EXAMINING THE TEST-RETEST RELIABILITY OF REWARD-MODULATED ATTENTIONAL BIASES

Daniel Pearson1, Lucy Albertella², Jenny Le¹, Alexis Porter¹, & Mike Le Pelley¹

¹School of Psychology, UNSW Australia, Sydney, Australia
²School of Psychological Science, Monash University, Australia

BACKGROUND

• Previous studies have shown that stimuli associated with high-value rewards capture attention more often than stimuli associated with low-value rewards, even when attending to the reward-associated stimulus is counterproductive.2,3
• This effect has been labelled Value-Modulated Attentional Capture (VMAC).

Participates slower to respond to the target because attention captured by the high value distractor = VMAC

Participants slower to respond to the target because attention captured by the high value distractor = VMAC

Counterproductive - lose out on potential higher reward

Drug reward

Attentional bias

Time 1

Time 2

Faster response to target = More points ($$$)

High value distractor = 10x Bonus!

Low value distractor = No bonus

(colour reward assignment counterbalanced)

Does VMAC index general sensitivity to effect of reward on attention?

If VMAC indexes trait sensitivity to reward, it must be stable across time (i.e., must have high test-retest reliability)

Method

SESSION I

SESSION 2

High value

(10x Bonus)

Low value

(No Bonus)

No distractor

(No Bonus)

Experiment 1:

• n = 91 first-year psychology students
• Session 1 and 2 separated by 7 days

Experiment 2:

• n = 307 volunteers through Amazon Mechanical Turk
• Session 1 and 2 separated by 3-7 days

RESULTS

EXPERIMENT 1

EXPERIMENT 2

VMAC effect was found across both sessions in Exp 1 and 2

• Slower responses to the target when search display contained a high-value distractor versus a low-value distractor

VMAC effect (RT on high value trials - RT on low value trials) had low test-retest reliability

• Non-significant or small correlations between session 1 and 2

• This suggests that VMAC is a poor index of stable individual differences (e.g., trait reward-sensitivity, impulsivity, susceptibility to addiction, etc.)

• Does not rule out the possibility that VMAC indexes state individual differences

• This finding adds to a body of literature demonstrating low-reliability of implicit measures

REFERENCES