REWARD AND CUE EFFECTS ON ORIENTATION JUDGEMENTS: A GAZE CONTINGENT EYE TRACKING STUDY
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Does Reward Shape Perception By Attentional Mechanisms?

For many activities reward is graded and results from sensory input composed with a motor action (throwing a spear at prey). Does the shape of the reward performance function influence our perceptual experience? And is this dependent on other systems that also affect the speed and precision of perceptual reports, such as exogenous spatial cues?

Methods/Participants

Two runs of the same experiment were performed.

The Shape of Error Distributions Is Not Changed by Reward Distribution Shape

Saccadic Reaction Time is Slower for No Cue Trials.

More Precise Orientation Estimation with Cueing?

Eye Movements Can Drive Cueing Benefits. Reward Did Not Shape Errors.

Despite reporting overt motivation to maximize their scores and awareness of the changing point distributions, participants did not change the shape of the error distributions when reward shapes changed. Use of a gaze contingent display that gives all participants a fixed time for target viewing on all trials eliminated the benefit of exogenous cuing almost entirely. In many conventional attentional protocols with fixed stimulus onset and offset times there is a potential for quick and rapid eye movement responses to lead to apparent perceptual advantages for cued stimuli.