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Who sees a flanker? Individual differences in cognitive control

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Abstract

The ability to regulate mental processes is a critical component of human cognition. People vary in their ability of cognitive control, with some showing more focused attention and less distractions from environmental stimulus. Who are these people and what makes them better at cognitive control? This study attempts to answer these questions by examining the individual differences in cognitive control using variants of executive function tasks. Participants were given a flanker task which included congruent, incongruent and neutral trials, and all the trials were randomized and blocked based on different visual angles of flankers ranging from 4.6 to 0.9. Participants were then given a standard Simon task (measure of inhibition) and color-shape task (measure of switch). Results indicate that as the visual angle decreases, the interference from flankers increases. More importantly, people who are better at inhibition or switch show a lesser extent of increase in interference.