

THE EFFECT OF TASK ENGAGEMENT ON REWARD PROCESSING



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INTRODUCTION

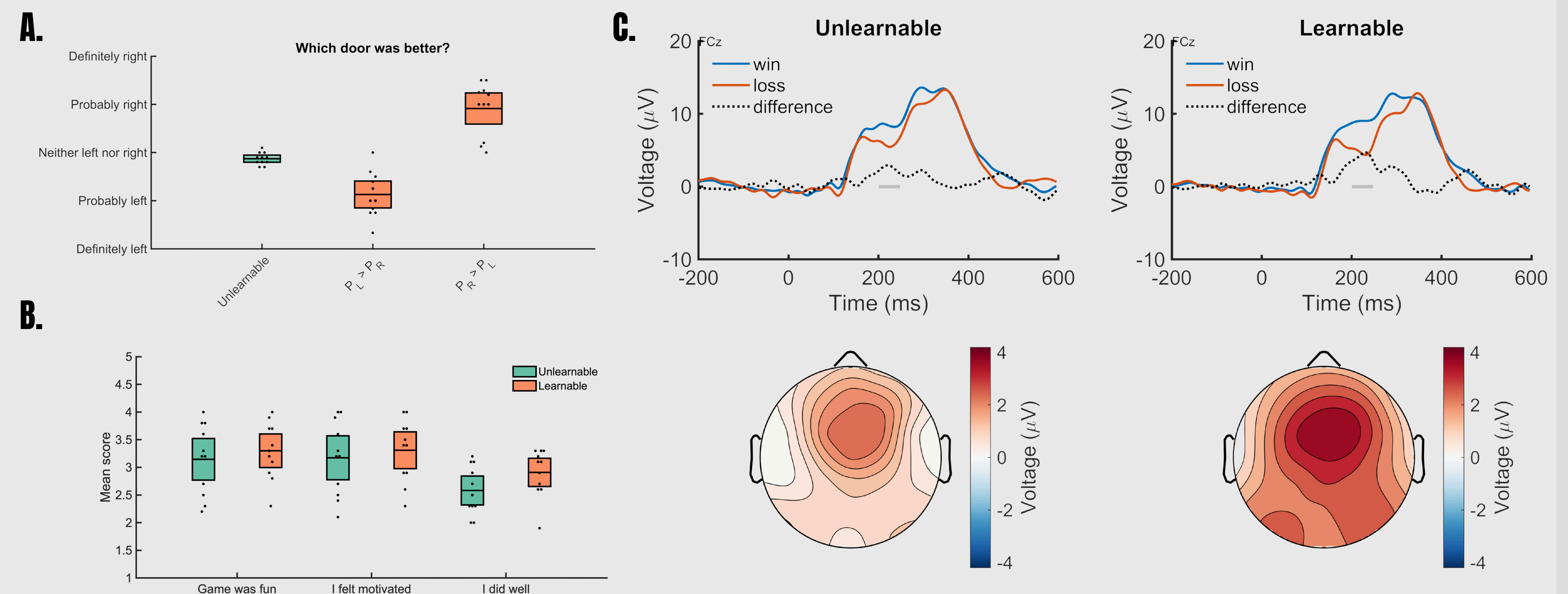
Reward processing can be studied using an EEG component called the reward positivity (RewP: Proudfit, 2015).

The RewP is believed to be a learning signal (Holroyd & Coles, 2002), however most studies use random feedback (unlearnable).

This may also be a problem because unlearnable tasks may be less engaging (Lu et al., 2025).

RESULTS

- A.** Participants learned which door was best.
- B.** Learnable task was more engaging.
- C.** Reward processing is enhanced in the learnable task.



RESEARCH QUESTION

Does task engagement influence the Reward Positivity (RewP)?

We will compare EEG neural responses in a standard (unlearnable) versus patterned (learnable) version of the doors task.

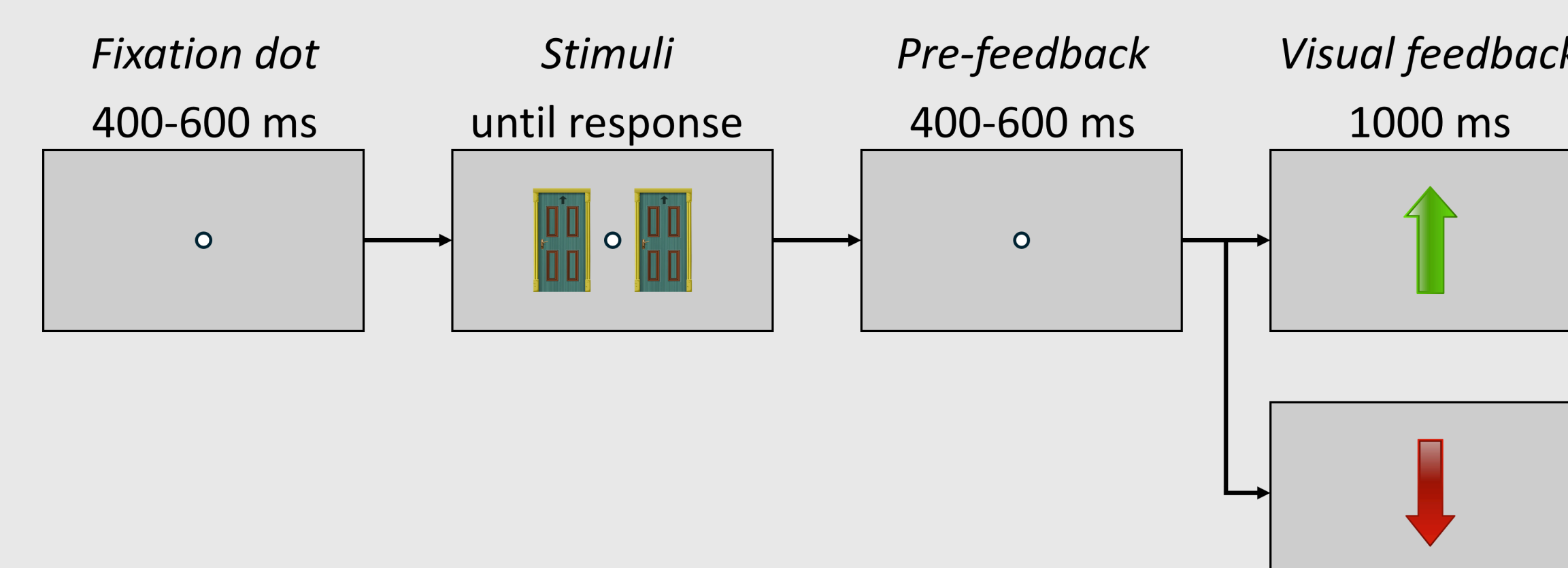
METHODOLOGY

- N=11
- Participants: Intro psychology undergraduates from MacEwan University
- Within-subjects design

Two main conditions:

1. Unlearnable Task (Standard doors task)
2. Learnable Task (Patterned doors task)

At the end of each round (20 trials), a survey will ask participants if they felt engaged.



DISCUSSION

If learnability enhances RewP, then the signal is context dependent.

We would recommend including learnability as a factor in future reward studies.

Implications for disorders (RewP is a biomarker for depression: Proudfit, 2015).

Implications for education.