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Exploiting the Soft Constraints Hypothesis to Mitigate Interruption Effects

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Abstract: The soft constraints hypothesis (Gray et al., 2006) posits that a more memory-based strategy is induced with increasing costs of accessing goal-state information. This relationship was used advantageously to reduce forgetting in an interrupted visuo-spatial copying task, although it increased overall task completion time (Morgan et al., 2009). However, in problem solving, studies have found that increased goal-state access cost resulted in more planning before action and improved efficiency following interruption, without the attendant disadvantage of increased solution time. In the current experiment, following Monk et al. (2008), we examined whether increased goal access cost could protect against the negative effects of longer and more demanding interrupting tasks during problem solving. Participants in a high access cost condition completed problems in fewer moves following a 13-second interruption and resumed faster following 8- and 13-second interruptions, compared to a low access cost condition. Theoretical and practical implications are discussed.