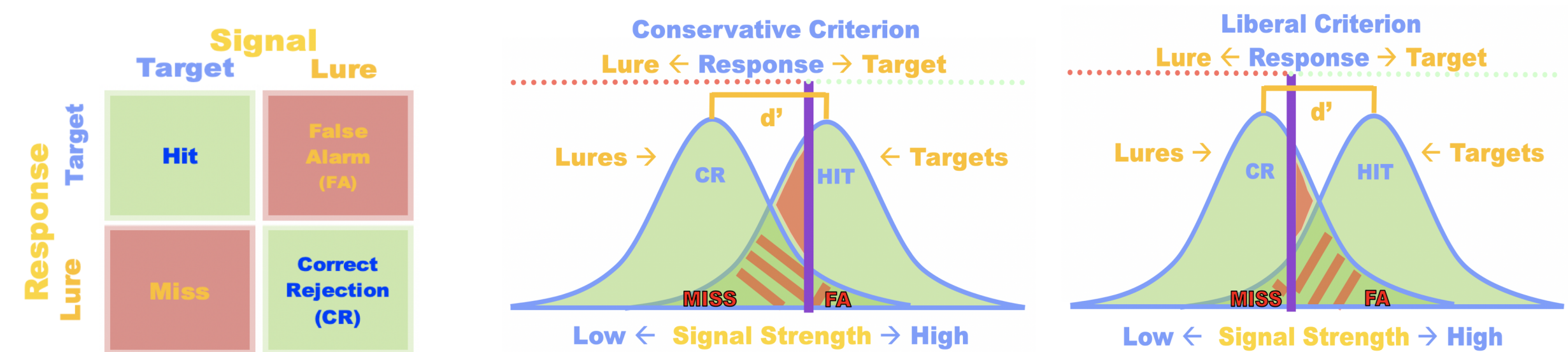


## Introduction

- Approximately, 1.2% of the male population and 0.3% to 0.7% of the female population in the United States suffers from clinically significant levels of psychopathic traits.<sup>4</sup> Many members of the general population have exhibited, to some degree, difficulty with the four defining traits of psychopathy -- affective responsiveness (AR), cognitive responsiveness (CR), interpersonal manipulation (IM), and egocentricity (EG).<sup>2</sup>
- The ultimate decision to report information from a witnessed event depends on the level of familiarity and the scenario, which can dictate whether a person only relies on strong, clear memory evidence or is willing to rely on relatively weaker memory evidence.<sup>8</sup>



- The present study investigates to what degree psychopathic traits impact recognition memory-based decisions.
- Main Hypothesis:** Based on the current understanding of psychopathic traits and their effects on decision-making, I predict that participants who have an overall higher psychopathic tendencies score will perform better on the task as a result of their unwillingness to shift to use memory in comparison to their use of strategic thinking.
  - Individuals with more severe ratings of CR and EG as well as lower scores of IM and AR will be less likely to optimize their decisions by relying more heavily on their memories.
  - Individuals with psychopathic tendencies who have lower ratings of CR but have higher ratings of AR, IM, and EG will be more likely to maximize their decisions and gain the highest payout when provided with monetary incentivization during a memory-based experimental task.

## Methods

### Psychopathic Tendencies Measure

- Participants ( $n = 107$ ; 85 females; age range = 18-30 years,  $M = 19.5$  years,  $SD = 1.96$ ) completed the Psychopathic Personality Traits Scale<sup>2</sup>, which is a self-report measure for the four main traits of psychopathy.

- I don't care if I upset someone to get what I want.
- Before criticizing somebody, I try to imagine and understand how it would make them feel.
- I know how to make another person feel guilty.
- I tend to focus on my own thoughts and ideas rather than on what others might be thinking.
- What other people feel doesn't concern me.
- I always try to consider the other person's feelings before I do something.
- I know how to pay someone compliments to get something out of them.
- I don't usually appreciate the other person's viewpoint if I don't agree with it.
- Seeing people cry doesn't really upset me.
- I am good at predicting how someone will feel.
- I know how to simulate emotions like pain and hurt to make others feel sorry for me.
- In general, I'm only willing to help other people if doing so will benefit me as well.
- I tend to get emotionally involved with a friend's problems.
- I'm quick to spot when someone is feeling awkward or uncomfortable.
- I sometimes provoke people on purpose to see their reaction.
- I believe in the motto: "I'll scratch your back, if you scratch mine".
- I get filled with sorrow when people talk about the death of their loved ones.
- I find it difficult to understand what other people feel.
- I sometimes tell people what they want to hear to get what I want from them.
- It's natural for human behavior to be motivated by self-interest.

### Lineup Development

- Six-person simultaneous lineups were created using the basic and standard police protocol (i.e., similar physical attributes like eye color, hair color, and skin tone).
- Images were used from the Chicago Face Database<sup>7</sup>, NIST Color FERET Face Database<sup>5</sup>, & Glasgow Unfamiliar Face Database (GUFDB)<sup>3</sup>.

### Encoding Phase

- Twelve face images were presented one at a time in a randomized order and participants were asked to state if the image was of a man or a woman (to ensure the participant paid attention to the task).
- Each face image was followed by a static image in order to increase discriminability between each face image.

## Methods cont.

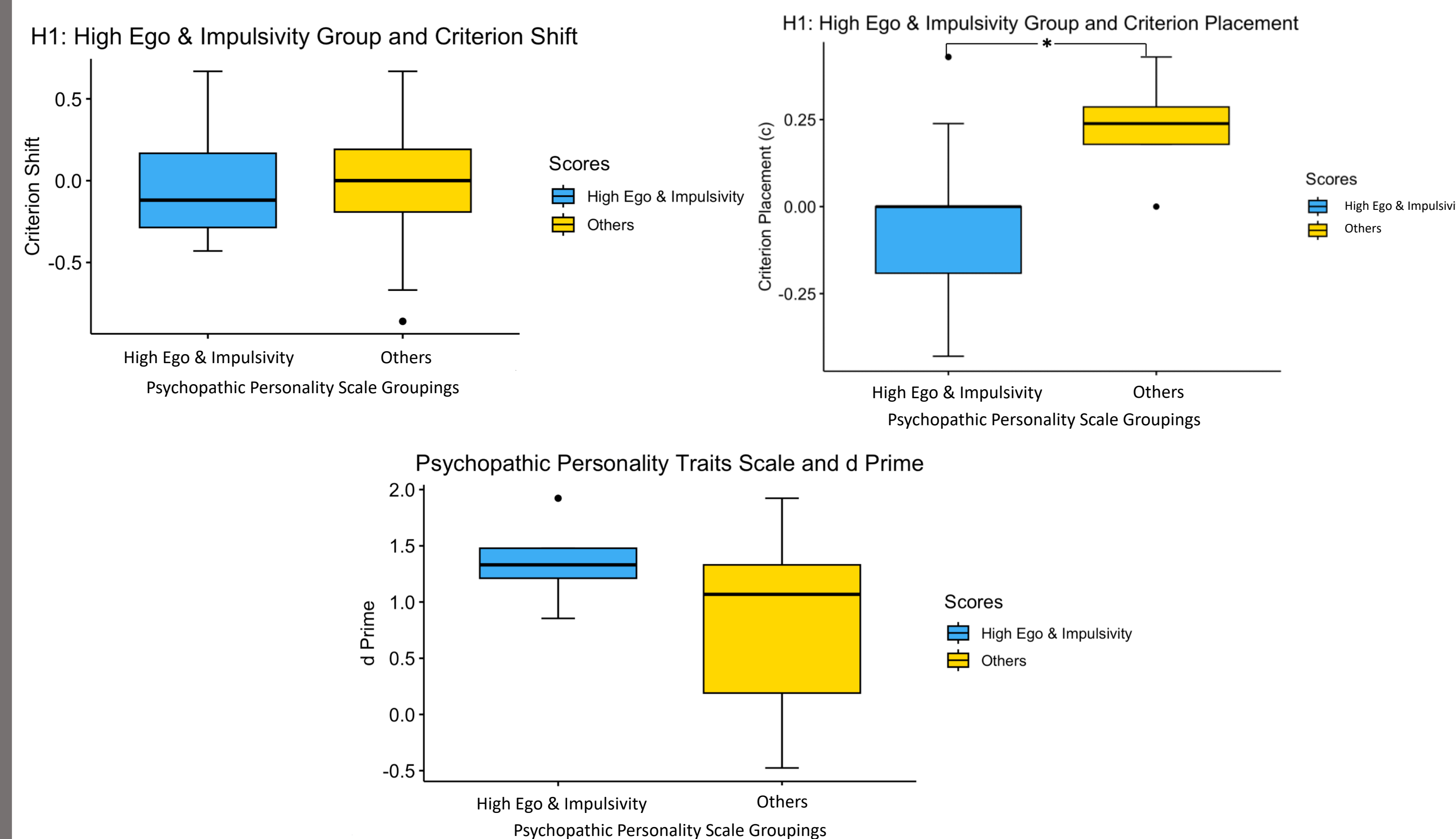
### Testing Condition

- All six-person simultaneous lineups were target-present, but participants had the option to state they did not recognize anyone in the lineup.
- These six lineups were part of a larger study as the control condition and were randomly presented among 100 lineup trials.
- Three trials were under the liberal condition and three were under the conservative. Criterion manipulations were applied as follows:
  - Liberal:** Correct identifications will add \$0.10 to your total, responding that you do not recognize anyone in a collection when there is a familiar face present will result in a reduction of \$0.20 to your total earnings, and an incorrect identification will result in no gain or penalty to your earnings.
  - Conservative:** Correct identifications will add \$0.10 to your total, responding that you do not recognize anyone in a collection when there is a familiar face present will result in no gain or penalty to your earnings, and an incorrect identification will result in a reduction of \$0.20 to your total earnings.



## Results

### Hypothesis 1 Graphs

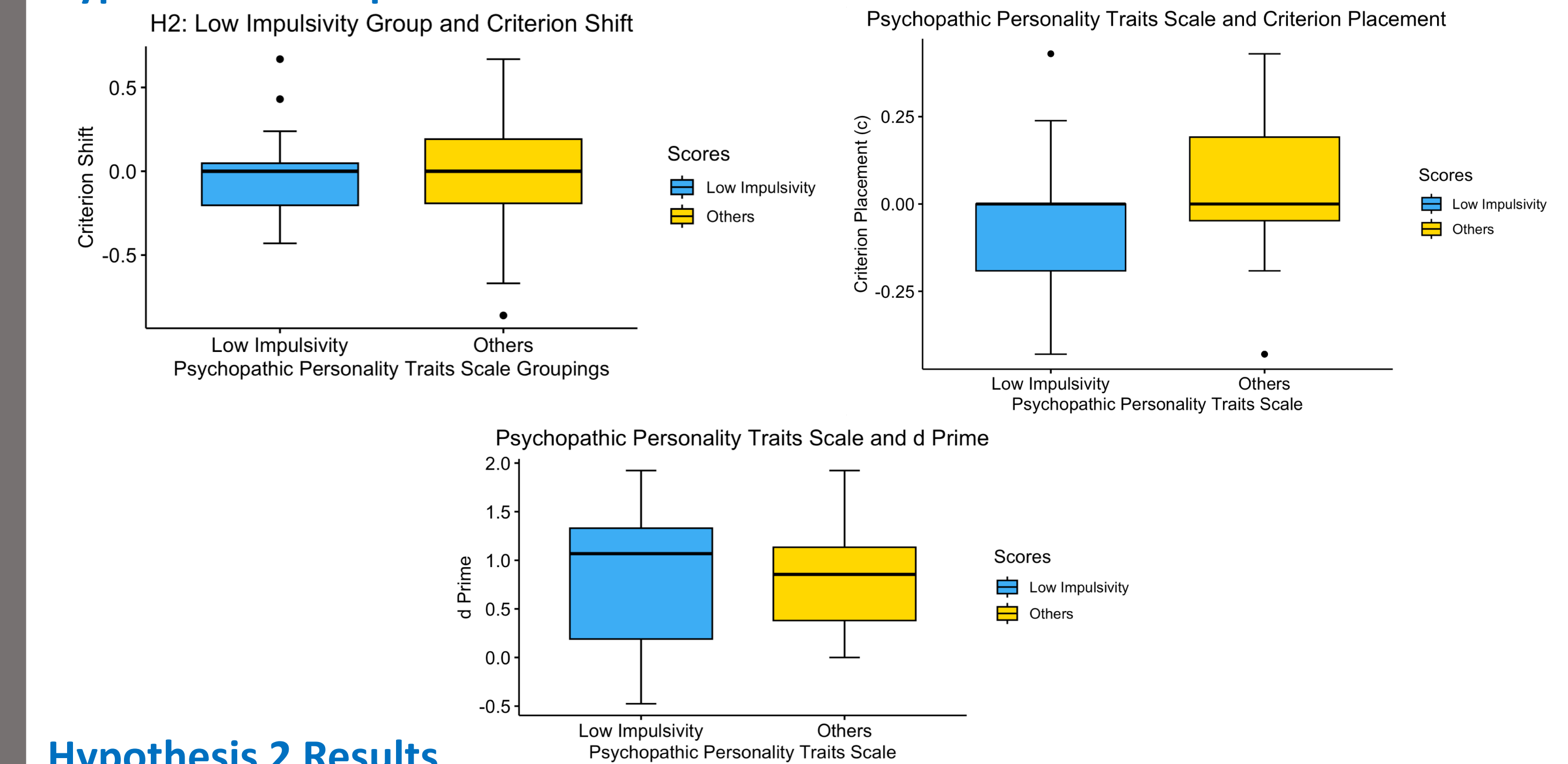


### Hypothesis 1 Results

- Each trait was median split to be categorized as "high" and "low", resulting in High EG & High CR ( $n = 4$ ) and Other ( $n = 103$ ) groups.
- Those with high egocentricity and cognitive responsiveness were found to place their criterion thresholds more conservatively compared with other participants ( $p = 0.041$ ).
- No significant differences were found for Criterion Shift ( $p = 0.099$ ) and d Prime ( $p = 0.104$ ).

## Results cont.

### Hypothesis 2 Graphs



### Hypothesis 2 Results

- Each trait was median split to be categorized as "high" and "low", resulting in Low CR ( $n = 87$ ) and Other ( $n = 20$ ) groups.
- No significant differences were found for Criterion Shift ( $p = 0.691$ ), Criterion Placement ( $p = 0.551$ ), and d Prime ( $p = 0.818$ ).

## Conclusion

- This study found a significant difference in Criterion Placement ( $p = 0.041$ ) when comparing individuals with high scores of egocentricity and cognitive responsiveness (impulsivity) when compared with other participants. These individuals might be more likely to place conservatively as a strategy for reducing money loss when provided with monetary incentivization.
- Additionally, the severity of psychopathic tendencies did not affect the individual likelihood of Criterion Shifting behaviors, likely due to criterion shifting tendencies being a stable, individualistic cognitive trait.<sup>1, 6, 8</sup> This suggests that other cognitive factors must be considered when investigating Criterion Shifting behaviors.

### Future Directions

- Future studies should consider the likelihood of individuals with clinically significant levels of psychopathy in comparison to the general population in order to investigate if psychopathy does have any association with and individual's willingness to Criterion Shift.
- Furthermore, future studies should examine the decision-making strategies of individuals with psychopathy, as this might offer an explanation as to why these individuals place more conservatively compared to other individuals and this research could help to provide a better understanding of these individuals' shifting behaviors.

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