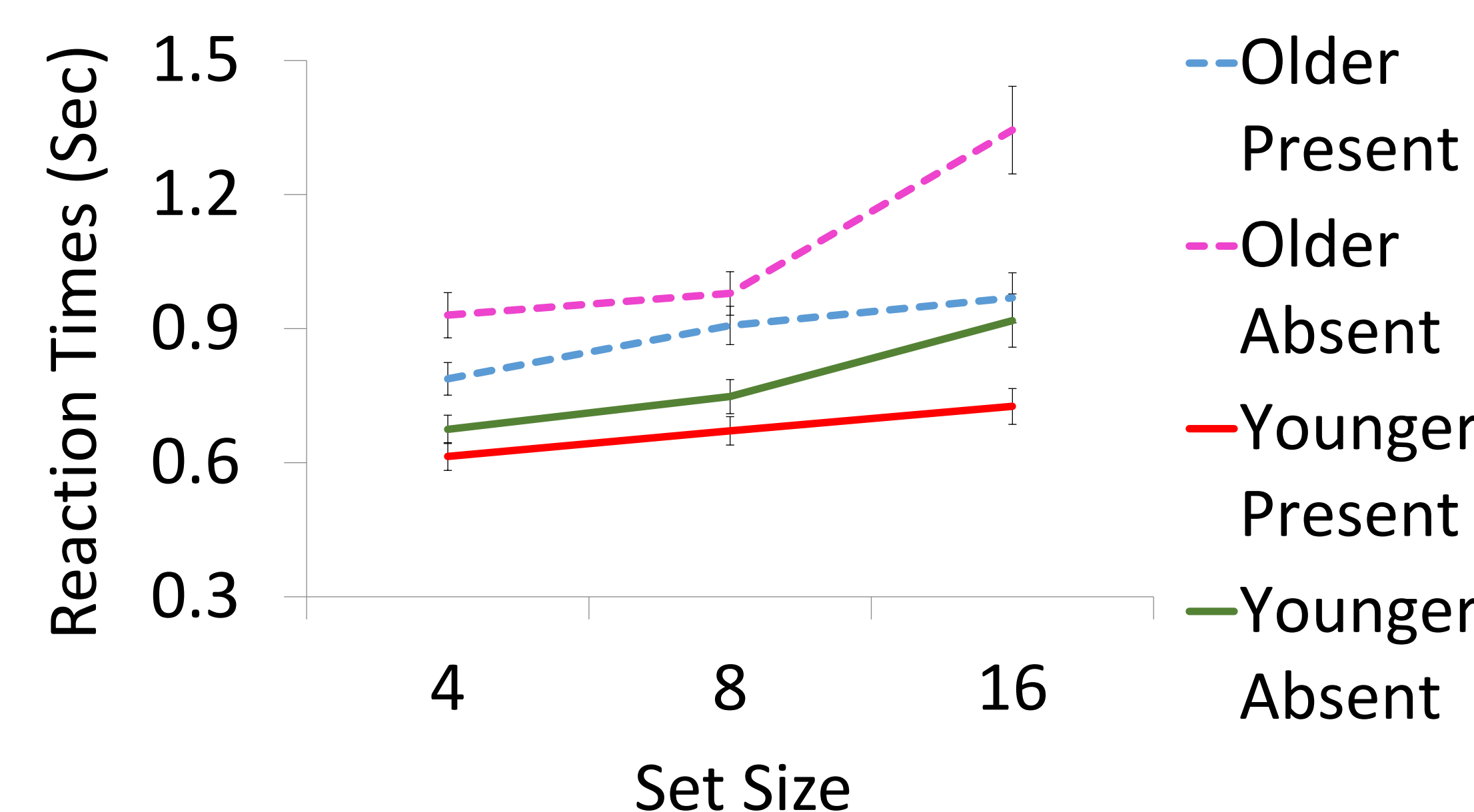
ATTENTION TASKS

1) Visual Search Task



Feature Detection Set Size (4,8,16)

Task: Is the target present or absent?

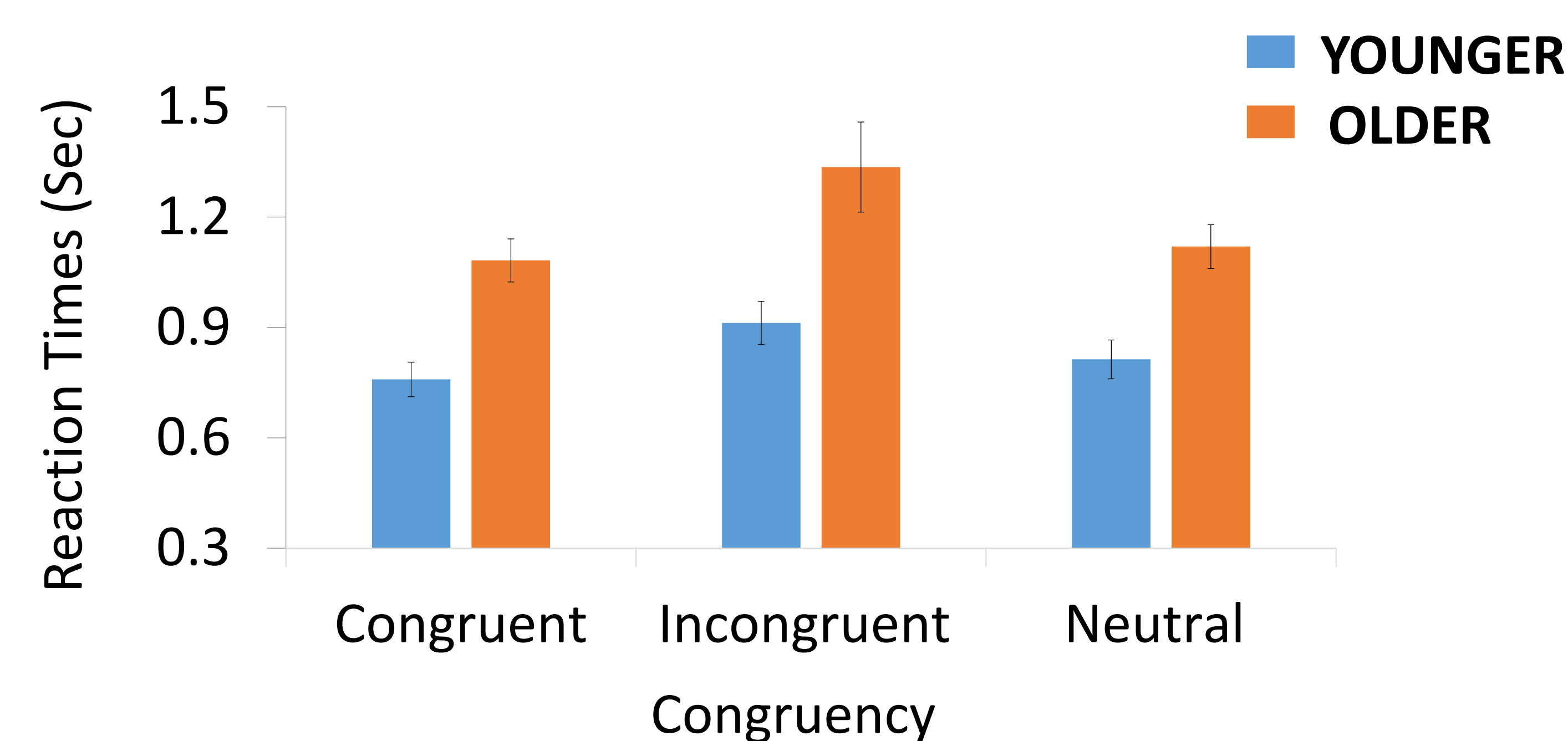


PA x set size x age interaction *

2) Stroop Task

Green Blue Red Congruent
 Purple Red Green Incongruent
 Dog Desk Bottle Neutral

Task: Name the ink colour of the words



Main effect of age ***
Main effect of congruency ***

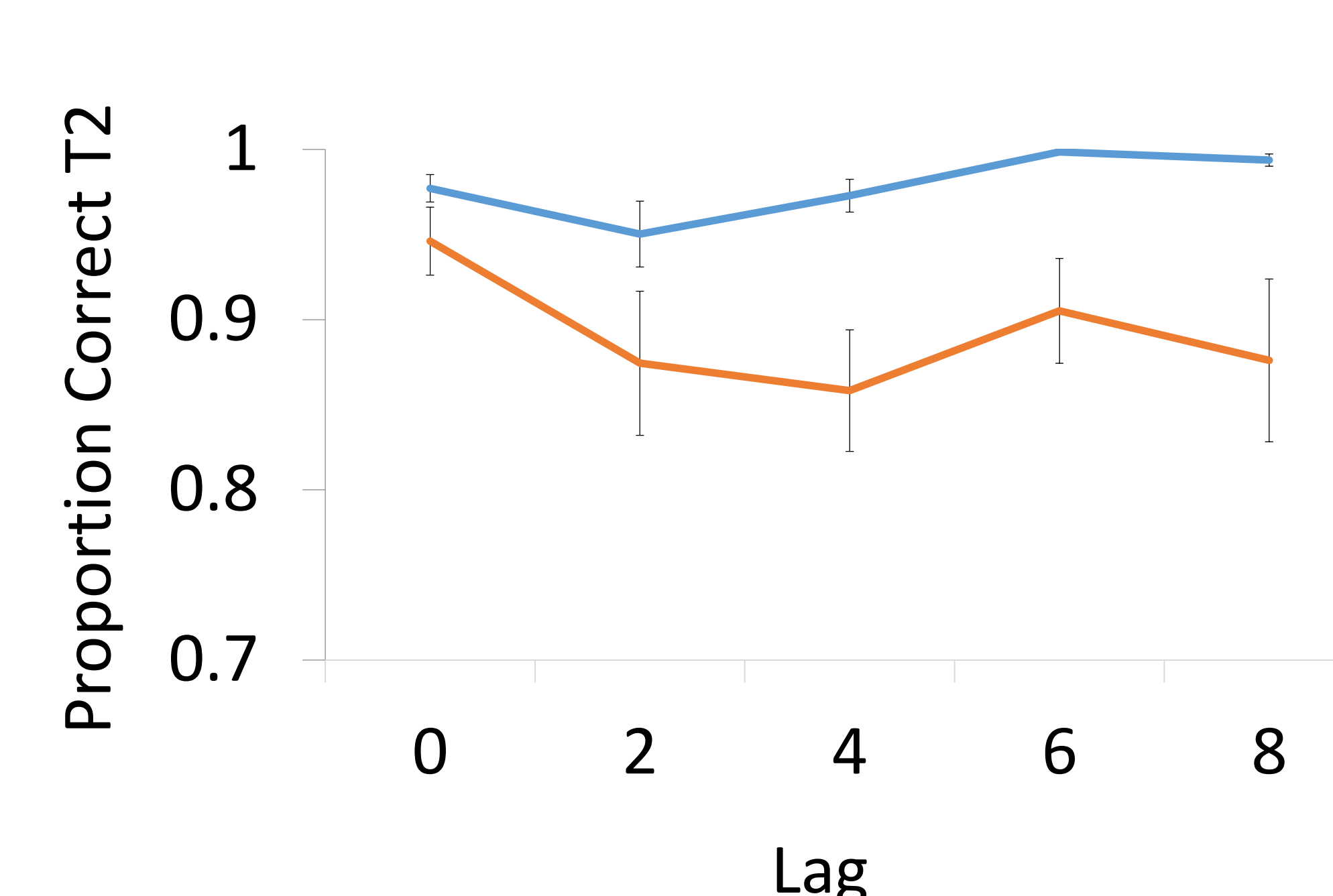
3) Rapid Serial Visual Presentation

D F E 8 R P W J A B 7 L (Lag 6)

D F E G H 2 4 J A B K L (Lag 0)

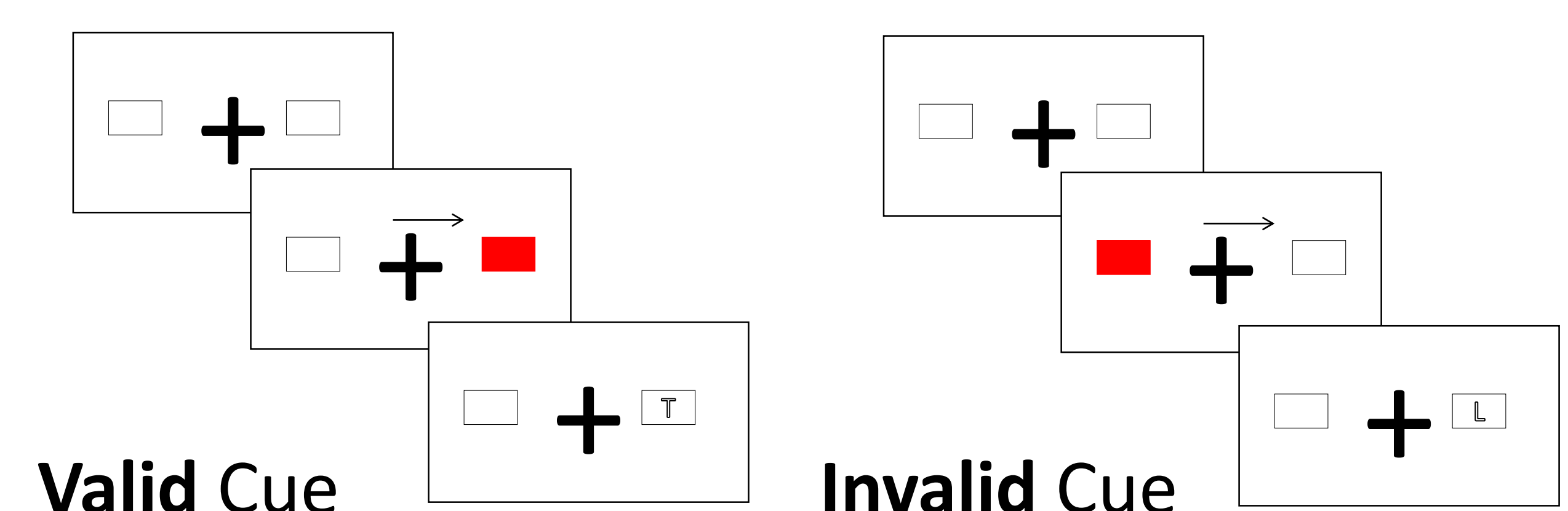
Lag(0,2,4,6)

Task: Identify the target numbers.



Lag x age interaction *

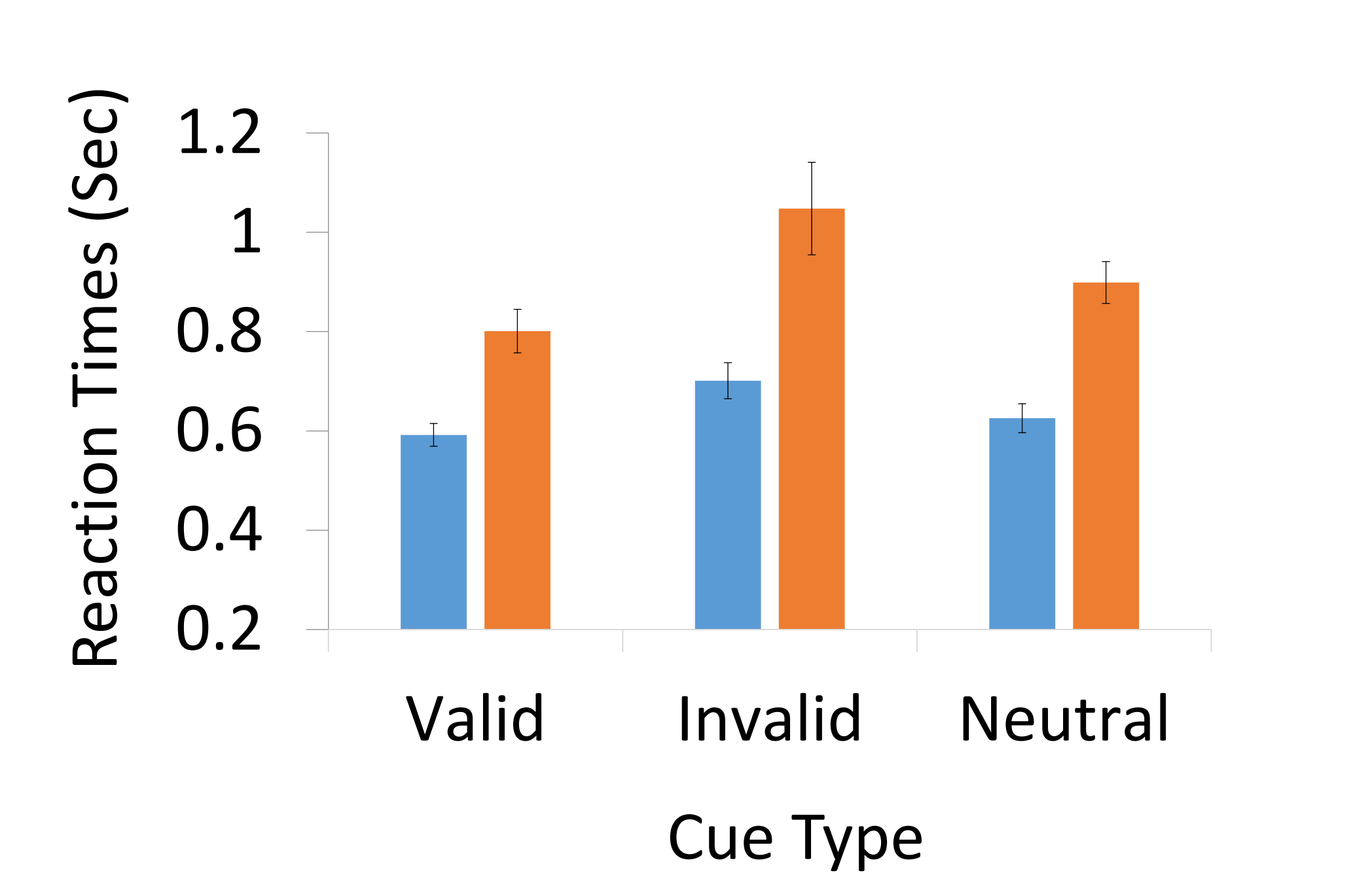
4) Spatial Cueing Task



Valid Cue

Invalid Cue

Task: Was it a "T" or an "L"?



Cue type x age interaction ***

DISCUSSION

- Overall, older adults were slower and less accurate across all tasks compared to younger adults.
- Our results revealed large individual differences, especially within the older age group.
- The rapid serial visual presentation task proved problematic and yielded confusing and unexpected results.
- Outlook** > We will correlate performance across all tasks to investigate whether and how older adults decreased biological motion performance is related to their decreased attentional abilities.

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p < 0.05 * p < 0.01 ** p < 0.001 ***