Abstract

Change blindness (CB) is a phenomenon where observers failed to detect major changes in a visual scene. Experimental design in studies of CB often involves the use of visual disruptions in between visual changes, in which they cannot be identified by contrast transient or motion. Visual disruptions can be in various forms, such as an eyeblink, saccade, distraction such as a "mudsplash", and the flicker paradigm where a grey screen flashes between original and altered pictures. With visual disruptions, successful change detection would require attention, memory, and pre and post change comparison. This study aims to replicate the classic "flicker paradigm" design by Rensink, O'Regan and Clark (1997), which demonstrated that CB was not saccade contingent and attention played a critical role in change detection tasks. Major findings in the original study were replicated in this study. The extended display of pictures did not facilitate change detection, indicating visibility and display duration are not factors contributing to CB phenomenon. Perceived importance of objects and availability of cues also affect reaction time (RT). Identification of changes in central interest (CI) areas were significant faster than areas of marginal interest (MI) in the non-cued conditions, and RT in validly cued pictures were significantly faster than the non-cued and invalid cued conditions. Additional analysis on the RT between gender and age were performed. Significant positive correlation between age and RT across all conditions were observed, indicating a slower RT in older subjects. However, no significance was observed in RT between genders across conditions. The change detection process, history and causes to CB, findings and limitations in the present study and extended research on CB are discussed in this report.