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Influences of task difficulty on initiation time and overall use of an external strategy

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Abstract: Humans readily deploy external strategies in an attempt to offload cognitive work, a process commonly referred to as cognitive offloading. For example, individuals will often rotate their head in an attempt to normalize a rotated display (i.e., external normalization). Previous work has emphasized how various manipulations affect the overall use of the behavior to better understand the underlying decision processes. This approach, however, has overlooked the potential utility in investigating how these manipulations affect the time to initiate the use of strategy. We manipulated task difficulty with upright and rotated displays and measured initiation time and the overall use of external normalization. Analyses demonstrated that when individuals rotate, rotations take the same amount of time to initiate across tasks, whereas overall frequencies of rotations varied as a function of task. This dissociation suggests that the time to initiate the strategy and external strategy selection are at least partly independent.