

Temporal and kinematic features of size constancy during perception and action

Irene Sperandio¹, Simona Noviello¹, Saman Kamari Songhorabadi¹, Juan Chen², Louis Renault³

1. University of Trento (Rovereto, Italy), Department of Psychology and Cognitive Science.

2. School of Psychology, South China Normal University, Guangzhou, Guangdong Province, China.

3. University of East Anglia (Norwich, UK), Department of Clinical Psychology and Psychological Therapies, Norwich Medical School.



Host institution: University of Trento (Italy)

Introduction

Size constancy is critical for our perceptual experience and successful interactions with the physical and social world



Aim: Examine the electrophysiological correlates of size constancy during perception and action

Methods

Exp. 1: Real-world distance

Exp. 2: Illusory distance

Design: 2x2 within-subject design

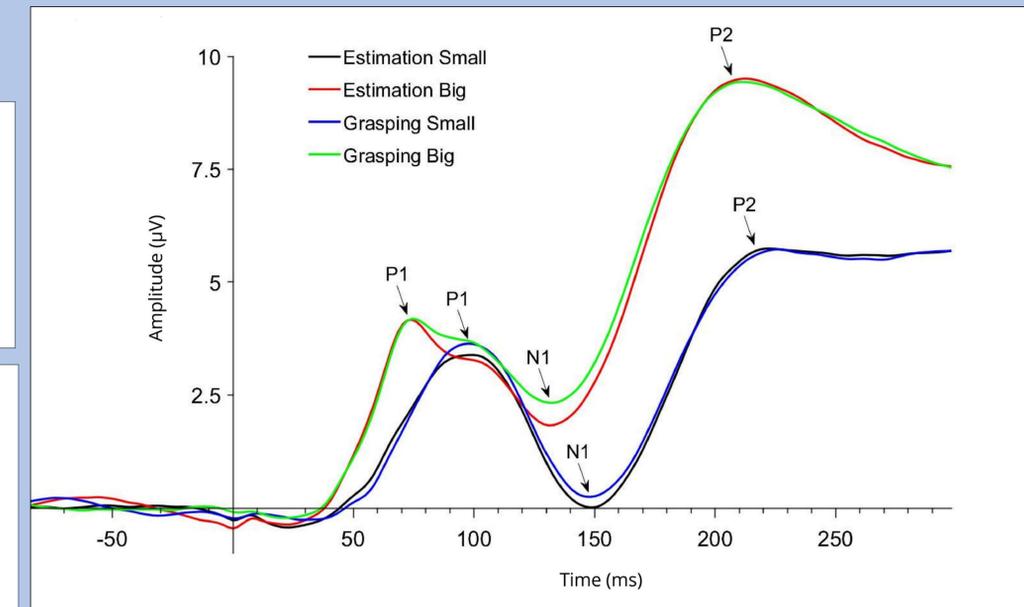
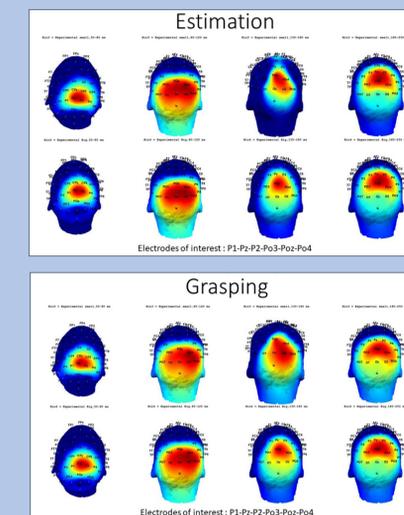
Task: Manual Estimation vs Grasping

Size: Small stimulus vs Big stimulus



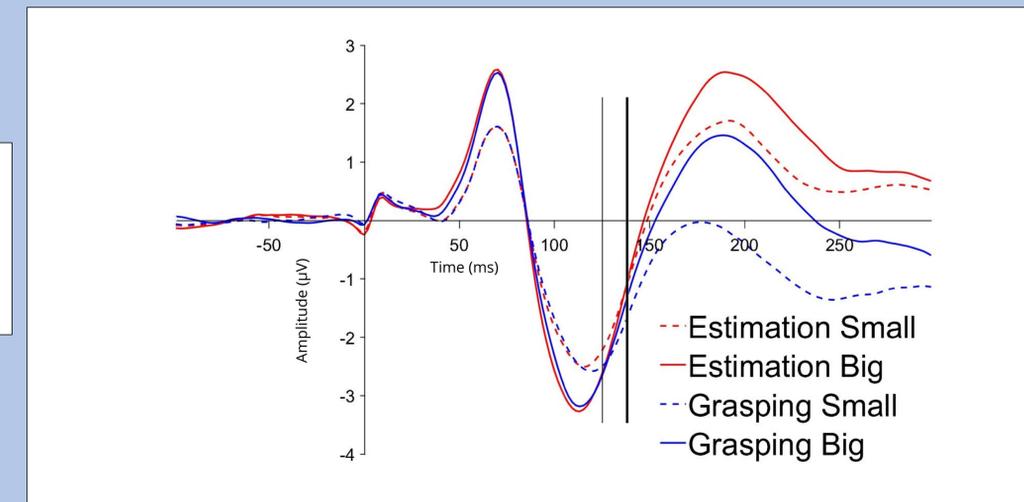
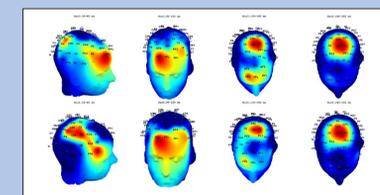
Results

Posterior cluster



We found earlier latencies and greater amplitudes in response to perceptually bigger than smaller objects of matched retinal size, regardless of the task.

Central cluster



We found task-related differences at later stages of processing: the mean amplitude of the P2 component was greater for manual estimation than grasping.

Conclusions

- Size constancy for real objects takes place at the earliest cortical stages;
- Early visual processing does not change as a function of task demands.