



Does the Use of Tablets Lead to More Information Being Recorded and Better Recall in Short-Term Memory Tasks?

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Abstract. Cognitive offloading is the process of recording information onto an external source (i.e., a piece of paper) to reduce short-term memory demands. People engage in cognitive offloading to be able to recall more information accurately [1]. The capacity for short-term memory is typically 7 ± 2 items [2], but the number of items that can be accurately remembered decreases as the complexity of the information increases. As a result, people are more likely to engage in cognitive offloading when the memory task is difficult. Most cognitive offloading studies have used paper as the External Medium [1, 3]. People, however, may not have a pen and paper readily available to record information. Due to the increase of mobile technology, though, people are more likely to carry around mobile devices such as smartphones and tablets. Mobile devices can be used as a convenient medium to offload information. The present study examined if use of mobile technology would increase participants' offloading behaviors and recall accuracy compared to using paper for recording information. Results indicated that although all tablet features were available (e.g., swiping, voice recording), participants engaged in less cognitive offloading when using tablets compared to paper, and this resulted in lower recall performance for the tablet condition. Implications of these findings are discussed.

Keywords: Cognitive offloading · Mobile technology · Human performance

1 Introduction

1.1 Background and Motivation

The creation of mobile technology within recent decades has provided users with the option of offloading, or recording, information onto their devices rather than having to remember the information using their short-term or long-term memory. For example, users can set reminders or alarms on their smartphones or tablets to aid their memory for performing a task in the future. The Pew Research Center [4] indicates that approximately 53% of Americans own a tablet and 77% own a smartphone. These percentages are typically higher for younger adults, aged 18–34, [4, 5]. This widespread ownership