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IDK LOL: Text Messaging During Class Impairs Comprehension of Lecture Material

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Abstract

After leading a PIE at NITOP 2010 on text messaging during class, I incorporated a new demonstration into my Cognitive Processes course. In this exercise, students either text message each other during lecture or they listen to the lecture without the distraction of text messaging. Everyone then takes a quiz on the material. Results suggest that text message during lecture leads to impaired comprehension of material.

Background

Previous research has shown that people rely on inflexible memory systems while multi-tasking, which can impair learning (Foerde, Knowlton, & Poldrack, 2006), and that people lose time when switching from one task to another, especially when the tasks are complex or unfamiliar (Rubinstein, Meyer, & Evans, 2001). Furthermore, research conducted in the classroom has confirmed that a cell phone ringing while students are taking notes significantly impairs students' ability to accurately answer questions about the content that was disrupted (End, Worthman, Mathews, & Wetterau, 2010).

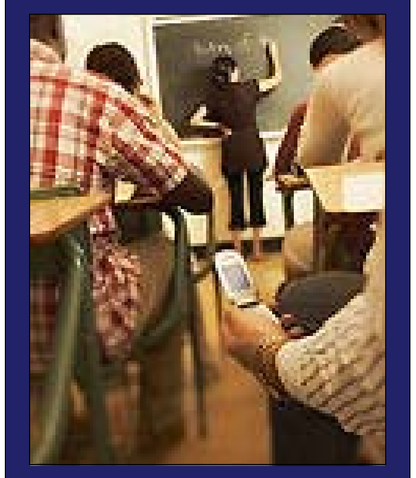
Purpose & Method

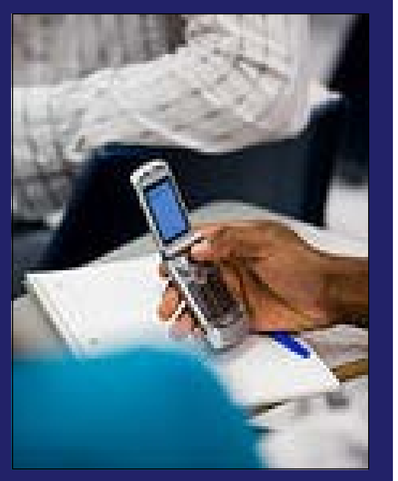
The purpose of this study was to examine the impact of text messaging during class on comprehension of lecture material. While several researchers have investigated the distracting consequences of text messaging while driving (e.g., Hosking, Young, & Regan, 2009), very little research on text messaging has been conducted in the classroom.

Across two semesters, a sample of 44 students in PS385: Cognitive Processes at Butler University participated in an in-class demonstration on "Time Management Strategies." Half of the class was randomly assigned to text message each other while I lectured on strategies for better time management. The other half of the class did not text message during the lecture. All students were aware that a quiz would follow the lecture. Following the 10-minute lecture, all students completed a multiple-choice quiz (see sample below).

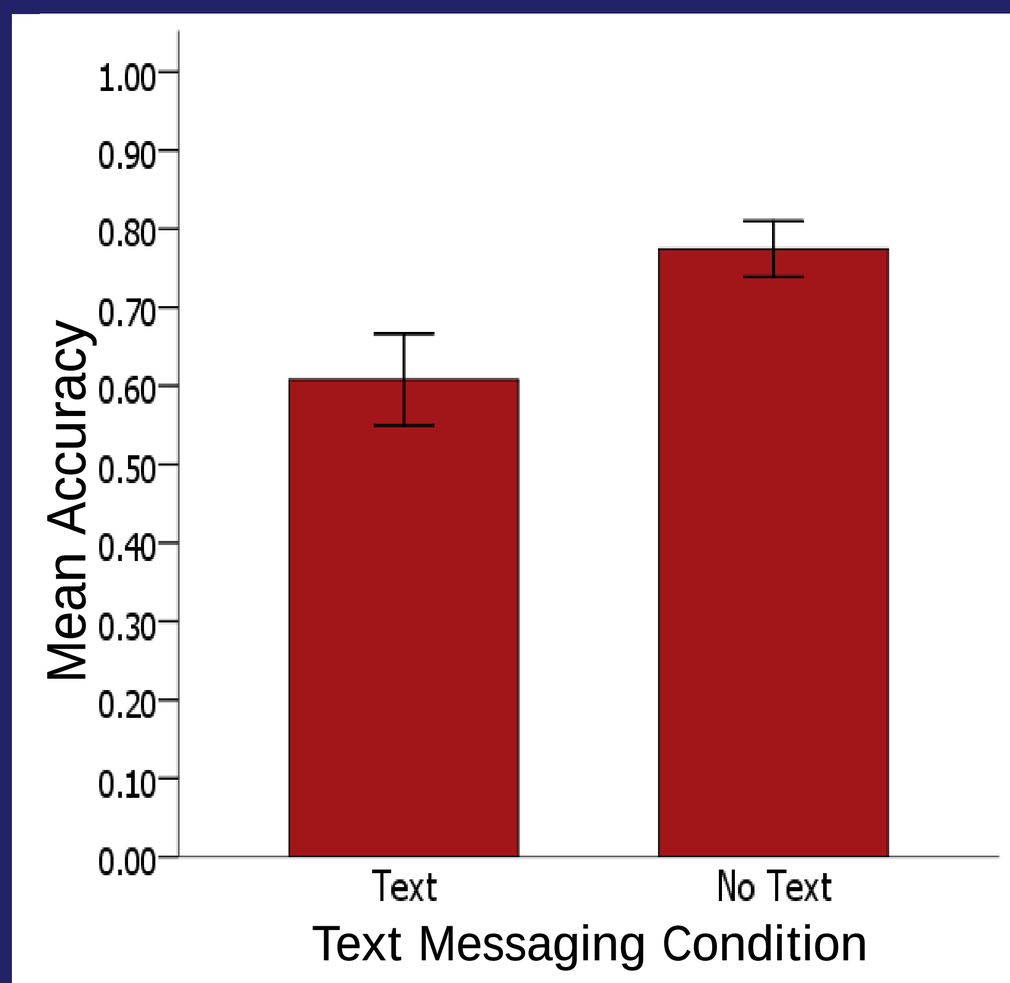
Sample Multiple-Choice Quiz Questions

1. Which of the following is **not** a basic time management strategy that Dr. Gingerich shared?
   a. Get the most out of class.
   b. Have confidence in your abilities.
   c. Get an early start to your day.
   d. Learn the material the first time around.
2. What did Dr. Gingerich say about doing homework at your place of employment?
   a. Don't do it; you could get fired.
   b. Don't do it; your performance on-the-job will suffer.
   c. Do it; it'll show your boss that your first priority is your education.
   d. Do it; you need to take advantage of any study time you can.





Results & Conclusions

Results show that, in the proportions of their responses that were correct, the Text condition performed statistically significantly worse on the quiz (M = .61, SD = .26) than did those in the No Text condition (M = .77, SD = .18), t (42) = 2.52, p < .05. This suggests that text messaging during lecture impairs comprehension of the material, which is consistent with previous findings.

Furthermore, participants who were in the Text condition indicated less confidence *(M = 3.80, SD* = 1.32) than those in the No Text condition *(M = 5.54, SD* = .93) in their comprehension of the material, t (42) = 5.11, p < .001. This suggests that, not only is students' comprehension of the material impaired by dividing their attention, they are aware of this impairment at the time that their comprehension is tested as well.