Time Pressure and Cognition in Mobile Interface

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Background

- **Of an undergraduate student pool:**
  - **63%** claimed that smartphones were a benefit for academic purposes (Tossel et. al, 2015)
  - **76%** used apps to access educational information (Bomhold, 2013)

Background

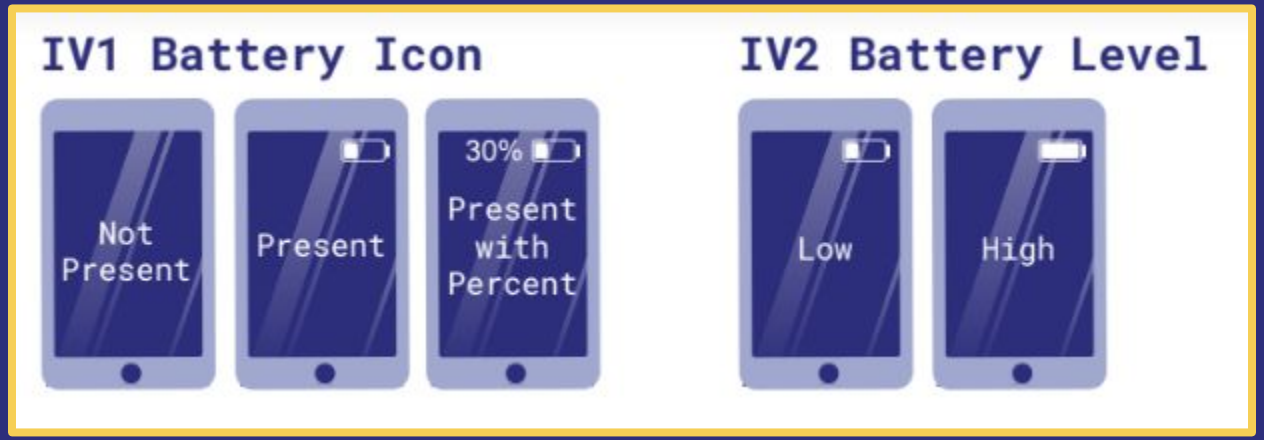
- **Why Further Research?**
  - Time Constraints
    - Negative impact on cognitive task performance (Onwuegbuzie et. al, 1995)
  - Cognitive Load
    - Negative effects across stimulation on the amount of memory resources used (Mayer & Moreno, 2013)

Background

Do different battery presentations induce the effects of cognitive load and time constraints while completing a memory task on a mobile device?

Method

➔ **Manipulated Variables**



Method

➔ **Measured Variable**

DV Time to complete a memory task

Participants played a matching game on Quizlet based on a deck of SAT terms we constructed for the study.

Method

➔ **Design**

Results

- **Hypotheses**
  - Main Effect 1
    - **Individuals who have a battery present with percentage will take longer to complete the memory task than those who just have the battery present with no percentage shown**

Results

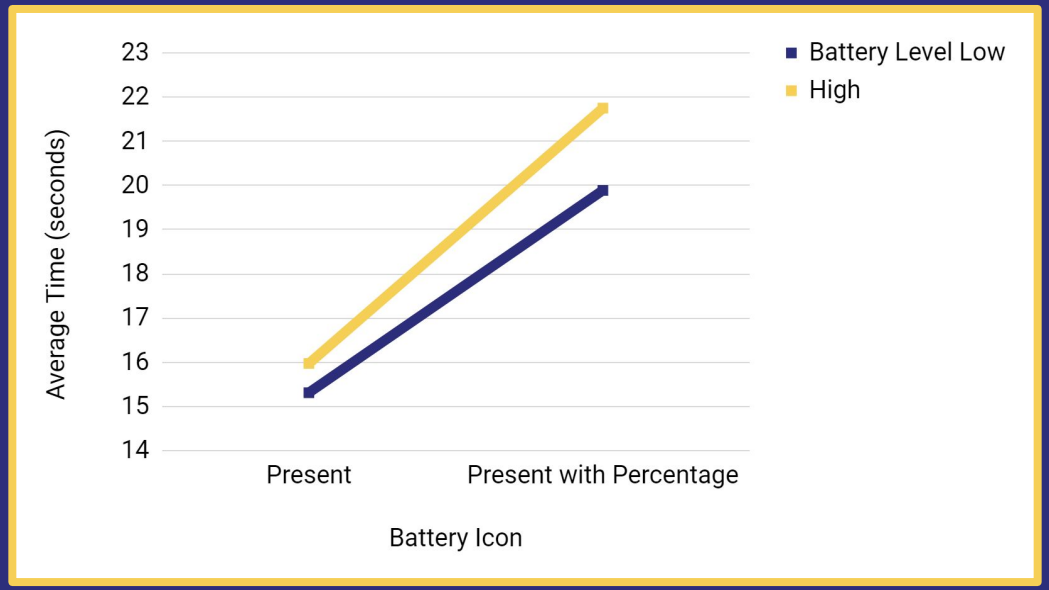
- **Hypotheses**
  - Main Effect 2
    - **Individuals who have a low battery will take longer to complete the memory task than those with a high battery**

Results

- **Hypotheses**
  - Interaction Effect
    - **Individuals who have a battery present with a low percentage shown will take longer to perform a task than those who have no percentage shown and a high battery level**

Results

➔ **What We Found**



Discussion

- **Not Enough Evidence to Reject Null Hypothesis**
  - Lack of personal concern
  - Conditions not extreme
  - Length of task
  - Impact of task
- **Manipulation Check**
  - Lack of evidence to support a relationship
    - Majority of participants saw the battery, but very few felt nervous

Discussion

- **Future Research**
  - Run a similar experiment with longer tasks
  - Align with participant demographics
  - Incentivize completion