

Role of non-targets in perception of a target in visual search

Faculty Research Grant - Closing Report

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April 21, 2007

I. Introduction

In November 2005, I sought funding to test a new claim by Rauschenberger, Peterson, Mosca, and Bruno (2004). They demonstrated that increased exposure to a visual display may cause non-targets to provide a spatial context that influences perception of and search for a target. Accordingly, they claimed to be the first to show spatiotemporal context effects of non-targets in the visual search for a target. Such a claim could have wide influence on future research and design. For example, with respect to design of graphical user interfaces (GUIs), it may suggest that greater consideration be given to design of background elements with respect to a target button.

In the summer of 2005, I ran an experiment using a new condition and my results corroborated their results. However, this experiment generated the need for additional tests, and this prompted me to seek funding via a Faculty Research Grant.

II. Description of grant-supported activity

Due to my Faculty Research Grant, we performed two new experiments related to the claims of Rauschenberger et al. (2004). Because of this grant, I was able to hire, train, and pay my graduate student as a research assistant, as outlined in the budget I submitted with my grant proposal. He gained experience by running two human experiments under my supervision. I gained experience in hiring, training, and supervising a paid research assistant. I will need such experience when I get my first sizable external grant. I was also able to pay 48 subjects across both experiments. Each subject received a \$15 gift card from either IUSB dining services, Borders, or Barnes and Noble. (Introductory psychology students also received course credit.)

III. Were you able to complete the project? Describe any difficulties you had.

We were able to complete two new experiments. I combined the results from these with those from my summer 2005 experiment and submitted a manuscript, with my graduate student as co-author, to the perceptual psychology journal *Perception and Psychophysics*. I submitted this on Friday, April 13 2007, and it is currently ‘under review’. The manuscript is entitled, “Spatiotemporal context influences perception of an ambiguous target in visual search”, and my co-author (and graduate student) is Ibrahim Chaaban. In the acknowledgements section, I listed the support of this Faculty Research Grant. I will provide hardcopy of this manuscript upon request.

The project is never over! In fact, this project may have opened up a second line of research for me. When reviewing the literature and writing the manuscript, I got an idea for a brand new experiment. I will perform this experiment in summer 2007.

IV. Did, or will, the project result in a specific product – a manuscript, composition, syllabus, etc.? If so, please describe and indicate state of development.

Yes. Our manuscript was submitted to the perceptual psychology journal, *Perception and Psychophysics*, on Friday, April 13, 2007. We acknowledged the support of this Faculty Research Grant.

In closing, I am very grateful for the support of this Faculty Research Grant. Thank you.

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