On the Exploration of Surface-based Attention with Cuing Task

Yu-Chieh Chang[1], Shwu-Lih Huang[1, 2], and Hung-Wei Lee[3]

[1] Department of Psychology, National Chengchi University
[2] Research Center for Mind, Brain, and Learning, National Chengchi University
[3] Department of Applied Psychology, Hsuan Chuang University

Surface-based attention (SBA) in either exogenous or endogenous orienting was investigated with cuing task in terms of time-course and facilitation/inhibition mechanism. New materials were designed which were two surfaces crossed each other and both extended a wide range of depths. In experiment 1, the operation of SBA was preliminarily confirmed. In experiment 2, validity effects were found in both exogenous and endogenous orienting, that confirmed the operation of SBA. In experiment 3, the cue type (valid, invalid, and neutral) and the cue-to-target SOA (120, 300, 500, and 1,000 ms) were manipulated. The results showed that the facilitation of cued surface was found under exogenous orienting when SOA was short. But as the SOA increased, inhibition of the uncued surface was found instead. Under endogenous orienting, inhibition of the uncued surface was found generally. In conclusion, SBA can be triggered by either exogenous or endogenous orienting. But the time-course and mechanisms were different between them.

Keywords: *endogenous orienting, exogenous orienting, surface-based attention*