

# Monetary Rewards Speed Conscious Visual Perception

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## Background

Monetary rewards have a lasting effect on visual processing.

Stimuli previously associated with high value or monetary reward involuntarily capture attention, even after reward is no longer being given<sup>1</sup>.

How does reward *change* processing?

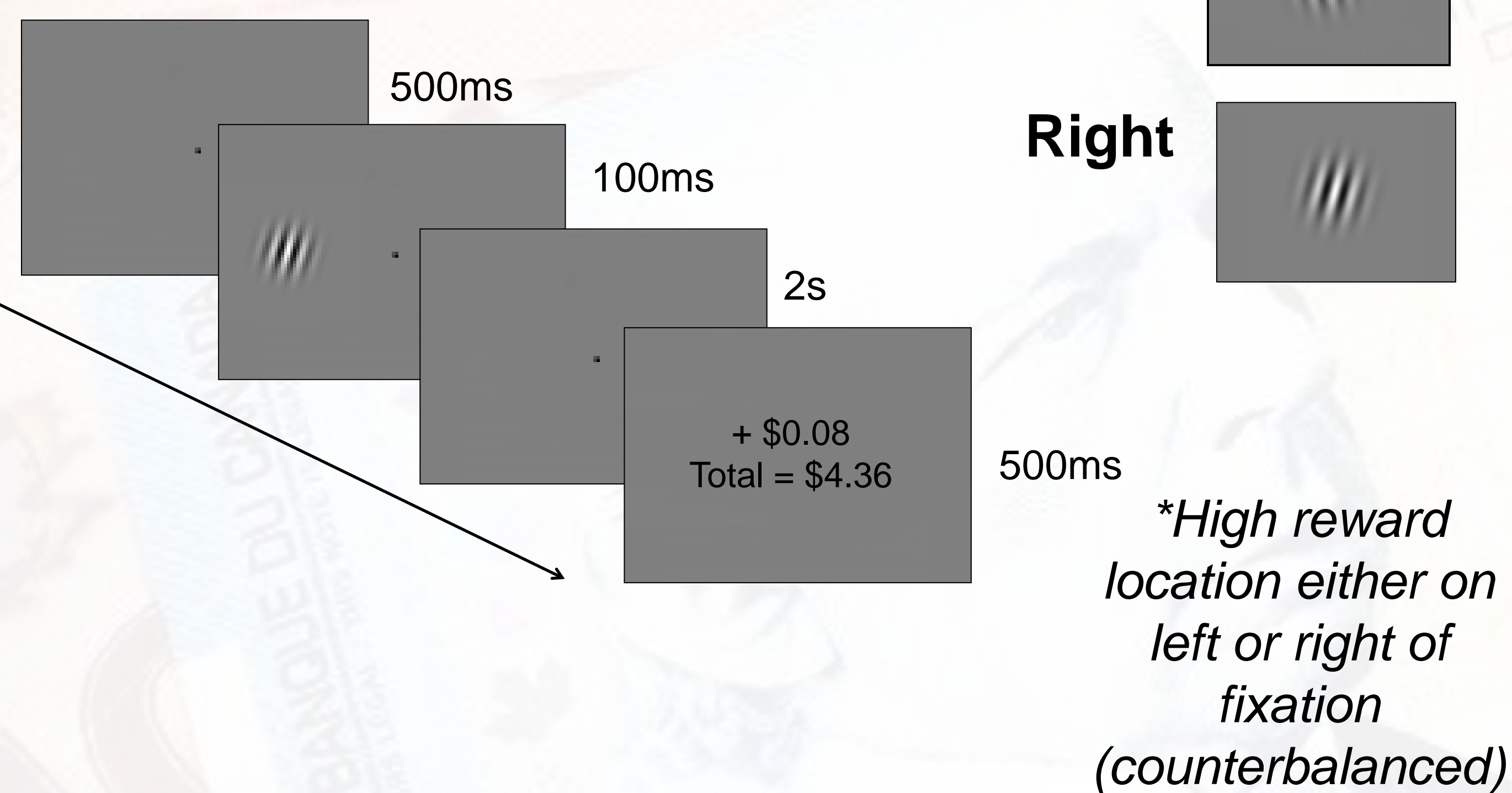
**Do learned reward associations accelerate perception?**

## Method

$N = 21$  \*For inclusion, participants must have greater than 75% accuracy on Reward Learning task.

### Reward Learning

Indicate the orientation of the gratings: **Left**

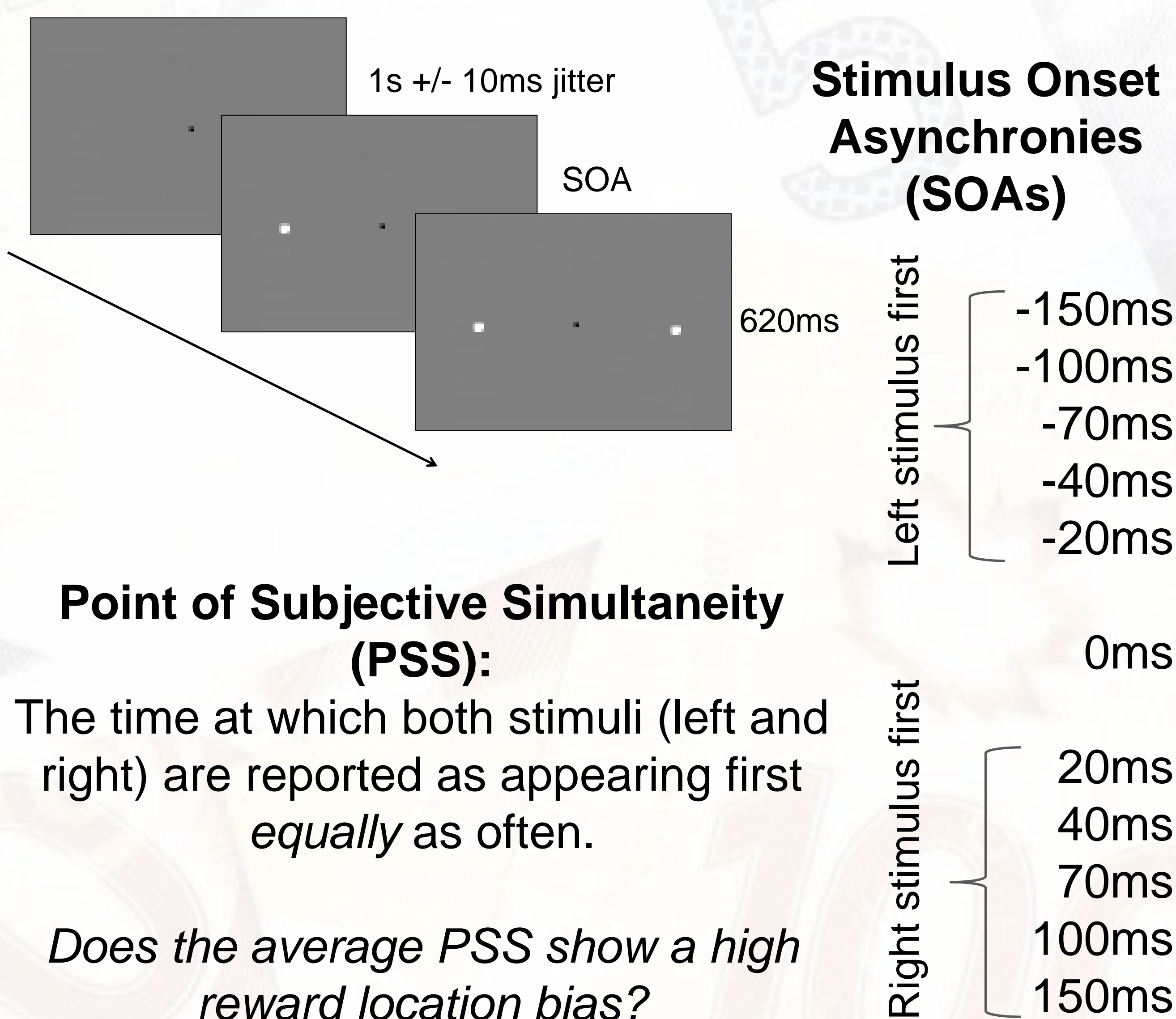


#### Accuracy Reward:

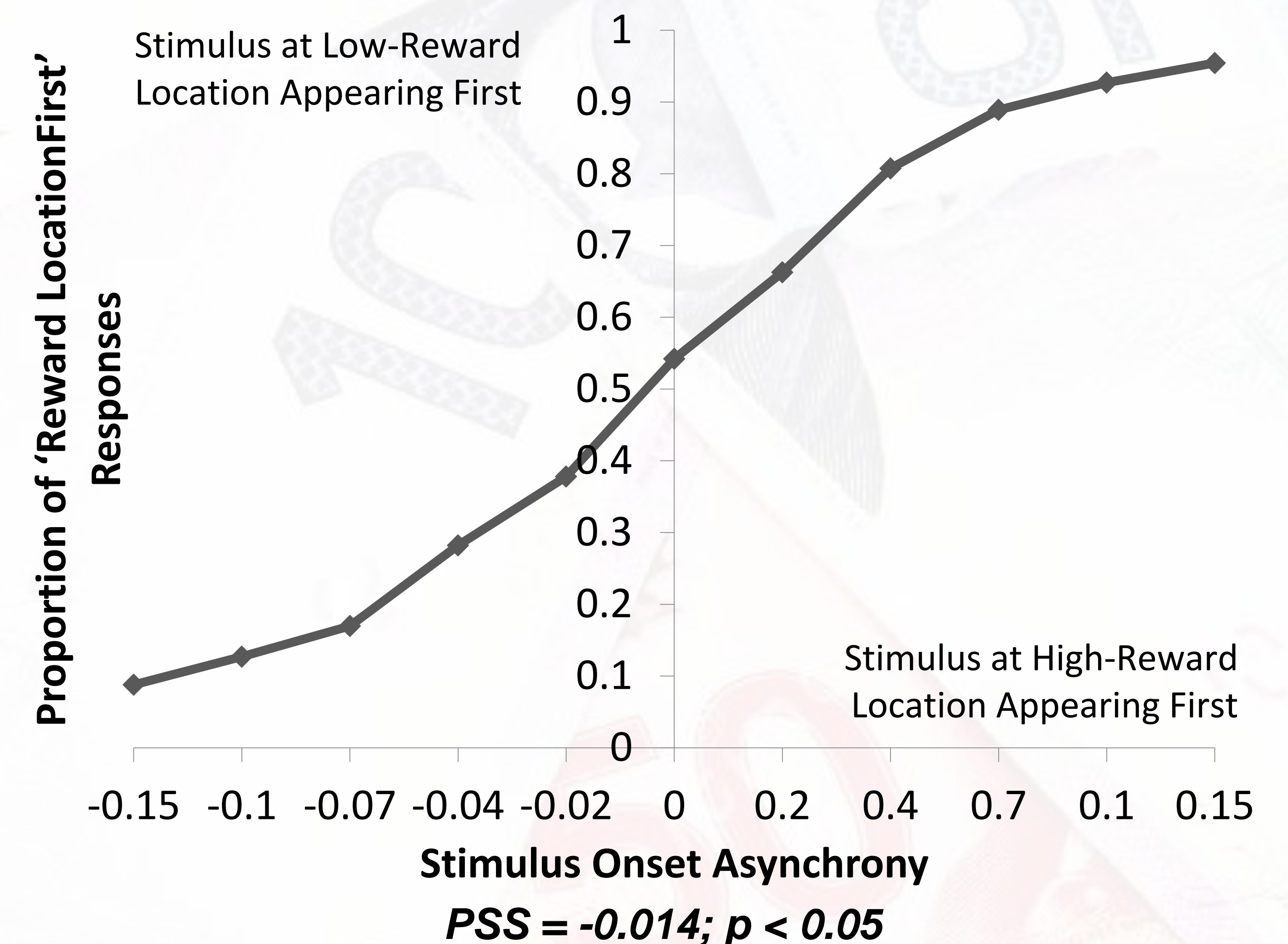
At High-Reward (HR) Location: 120 HR trials (\$0.08)  
30 LR trials (\$0.02)  
At Low-Reward (LR) Location: 120 LR trials  
30 HR trials

### Temporal Order Judgment

Indicate which white dot appears first (left vs. right)



## Results



In order to report simultaneous perception of stimuli at a high and low reward location, the stimulus at the low-reward location must be presented 14ms prior to the stimulus at the high reward location.

## Conclusions

- Beyond measures of attention, reward also affects measures of perception.
- Rewarding a spatial location accelerates perception of stimuli appearing in that location, and this effect persists in the absence of actual reward.
- Rewarded spatial locations yield effects similar to rewarded features.

## References

1. Anderson, B.A., Laurent, P.A., & Yantis, S. (2011). Value-driven attentional capture. *Psychological and Cognitive Sciences*, 108, 10367-10371.