44th Annual Meeting of the Vision Science Society (VSS)

Inattentional blindness for a salient target in visual search: Finding a surprisingly easy target can be surprisingly hard

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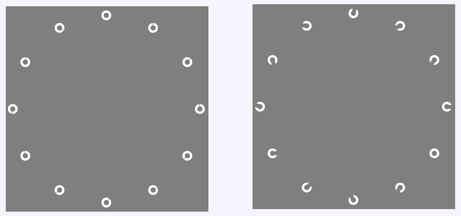
Introduction

- In the lab, visual search experiments typically involve multiple successive trials of constant difficulty. This allows participants to anticipate the salience of the next target.
- In natural search settings, however, observers often do not know how difficult it will be to find the next target (e.g., the next potential cancer in a lung CT).
- What if searchers are surprised with an easy-to-find target after a series of difficult searches?

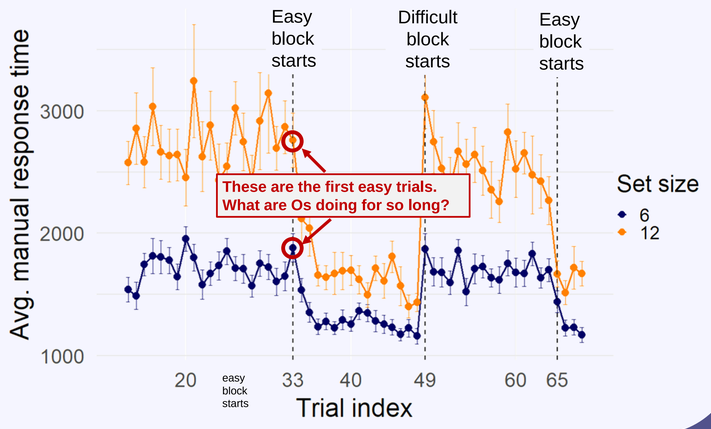
The two present experiments

- Search for a closed ring among rings with a gap

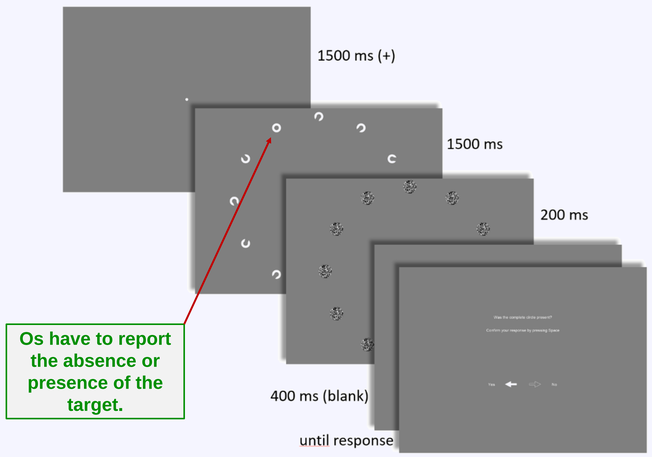


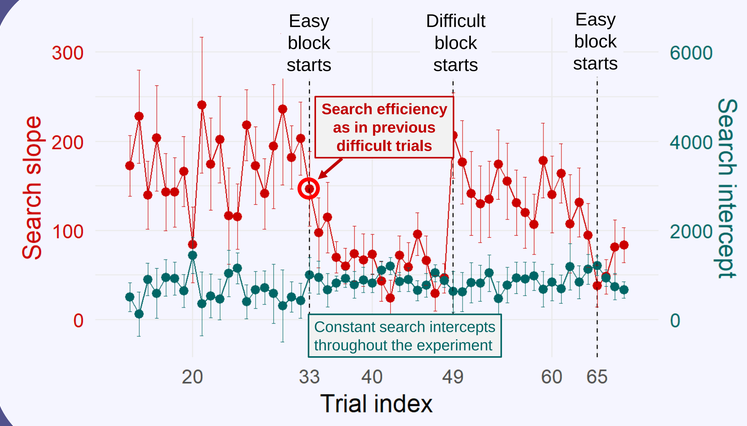
- Experiments start with 32 difficult search trials (small distractor gaps). These are directly followed by 16 easy trials (large distractor gaps).
- The **critical trial** is the 33rd trial where an easy search display is presented unannounced and for the first time.

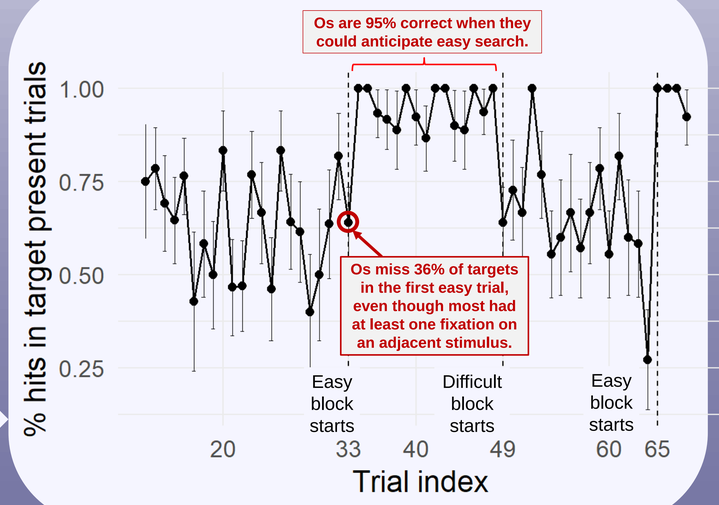
Exp 1: Unlimited display duration (*N* = 54)



Exp 2: Target detection paradigm (*N* = 25)







Discussion

- Results suggest that Os cannot take advantage of high target salience if they do not anticipate it.
- Maybe Os search with a small attentional window in the initial block of difficult trials and are stuck with that small window at the start of the easy block. They are blind to the target on the first easy trial.
- The results can be interpreted as a special form of Inattentional Blindness. Note, however, that this stimulus is the known target, not an unexpected gorilla.
- Results might be specific to relatively unguided search. Would it work if Os were searching for hard, then easy color singletons?

Take Home Message

There can be "Inattentional Blindness" towards salient search targets if they are unexpected.

Download the poster and see the abstract here:

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