Influence of Attentional Modulation on the Construction of Reward Value

Submission ID 3000108

Submission Type Poster

Topic Neuroscience

Status Submitted

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SUBMISSION DETAILS

Presentation Type Either Poster or Oral Presentation

Presentation Abstract Summary Over the past four decades, prospect theory has been successfully used to capture choice under risk. An often-neglected aspect of this theory is the editing phase which can facilitate decision making by simplifying the comparison between gambles with many possible outcomes. Editing is especially important for evaluating real-life options which involve many possible outcomes.
We designed an experiment to examine the construction of subjective value for more complex gambles and to test prospect theory for capturing choice between such gambles. The subjects selected between these pairs of tailored gambles during the second session of the experiment.
We extended prospect theory to include the possibility that alternative gamble outcomes could be weighted differently before they are combined to form the overall gamble value. We found, however, that most subjects assigned greater weight to the outcome with the largest reward magnitude compared to the other two outcomes. This differential weighting of possible outcomes could be instantiated via attentional modulation and enabled subjects to more easily choose between gambles with similar subjective values.
Overall, our results reveal additional mechanisms involved in the evaluation of mixed gambles and highlight the role of attention in the construction of reward value.

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Keywords

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attentional modulation
decision-making
reward
uncertainty