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.

**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

\[ \text{Skew bias score} = b_0 + b_1 \text{(age)} + b_2 \text{(condition)} + b_3 \text{(age x condition)} + e_{ij} \]

**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.

**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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