Title
The Relationship Between Mental Imagery Vividness and Blind Reaching Performance

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Abstract

Mental imagery is a core topic in cognitive science and central to most perception and action theories. Although mental imagery is often experimentally elicited, a growing body of literature highlights that people differ in their ability to consciously experience mental imagery with some reporting an inability to experience imagery. We examine the relationship between mental imagery vividness and performance on blind reach tasks within a VR environment. The findings indicated that accuracy did not significantly differ based on differences in imagery vividness during a baseline blind reach task. However, participants who reported experiencing more vivid mental imagery and received terminal visual feedback during a recalibration phase demonstrated greater shifts in movement strategy post-recalibration compared to those with less vivid imagery. The results indicate a degree of 'perceptual learning' following limited visual feedback that was predicted by vividness of imagery and feedback type. Implications for perception and action theory are discussed.