

Debrief of study “Looking for Shapes”

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1. What are the research questions?

We are investigating the conditions under which people become distracted when they are trying to perform a task. In particular, we are interested in how distraction can be influenced variability in the task display.

2. How does this study extend previous research on this topic?

Previous research has shown that some stimuli are likely to capture our attention and distract us even when our goal is focused elsewhere (Le Pelley et al., 2015). In this experiment we were investigating whether attention is also influenced by experience of variability in task features: are people better able to resist distraction by a salient stimulus when the display consists of different shapes, compared to when there are mostly the same shape?

3. What are some potential real-world implications of this research?

This project investigates when we are likely to be distracted from tasks that we are trying to perform, and specifically looks at how variability in the visual environment might influence distraction. We spend our lives surrounded by attention-grabbing stimuli (adverts, logos, social media notifications) and so this research has the potential to help us understand when and how people might be distracted from important tasks that they are trying to focus on (e.g., driving a car).

4. Briefly describe a potential issue (e.g., ethical, practical) or limitation of the study (e.g., design, ecological validity).

In this experiment, we used reaction time as a measure of attention. However, reaction time may be influenced by factors other than attention or distraction, including individual differences in motor responding, motivation, and task strategy. For example, some participants might strategically slow down their responding to prioritise accuracy, whereas others might choose the opposite. To account for these factors, we included within-subjects comparisons to allow us to compare performance of the same participant across different trial types.

5. Briefly describe the study methodology (e.g., design, dependent/ independent variables, materials).

On each trial of this task, you were asked to locate a target shape that was positioned among a set of non-target shapes, and report the orientation of the line (vertical or horizontal) inside the target shape. One of the non-target shapes in the search display was coloured; we call this the distractor. The level of variability in stimuli presented on each trial was the primary independent variable in this study.

Our main dependent variable was how quickly you responded to the orientation of the line in the target shape when the coloured distractor was present and when it was absent. We use this variable to infer how likely it was that your attention was captured by the distractor.

6. Further reading (i.e., a reference to a reading/s related to the current study for curious students).

Le Pelley, M.E., Pearson, D., Griffiths, O., & Beesley, T. (2015). When goals conflict with values: Counterproductive attentional and oculomotor capture by reward-related stimuli. *Journal of Experimental Psychology: General*, 144, 158-171. <https://doi.org/10.1037/xge0000037>