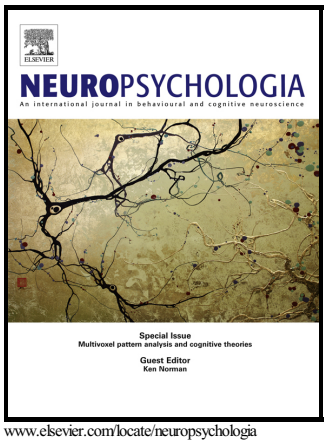
Neural correlates of the reverse Simon effect in the hedge and marsh task

Hui Li, Tiansheng Xia, Ling Wang



www.elsevier.com/locate/neuropsychologia

PII: S0028-3932(15)30043-9
DOI: http://dx.doi.org/10.1016/j.neuropsychologia.2015.05.028
Reference: NSY5609

To appear in: *Neuropsychologia*

Received date: 31 December 2014
Revised date: 3 May 2015
Accepted date: 26 May 2015

Cite this article as: Hui Li, Tiansheng Xia and Ling Wang, Neural correlates of the reverse Simon effect in the hedge and marsh task, *Neuropsychologia,* http://dx.doi.org/10.1016/j.neuropsychologia.2015.05.028

Neural correlates of the reverse Simon effect in the Hedge and Marsh task

Hui Li [1,#], Tiansheng Xia [1,#], Ling Wang [1,*]

[1] Center for Studies of Psychological Application & School of Psychology, South China Normal University, Guangzhou, China

[#] The two authors contributed equally to the study

[*] Corresponding author: Ling Wang, PhD
School of Psychology, South China Normal University, Guangzhou, China
Telephone: +86 (20) 85216922
Facsimile: +86 (20) 85216412
Email: lingwang@m.scnu.edu.cn

Number of pages: 46
Number of figures: 6
Number of words for Abstract: 320
Number of words for Main Text: 7694

Abstract

The Simon effect is a typical paradigm for investigating cognitive control in which participants respond faster and more accurately when the stimulus position corresponds to the response position (congruent) than when it does not (incongruent). However, Hedge and Marsh (1975) reported that the effect depended on task rules. Interestingly, the effect can be reversed (i.e., faster reaction time in the incongruent condition than in the congruent condition) when participants respond to the stimulus color by pressing the key labeled with an alternate color. A classic Simon effect is