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The roles of working memory capacity and spatial ability in first-time solution of the Tower of Hanoi

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Abstract: Decades of research have highlighted the important role of working memory capacity (WMC) in higher cognition and problem solving. Strangely, the relationship between WMC and the Tower of Hanoi task, a classic problem in Cognitive Psychology, has yet to be firmly established. Many studies have failed to find the suspected relationship and those that have identified a relationship have almost universally used spatial-modality measures of WMC. These results fail to differentiate between whether it was an individual's WMC or spatial ability that predicted performance. As such, the goal of the current research was to investigate the complex relationship between WMC, spatial ability, and the Tower of Hanoi. Results suggest different roles for WMC and spatial ability in the first-time solution of the Tower of Hanoi.