

The power of self-reference in action: Prioritized processing of self-relevant stimuli extends
from perception to response execution

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Considerable evidence shows that self-related (compared with e.g. other-person-related) stimuli receive prioritised processing which can confer a performance advantage. Sui, He, and Humphreys (2012) have shown that the effect is independent of stimulus familiarity, modulates perceptual as well as higher-level cognitive (e.g. attention and memory) processes, and is supported by a distinct neural circuitry (Sui, Rotshtein, & Humphreys, 2013). However, no studies have investigated whether prioritised-processing of self-relevant stimuli also reflects in response execution. This was tested in the current study where we had participants associate two geometric shapes with two people (self vs. stranger) and then carry out a shape-label matching task. A response box and keyboard recorded button releases (measuring response initiation time from stimulus onset) followed by button depressions 14cm away (measuring movement time from button release to a target button depression), respectively. A speed and sensitivity (d') advantage for execution of self-linked responses was found, suggesting that this self-advantage can permeate response execution and enhance movement efficiency (further qualified by moderately-high correlations (e.g. -.41) between speed and d'). Implications for traditional models of information processing and translational work are discussed.