Eye-movement of observers viewing implied motion in abstract paintings

Ji-Eun Kim
Korea University, South Korea
blessedpond@gmail.com
Eun-Hye Shin
Chai-Youn Kim

Artists such as Duchamp and Balla tried to portray moving objects on static canvases by superimposing snapshots of moving objects. Previously, our group showed the influence of prior experience on brain responses within a motion-sensitive area MT+ to abstract paintings with or without implied motion (Kim and Blake, 2007 *Spatial Vision* **20** 545–560). In the present study, we went further to investigate whether the differential MT+ activation between observers is originated from differential eye movement patterns. This hypothesis is not far-fetched since previous studies have shown that the way artistic experts view abstract paintings is different from that of naïve observers (Vogt and Magnussen, 2007 *Perception* **36** 91–100). Methods: 2 groups of observers (expert in art vs. naïve) were tested. 2 abstract paintings with implied motion ('Nude descending a staircase No. 2' and 'Girl running on a balcony'), 2 abstract paintings without implied motion ('Park bei Lu' and 'Composition No. II'), and 2 chronophotographs were presented for 5 s. After each stimulus presentation while their eye movement was recorded, observers performed 1 back task. Results: Experts, when viewing paintings with implied motion, tended to focus more on the parts of paintings portraying motion – e.g., head and feet of moving creatures– than did naïve observers. In addition, experts, unlike naïve observers, moved their eyes in the direction corresponding to the direction of moving objects in those paintings. Results imply that experts and naïve observers are different in terms of "where" and "how" they view abstract paintings with implied motion.

ISSN: 2041-6695 (electronic only)

Copyright: Copyright is retained by the author(s) of this article. This open-access article is distributed under a Creative Commons Licence, which permits noncommercial use, distribution, and reproduction, provided the original author(s) and source are credited and no alterations are made.