



Psychological Mechanisms of Skewed Decision Making Across Adulthood: Time Pressure on Cognitive Control

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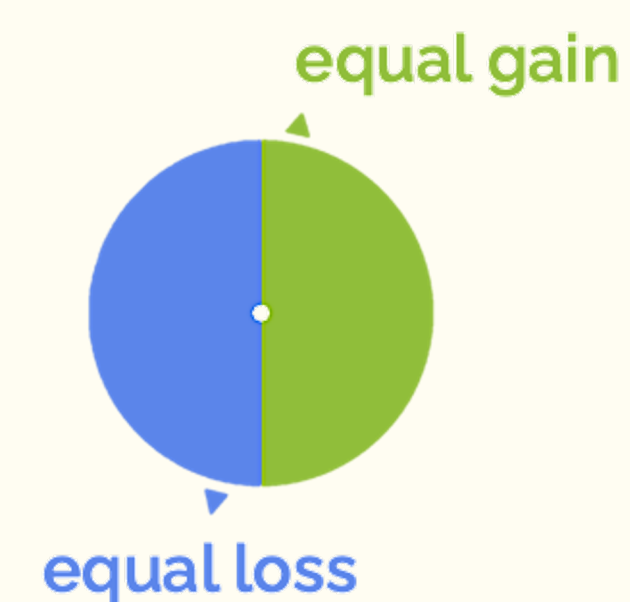
Introduction

- **Positive-skew bias:** people tend to prefer positively-skewed gambles.
- Older adults tend to have a stronger positive-skew bias.
- This could be because of *selective loss avoidance*.
- Under time pressure, individuals have less time to engage cognitive resources, potentially reducing this positive-skew bias.
- Time pressure effects are stronger for older adults than for younger adults.
- **We hypothesize that positive-skew bias will decrease for older adults under time pressure, but not younger adults.**

Negative Skew



Symmetric



Positive Skew



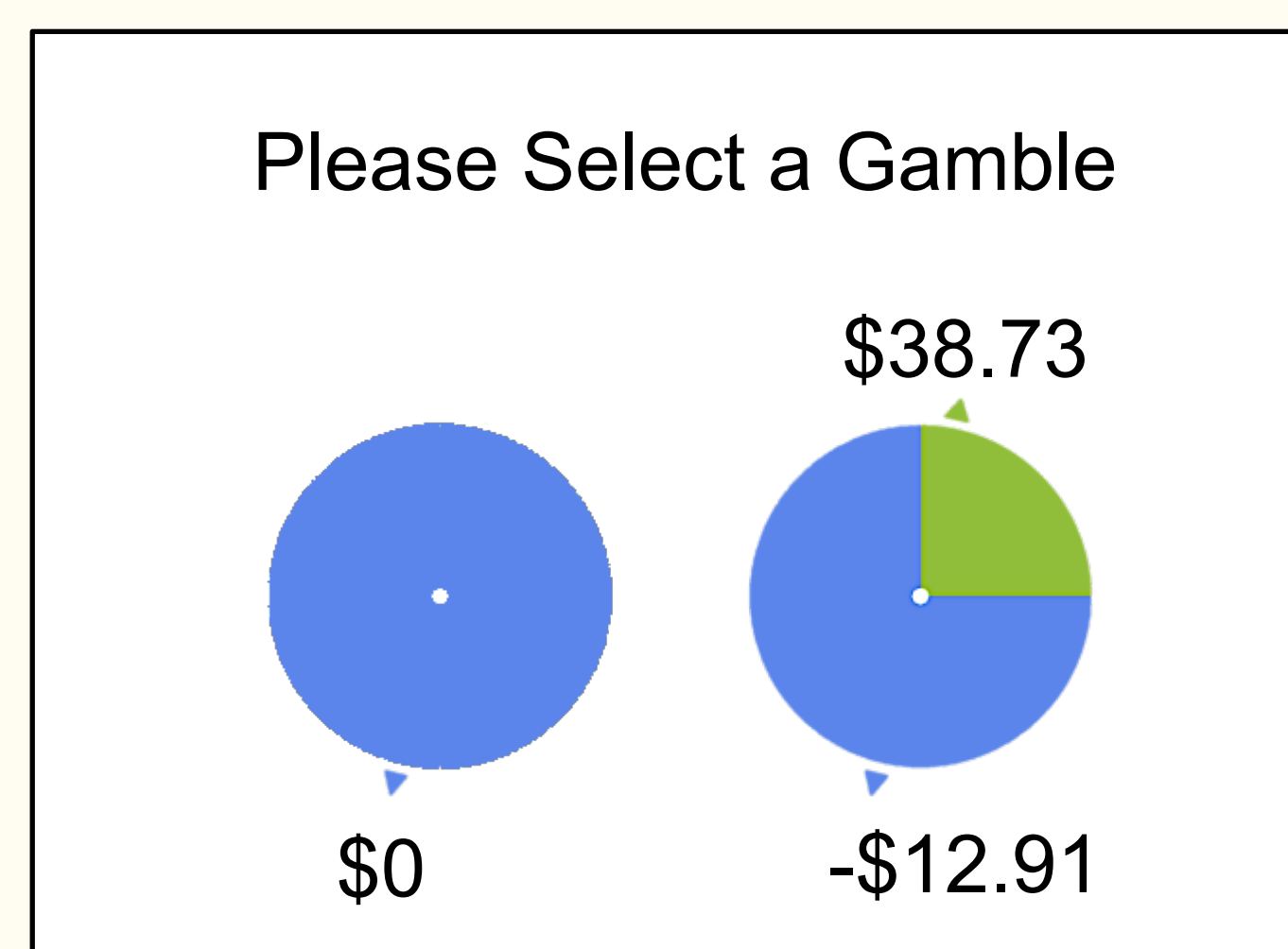
Methods

Participants:

56 participants (25-85 years old) out of 80 have been recruited from the Dallas Metro area.
Participants over the age of 55 were screened using the MoCA.

Task:

- Conditions:
- Time Pressure
- 2 seconds
- No Time Pressure
- 4 seconds
- 10 blocks, each with:
- 9 positively-skewed
- 9 negatively-skewed
- 2 symmetric



Analysis:

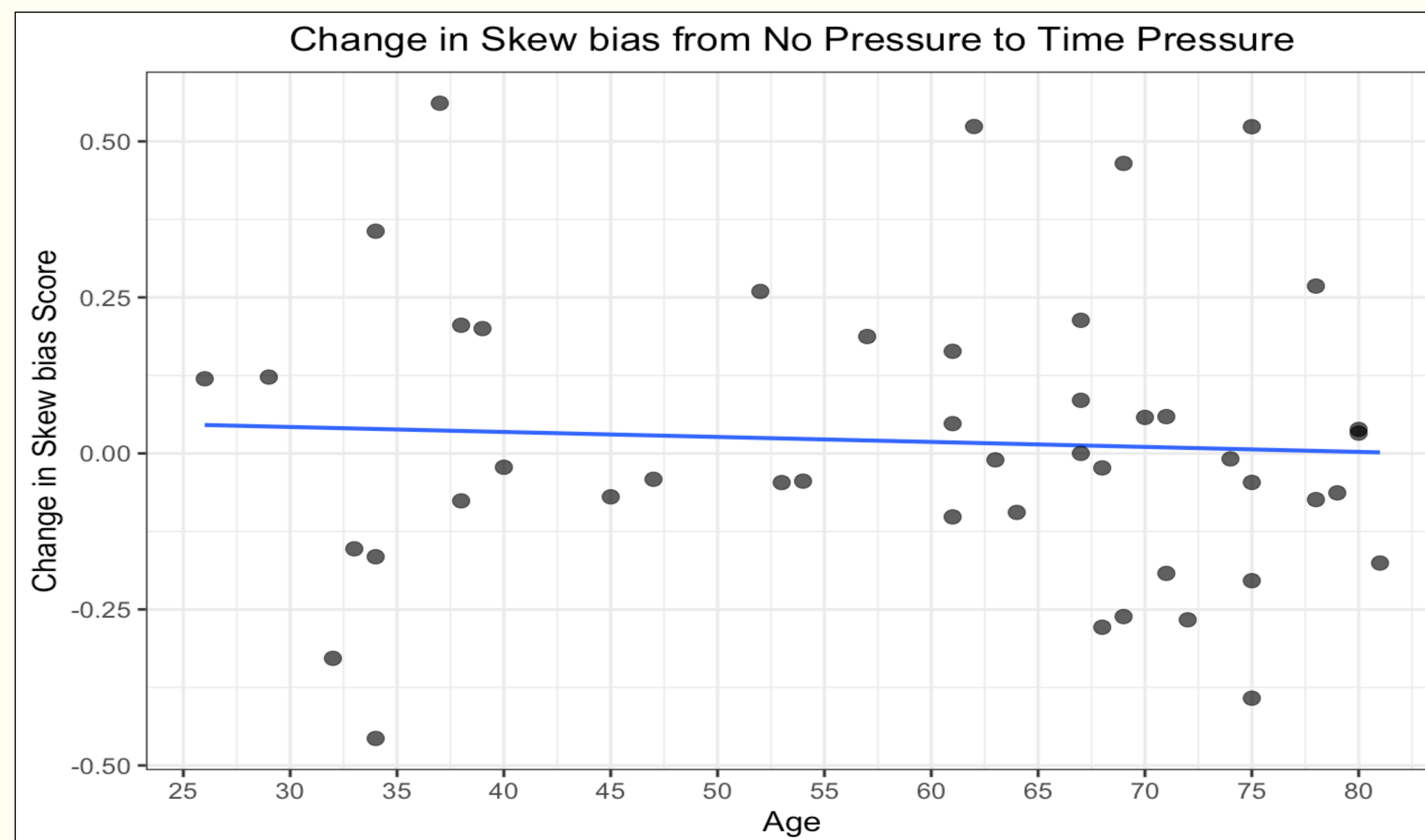
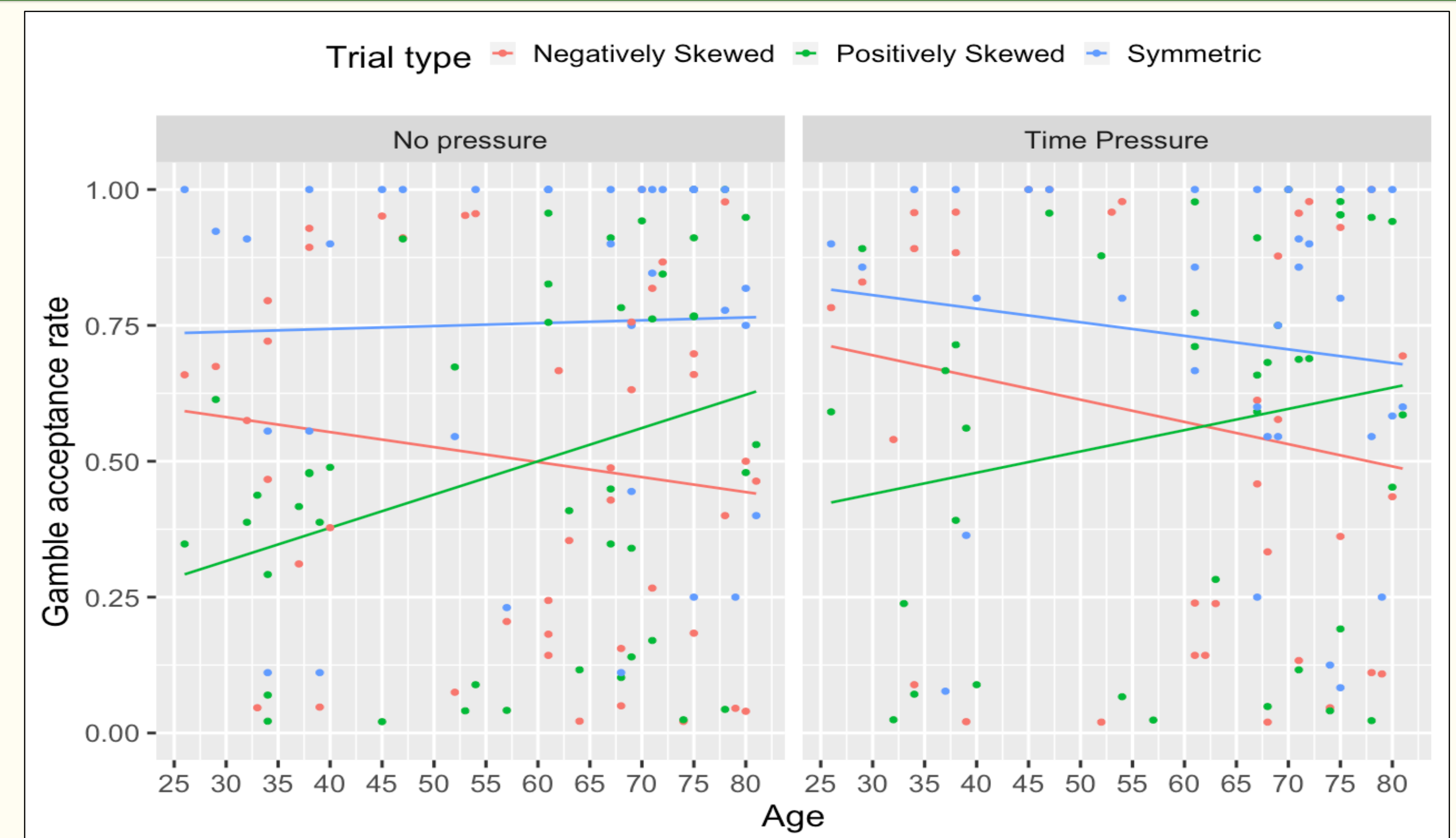
Skew Bias Score = *Positive* – *Negative Skew Acceptance*

Age model

$$= b_{0j} + b_{1j}(\text{age}) + b_{2j}(\text{condition}) + b_{3j}(\text{age} \times \text{condition}) + e_{ij}$$

Preliminary Results

- No pressure condition:
 - Younger adults display a negative skew bias, but older adults display a positive skew bias
- Under time pressure,
 - Positive and negative acceptance rates increase more for younger adults than older adults
 - No change in bias



- Our current sample is majority 'older' adults
- Age ($b = .13$) and Condition ($b = .02$) are statistically significant ($p < .05$)
- The interaction of Age and Condition was not significant ($p=0.2$)

Conclusion

- It is unclear why younger adults in our sample display a negative skew bias.
 - This could be due to differences in socioeconomic status.
- Contrary to the existing literature, younger adults were more affected by time pressure than older adults.
 - Older adults may have developed a heuristic that they use regardless of time pressure.

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Aging Well Lab: