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# Stability of Older Adult Reaction Time in an Impulse Control Task

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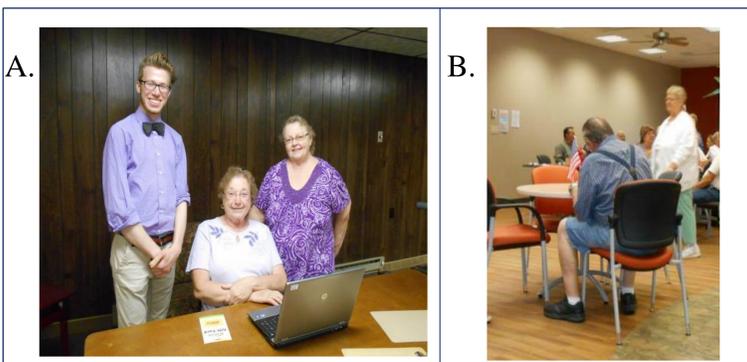


## Introduction

- Decision-making represents an important skill in older adulthood when necessary decisions increase in complexity. At this stage of life crucial decisions regarding retirement, healthcare, and other important types of financial planning are common (Blomberg, Charness, & Pesta, 2013).
- Current research suggests that younger adults significantly change their decision-making behaviors when they are being observed by peers and that they take greater risks in the peer context (Steinberg & Gardner, 2008). It is unclear, however, whether social context affects decision-making in older adulthood.
- Social context is a relevant aspect of decision-making at this life stage because older adults commonly move back into living situations where they are surrounded by peers. Such examples include: Age-congregated living complexes, assisted living homes, and nursing homes.
- The current study employed an impulse control decision-making task to investigate the effects of social context on decision-making in a sample of older adults (65+) and younger adults (18-22).

## Hypothesis

Both older and younger adults will exhibit slower reaction times on a decision-making task when they are being observed by peers.



**Figure 1.** The participant in image A was assigned to the peer context and completed the task with two same-sex, similarly aged peers observing. The participant in image B completed the task alone, without any peer observers.

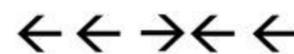
## Methods

### Measures

- The Flanker Task is designed to measure impulse control by capturing differences in reaction time between congruent and incongruent trials (See Figures 2 and 3).
- Participants are presented with five arrows and asked to attend to the center arrow. To answer quickly and accurately, they must control the impulse of looking at the flanking arrows. Participants tend to do better with congruent arrows (See Figure 2).
- The participants participated in a seven-trial practice session to ensure their comfort with the task. The experimental session consisted of 100 trials.



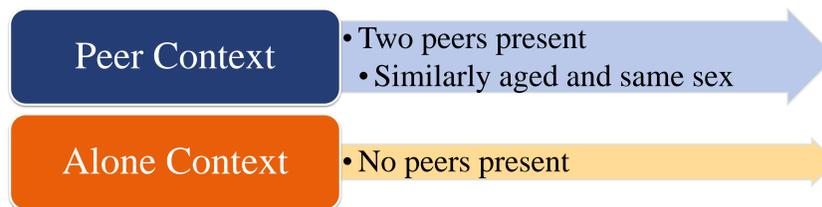
**Figure 2.** In a congruent trial, the center arrow is flanked by arrows pointing in the same direction.



**Figure 3.** In an incongruent trial, the center arrow is flanked by arrows pointing in the opposite direction.

### Procedure

- Participants were recruited from various communities in northeastern Wisconsin and from St. Norbert College.
- All participants were pre-screened.
- All participants were randomly assigned to a social context: peer or alone.



### Participants

Table 1  
*Demographic description of study participants*

Age Group	n (Females)	Age Range (M)	SD
Younger Adults	20 (13)	18 – 22 (19.89)	1.29
Older Adults	36 (19)	65 – 83 (72.38)	4.36

## Acknowledgements

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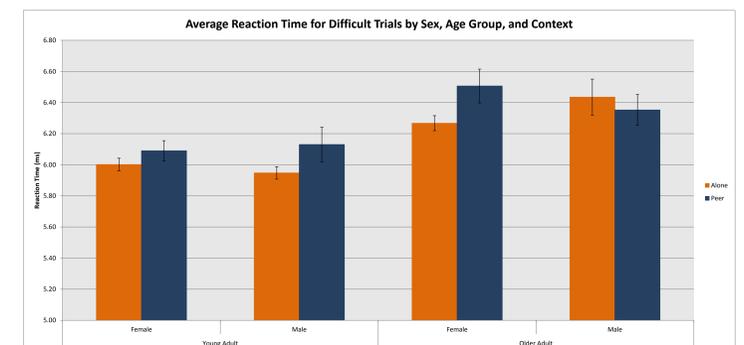
References are available upon request.

## Results

- Two separate 2 x 2 ANOVAs were conducted to examine the role of age on impulse control based on social context (peer or alone) and sex of participant. The first examined the relationship between context and sex for the younger adults while the second focused on older adults.
- Younger adults made decisions more quickly when they were being observed by peers than when they were alone ( $F < .05$ ). Reaction time of older adults, however, did not vary based on social context ( $F = .37$ ).

Table 2  
*Average Reaction Time in Alone Context by Age Group and Sex*

Age Group	Sex	Mean	SD
Younger Adult	Female	6.00	.11
	Male	5.95	.07
Older Adult	Female	6.27	.15
	Male	6.44	.31



**Figure 5.** Mean reaction time (RT) for difficult trials (incongruent switch trials) by sex, age group, and context (peer or alone). Older adults performed overall more slowly than younger adults though their RT was consistent regardless of social context.

## Discussion

- Although older adults made decisions more slowly than younger adults, their speed of decision-making was not significantly affected by the presence of peers, contrary to the younger adults.
- This stability of decision-making regardless of external factors may serve to combat ageism within our communities by illustrating that older adults may be buffered from external distractions such as peers.
- Future research should investigate the effects of individual differences regarding the influence of peers and explore whether some older adults may be more susceptible to peer influence compared to other older adults.