Metacognitive Monitoring of Internal and External Storage and Retrieval

Evan Risko
University of Waterloo, waterloo

Connor Gaspar
University of Waterloo, waterloo

Dave McLean
University of Waterloo, waterloo

Tim Dunn
University of Waterloo, waterloo

Derek Koehler
University of Waterloo, waterloo

Abstract: The ability to monitor our cognitive performance (i.e., metacognitive monitoring) is central to efficient functioning. Research investigating this ability has focused largely on tasks that rely exclusively on internal processes. However, our day-to-day cognitive activities often consist of mixes of internal and external processes. For example, we can offload memory demands onto external media (e.g., computers, paper). In the present investigation, we expand research on the metacognitive monitoring of performance to this domain. Specifically, we examine participant's ability to accurately monitor their performance in tasks that require them to rely on only their internal processes (e.g., short term memory to remember a series of letters) and tasks that require them to rely on both (e.g., paper and pencil to remember a series of letters). Results suggest that the former results in superior monitoring relative to the latter. Implications for understanding metacognition in more distributed cognitive domains will be discussed.