Framing Effects Interact with Age in Exploratory Decision-Making

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Introduction

Framing Effects
- People are generally more risk averse when questions are gains-framed & more risk seeking when they are loss-framed¹
- Age differences in framing effects are mixed and have not been examined in an explore/exploit task.

Older Adults and Losses
- Older adults report lower negative arousal for large negative loss cues than younger adults².
- OA do not differ from YA in gain anticipation, but differ during loss anticipation: less activation of the insula and caudate².
- Insula activation in a similar study preceded switching to a risk-averse choice & subjects with greater overall insula activation tended to select the low-risk option more often³.
- Reduced responsiveness to anticipated loss may have significant consequences for decision-making in older adults.

Participants

37 younger adults (age 18-25) & 21 older adults (age 60-85)

Task

Procedure
- Explore/exploit task adapted from Sang, Todd & Goldstone (2011)⁴.
- Each participant played 8 games in each condition, gains and losses
- Each game consisted of 20 trials.
- Participants were told to maximize gains or minimize losses.
- Participants were told that values ranged from 1→100 and -100→-1

Optimal Performance

Optimal performance follows a decreasing threshold

Conclusions

- Older adults are more affected than younger adults by framing effects in an explore-exploit choice task.
- Older adults explore more in losses than gains, even when exploration is not optimal.
- Older adults are best fit by a steady, high threshold in losses condition. This could be related to reduced responsiveness to anticipated losses.

References


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http://homepage.psy.utexas.edu/homepage/Group/MaddoxLAB/index.htm