



Discussion

Should we reject the expertise hypothesis? ☆

Isabel Gauthier *, Cindy Bukach

*Center for Integrative and Cognitive Neuroscience, Department of Psychology, Vanderbilt University,
Nashville, TN 37203, USA*

Received 14 April 2006; revised 1 May 2006; accepted 2 May 2006

Abstract

On the basis of a review of the literature and the results of three experiments with dog experts, Robbins and McKone [Robbins, R. A., & McKone, E. (2006). No face-like processing for objects-of-expertise in three behavioural tasks, *Cognition*] argue that there is little or no evidence supporting an expertise account of the differences in configural processing that are typically observed between faces and non-face objects. In the spirit of a debate that has become overly polarized, we believe that R&M often emphasized relatively unimportant controversial issues at the expense of bigger, more important questions. We also feel that some of R&M's arguments are rooted in methodological confusions that should be clarified because they have implications beyond this specific debate. In this commentary, we first clarify issues surrounding the proper statistical analysis of the composite paradigm, a methodology that is commonly used to assess configural and holistic effects in both face and non-face objects. We then discuss several theoretical issues that we feel are central to the debate regarding accounts of face-specificity. We also briefly review positive evidence for the correlation between measures of behavioral expertise and neural markers of face-selectivity. Unlike R&M, we believe the positive evidence for expertise effects, both behavioral and neural, greatly outweighs evidence stemming from null results and that it clearly motivates the importance of future work on the role of experience in the specialization of visual cortex.

© 2006 Elsevier B.V. All rights reserved.

☆ This manuscript was accepted under the editorship of Jacques Mehler.

* Corresponding author. Tel.: +1 615 322 1778; fax: +1 615 322 4706.

E-mail address: isabel.gauthier@vanderbilt.edu (I. Gauthier).

Keywords: Faces; Expertise; Holistic; Configural; Composite

1. Introduction

Robbins and McKone (2006, R&M) argue that there is little or no evidence supporting an expertise account of the differences in configural processing that are typically observed between faces and non-face objects. They use two main arguments to support their position. First, they suggest that a large body of peer-reviewed research presenting behavioral expertise effects with non-face objects do not in fact offer any substantive evidence. Second, in a series of their own experiments, R&M fail to find expertise effects in dog experts, despite a convincing replication of several standard effects with faces. In this commentary we will ask whether we should reasonably reject the expertise account of face-selectivity based on evidence and arguments presented by R&M. In the spirit of a debate that has become overly polarized, we believe that R&M often choose to emphasize relatively unimportant controversial issues at the expense of bigger, more important questions. We also feel that some of R&M's arguments are rooted in methodological confusions that should be clarified because they have implications beyond this specific debate. In this commentary, we will refrain from debating each previously published finding at length, and instead encourage the reader to consult the primary peer-reviewed articles. We will also refrain from discussing each of R&M's experiments in detail here other than to make the general observation that a strong claim is made (to abandon a conclusion drawn by several peer-reviewed studies) on the basis of null results. Instead, we propose to shift the face-selectivity debate in the context of broader issues of more general import. First, we will discuss the proper statistical treatment of the composite paradigm, a methodology that is gaining increasing popularity in assessing expertise effects for face and non-face categories. We will then discuss several issues of theoretical relevance that are important in assessing the relationship between expertise effects for different object categories.

2. On the proper statistical treatment of the composite paradigm

One way in which R&M end up concluding that there are no expertise effects in our prior work with non-face objects is to selectively focus on some effects at the expense of others. Of the different tasks they use, R&M argue that the composite paradigm offers the strongest evidence because it provides the purest measure of configural processing for faces. In the composite paradigm, participants are asked to make a judgment (e.g., same–different) on a cued half of the face (top or bottom), while ignoring information in the irrelevant noncued half. The degree to which the irrelevant half influences the judgment is considered an index of configural processing. Regarding this paradigm, R&M make a point to argue that our prior work is based on faulty analyses. In our view, this disagreement stems from a

Download English Version:

<https://daneshyari.com/en/article/927485>

Download Persian Version:

<https://daneshyari.com/article/927485>

[Daneshyari.com](https://daneshyari.com)