

# Be present: Cognitive strategy use selectively changes temporal context effects in monetary risk-taking

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## Introduction

Risky monetary decision-making changes as a function of multiple timescales:

- immediate** (seconds; previous outcomes)
- neighborhood** (minutes; changes in value)
- global** (tens of minutes; earnings relative to expectations)

This behavior appears at odds with the assumed goal: **maximize reward**.

Does **cognitive strategy** use mitigate temporal context effects in risk and are such changes related to **emotion regulation, cognitive control, or motivation?**

## Methods

### GAMBLING TASK

124 participants completed **2 rounds** of the gambling task.

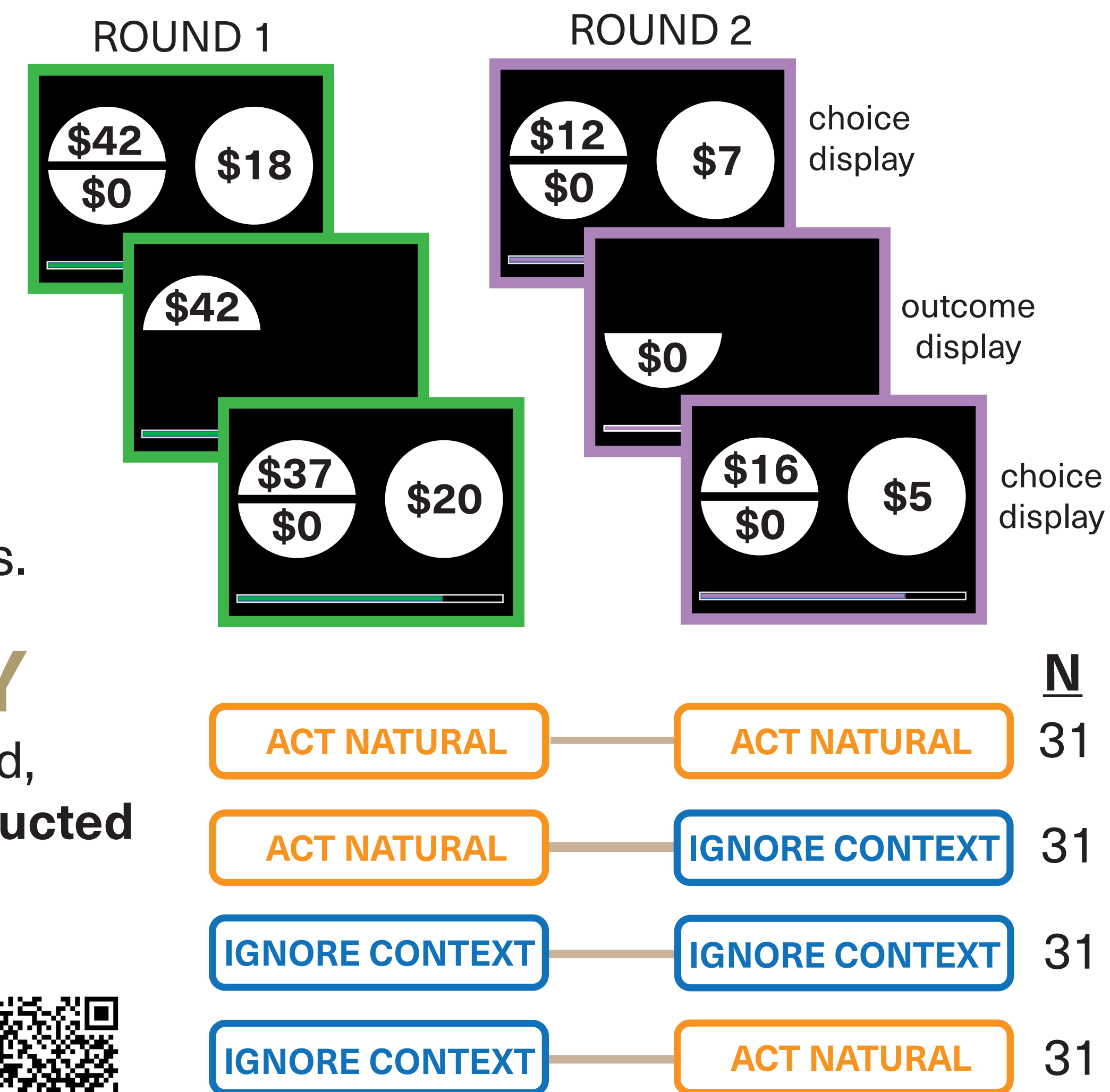
Each round had 131 trials.

32,414 total trials.

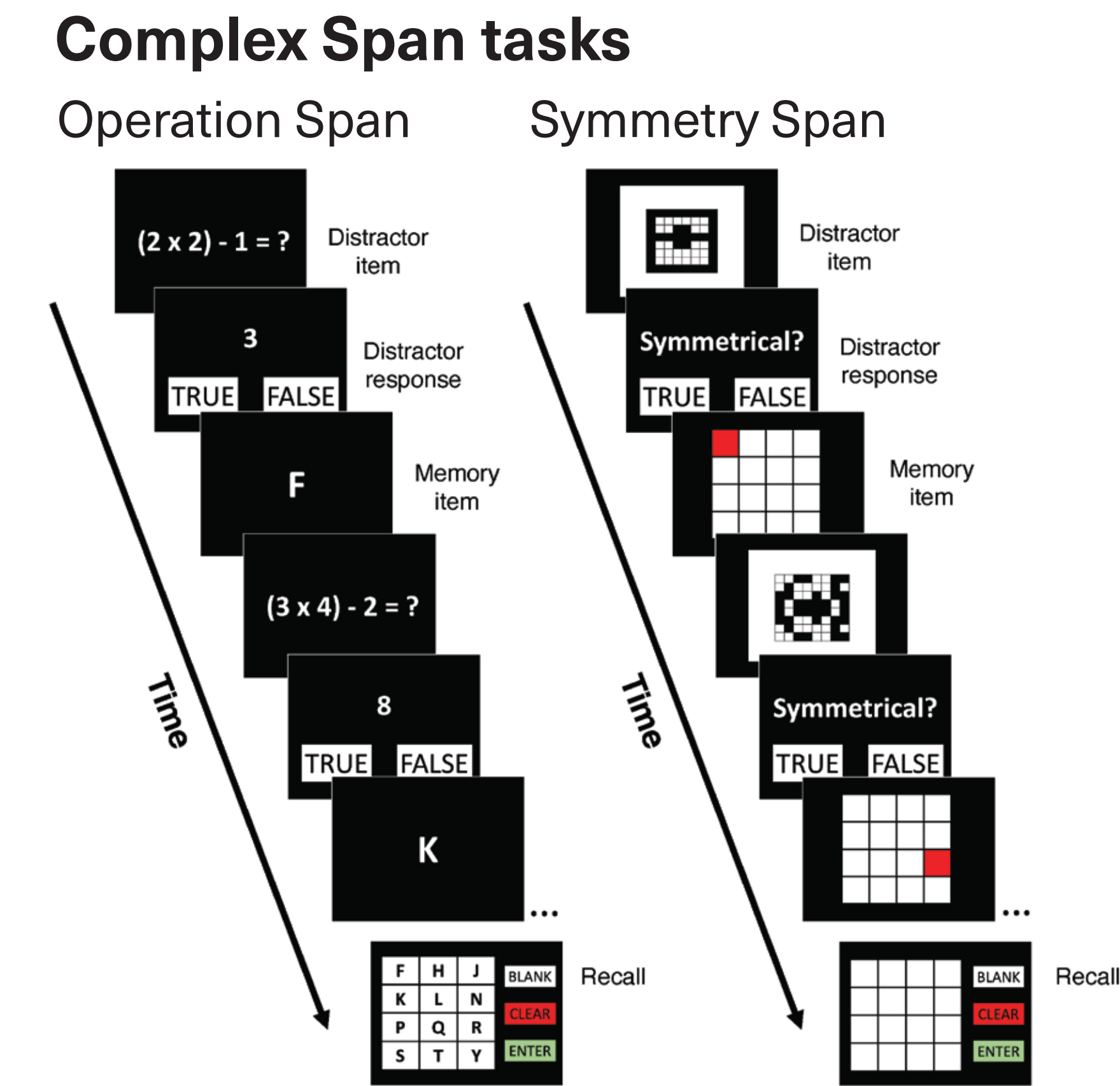
### STRATEGY

Before each round, participants **instructed** to **act natural** or **ignore context**.

Strategy text:

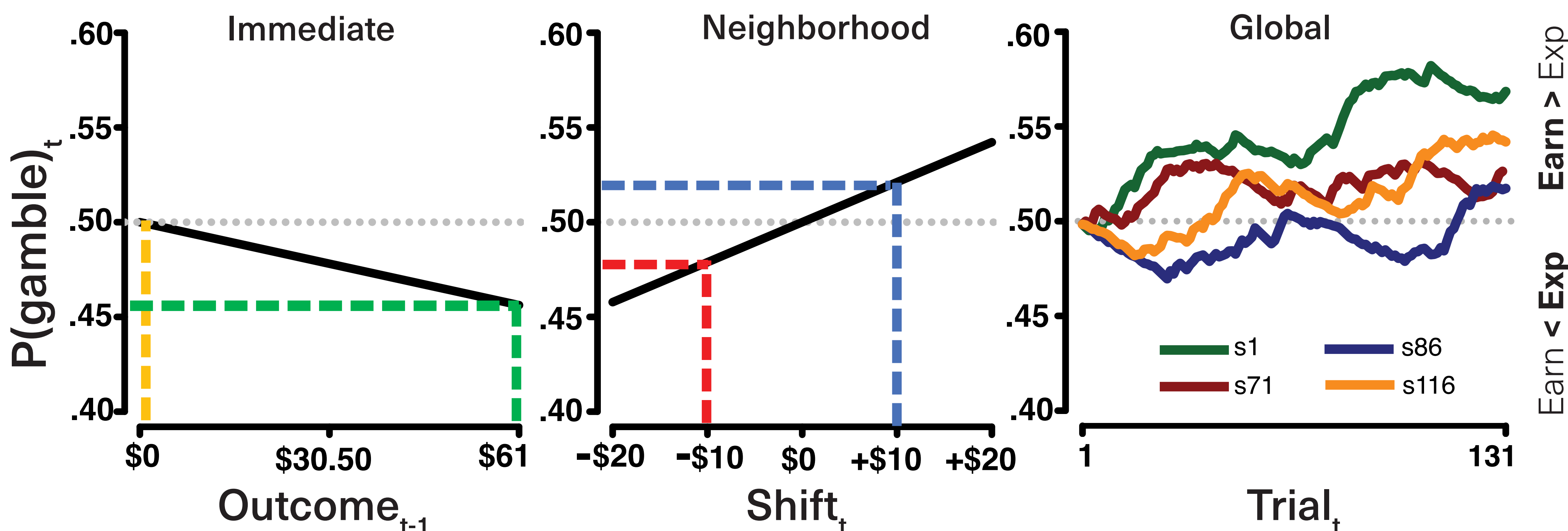


### WORKING MEMORY



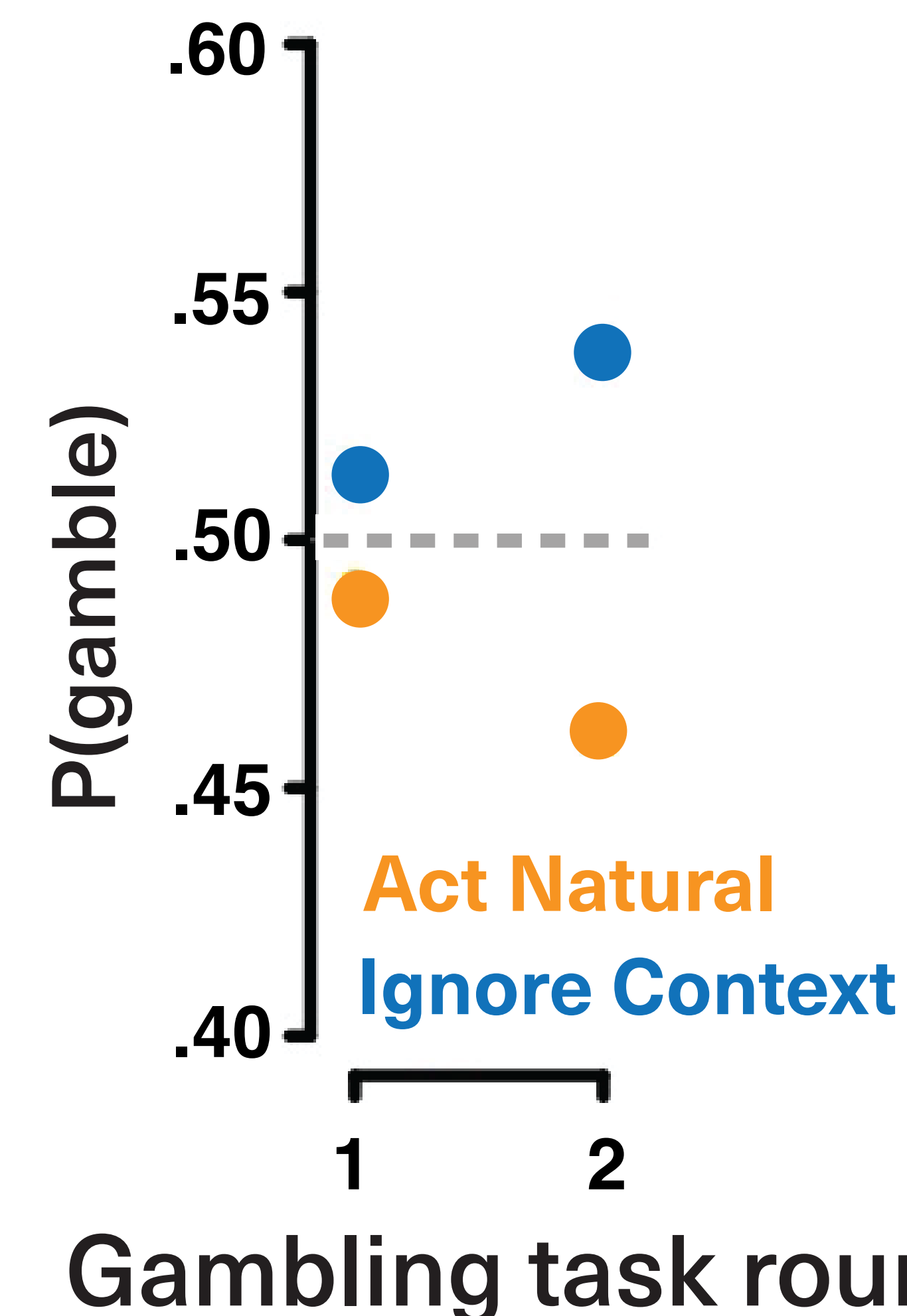
## Results

### RISK-TAKING AND TEMPORAL CONTEXT REPLICATE



**Less risk-taking** as past outcomes increase. **More risk-taking** as shifts increase and when earnings are more than expected.

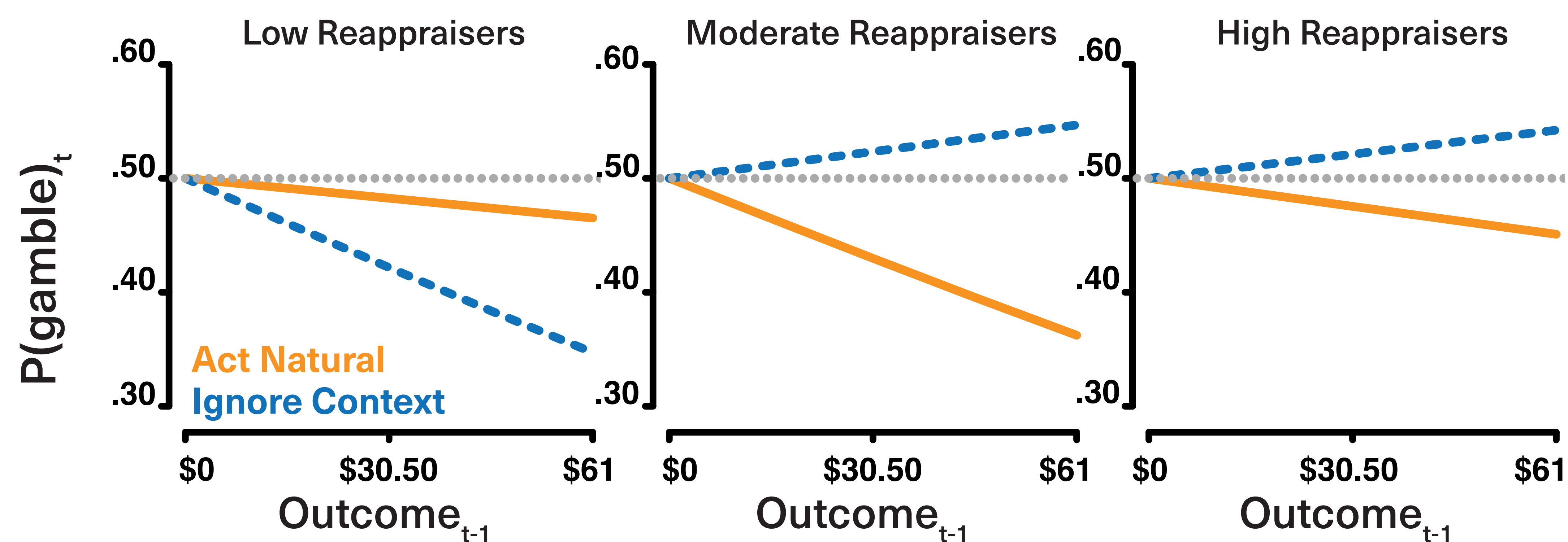
### RISK-TAKING AND STRATEGY



Risk-taking increases when **ignoring context**.

This effect is stronger in round 2 of gambling task.

### STRATEGY, TEMPORAL CONTEXT & INDIVIDUAL DIFFERENCES



**EFFECT IS SELECTIVE:** Strategy **does not affect** neighborhood and global timescales. Strategy is **not related** to capacity or motivation.

**Ignoring context** paradoxically **exacerbates** immediate timescale for **low reappraisers** but **flips** for **moderate and high reappraisers**.

## Conclusion

Altering **thoughts and attention** to recent events **selectively changed** the ways that choices reflect the past and **depended on habitual use of reappraisal**.

Individuals **do not simply maximize** their payoff but also rely (explicitly or implicitly) on **factors that have no apparent relevance**.

