

Individual Differences Across Visual Search Tasks

A. D. F. Clarke, J. L. Irons, A. B. Leber and A. R. Hunt

Aberdeen, Essex and Ohio

January 20, 2017

Abstract

Some abstract goes here

1 Introduction

2 Methods

2.1 Participants

How many? Will all testing be done at the University of Aberdeen? How do we justify our sample size (a question commonly asked by journals now!)?

2.2 Materials and Procedures

The study consists of three different paradigms from the visual search literature in which strong individual differences were found (Irons and Leber, 2016, Kristjánsson, Jóhannesson, and Thornton, 2014, Nowakowska, Clarke, and Hunt, 2017).

2.2.1 A: Split-half array search

2.2.2 B: Attentional Control

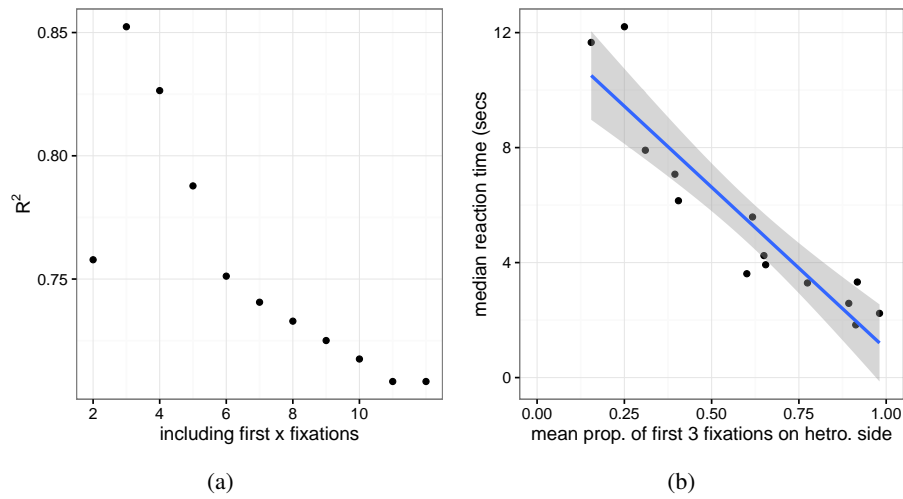
2.2.3 C: Conjunction Foraging

2.3 Planned Analysis

2.3.1 A: Split-half array search

In order to characterise an individual's behaviour in this task, we will compute the proportion of the first n fixations that were on heterogeneous (difficult) side of the stimuli, over all target absent trials¹. Nowakowska et al. (2017) demonstrated a

¹Only take correct trials?

Figure 1: Selecting the best n .

strong correlation between an this metric (for $n = 5$) and reaction times ($r =$). However, a re-analysis of their data shows that an even stronger correlation is obtained with $n = 3$ (see Figure 1)

2.3.2 B: Attentional Control

2.3.3 C: Conjunction Foraging

3 Results

4 Discussion

Appendix A Hetero-Homo-geneous Array Search

Appendix B Attentional Control Settings

Appendix C Conjunction Foraging

References

Jessica L Irons and Andrew B Leber. Choosing attentional control settings in a dynamically changing environment. *Attention, Perception, & Psychophysics*, pages 1–18, 2016.

Árni Kristjánsson, Ómar I Jóhannesson, and Ian M Thornton. Common attentional constraints in visual foraging. *PloS one*, 9(6):e100752, 2014.

Anna Nowakowska, Alasdair D F Clarke, and Amelia R Hunt. Human visual search behaviour is far from ideal. *Proceedings of the Royal Society B: Biological Sciences*, 2017.