

BACKGROUND

- **HyGene** = predicts that hypothesis that a decision maker have in mind influence test preferences beyond the numbers of other hypotheses believed to be in contention. (Thomas et al., 2008)
- Previous study by Illingworth & Thomas (2022):
 - Looked at how beliefs about hypotheses are used to explain why people exploit certain information sources and placing their perceived value on them

RESEARCH QUESTION

How do different **incentive structure** affect information acquisition?

METHODS

Participants

79 undergraduate students from California State University, Long Beach's SONA

Task

A gamified medical diagnosis task in which learned associations between presenting symptoms and test results were used to diagnose fictitious diseases.

Learning Phase

- 24 blocks of 20 trials (480 total trials)
- Information from 4 medical tests were shown
- Feedback were given after each trial

Testing Phase

- 4 blocks of 20 trials (80 total trials)
- Participants must select medical tests on their own
- Different payouts for each block of trials
- Conditions were randomized

STIMULI

Condition	Gain	Loss
1	1000	0
2	1000	1000
3	0	1000
4	0	0

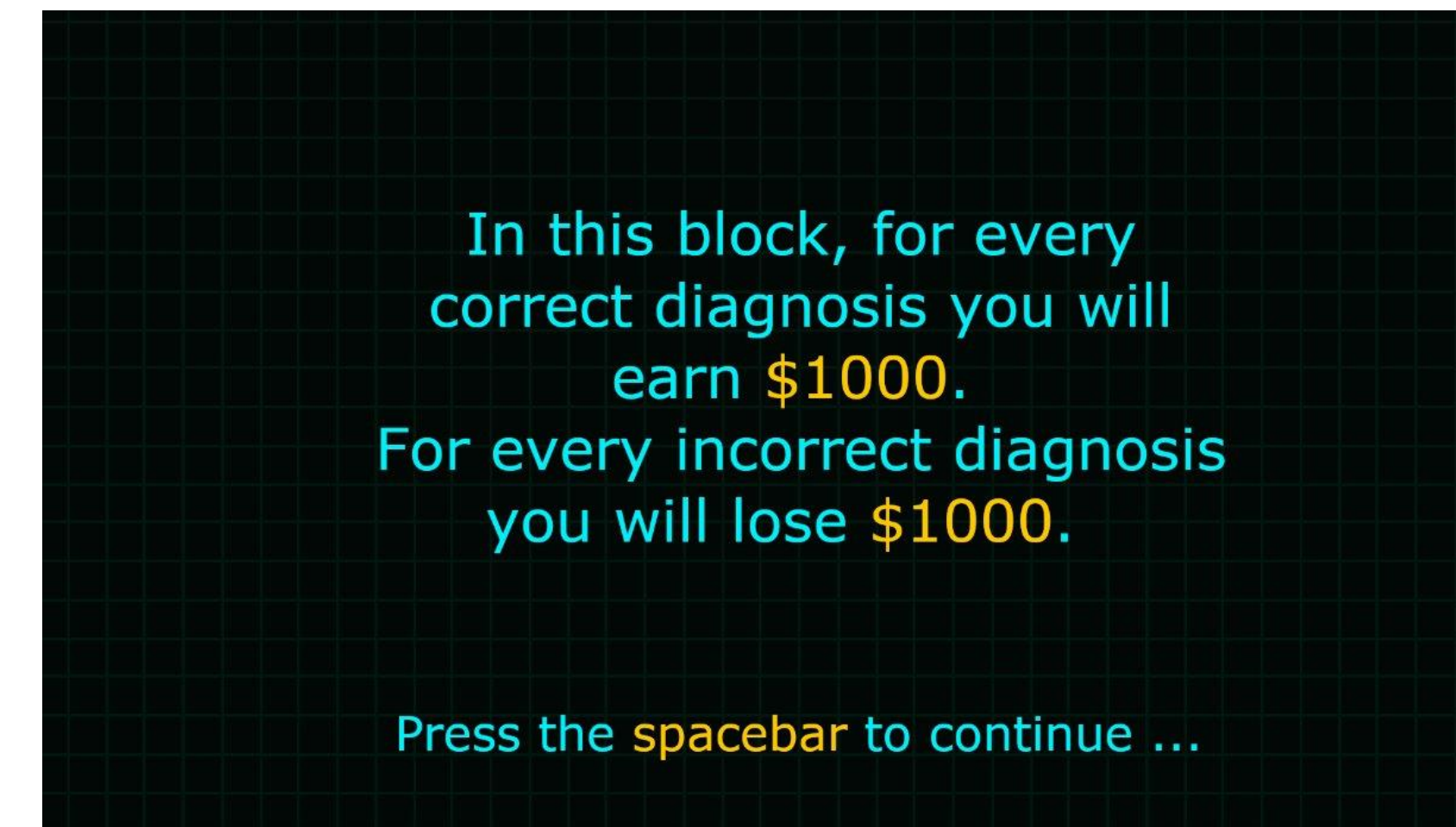


Table 1. Incentive Structure for each condition of the experiment

Figure 1. Participants were told the incentive structure would change in the block of 20 trials

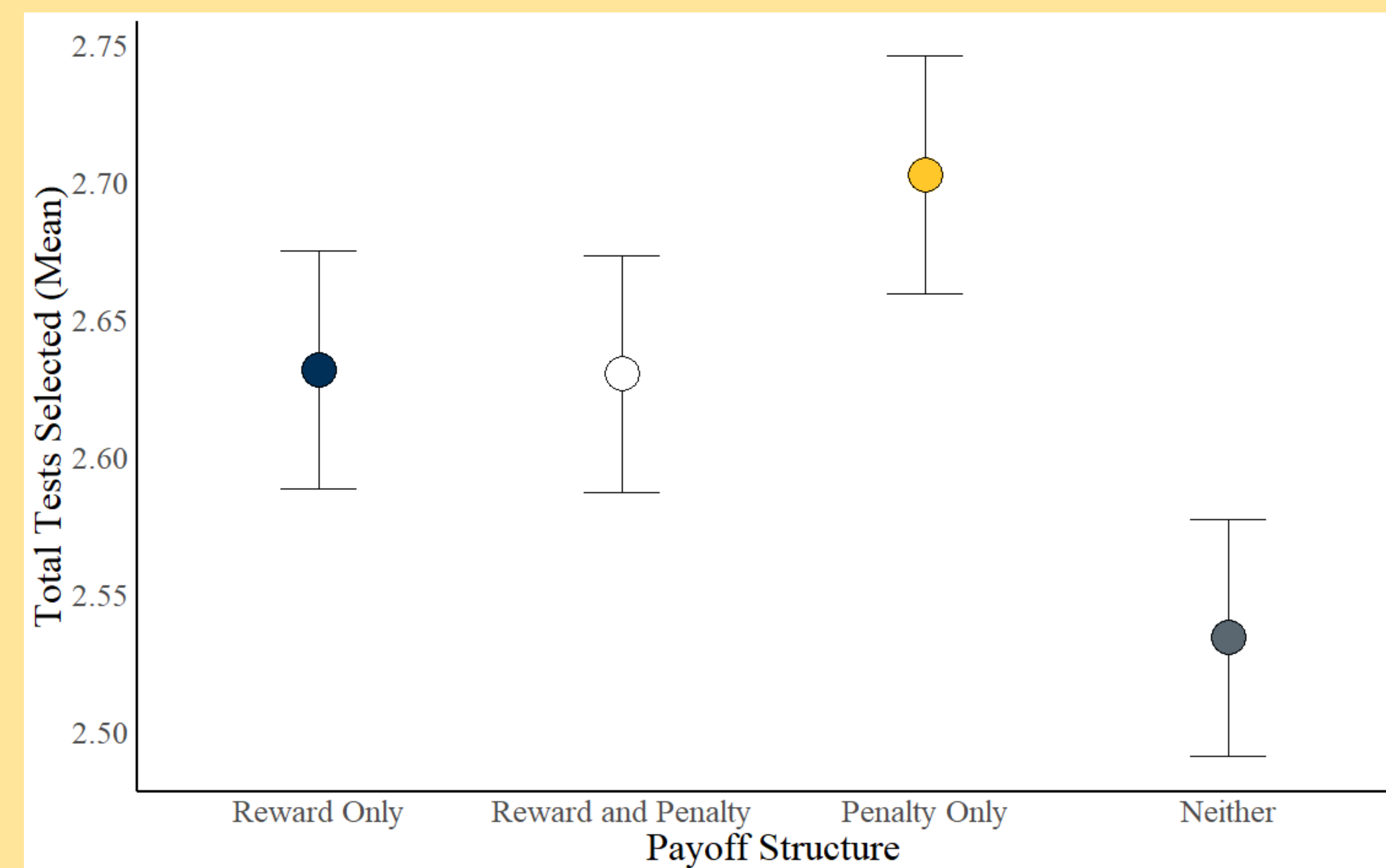


Figure 2. Average Number of Test Selected for Each Condition

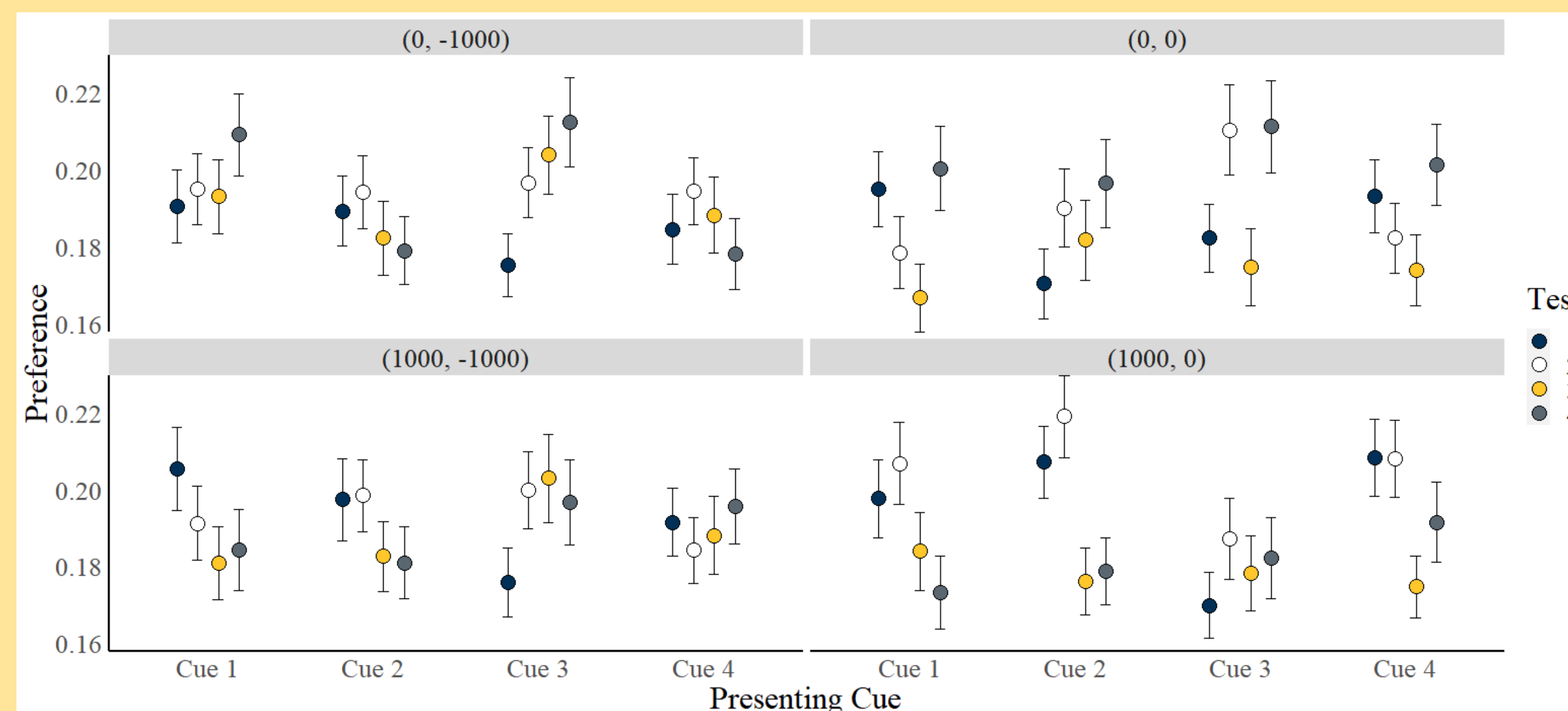


Figure 3. Preference of Test based on Cue Symptom for Each Condition

RESULTS

• **Test Selection**

- Participants looked for more information in the Penalty only condition
- Loss Aversion (Kahneman & Tversky, 1979)

• **Replication of Preference**

- The preference of test does not hold up when incentive structure is introduced
- There is more noise of preference in test

DISCUSSION

• **Search Termination**

- Memory retrieval requires a person to stop searching for information (Harbison et al., 2008)
- Knowing sufficient amount of information is gathered before making their decision

• **Application**

- Simulates some of the risks in a more controlled environment that physicians may face when diagnosing patients

REFERENCES

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2. Illingworth, D. A., & Thomas, R. P. (2022). Strength of belief guides information foraging. *Psychological Science*, 33(3), 450–462. <https://doi.org/10.1177/09567976211043425>
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