**Trade-off between search costs and accuracy in a visual and manual search task**  
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When choosing targets for saccadic eye movements, humans must balance the influence of different factors. A recent study demonstrated, for example, that humans trade-off their individual accuracy to discriminate object features against the prospective temporal costs of saccades, required to locate an object, in order to optimize performance in a visual search task (Wagner et al., 2022). Here we tested if this trade-off is specific for saccades, or if it also generalizes to manual actions.

Participants were instructed to find a target among distractors, and to discriminate a target feature. Search displays contained two targets with different discrimination difficulty, and participants were free to choose which target to search for. We manipulated the relative search costs of targets, by varying the ratio between distractors from the set of one or the other target. Correct discriminations were rewarded monetarily, incorrect discriminations were panelized in the same way, and participants were given 6 min and 30 sec to complete as many trials as they could. Participants completed two variations of this task: one required visual search via saccades, whereas the other required manual search via finger taps on a tablet computer.

We found that participants balanced the discrimination difficulty and search costs of target options to maximize expected value in both tasks. However, behavioral analysis and computational modelling revealed that performance in the visual search task was more strongly constrained by noise in decisions about what target to search for and what information to sample while searching for the chosen target.

We conclude that the previously reported trade-off between search costs and discrimination difficulty constitutes a general behavioral strategy that humans deploy to optimize behavior irrespective of task-affordances. However, the longer time course of manual actions makes choice behavior less suspectable to noise, compared to fast-paced saccades.

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