THE EFFECT OF EXPECTANCIES ON DIFFICULT VERSUS EASY DUAL TASKS

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Purpose

How does cell phone use effect driving performance?
- Cognitive performance on easy vs. hard task
- How do expectancies effect driving performance?
Strayer and Johnston (2001)

- Cell phone use impairs driving
- Reaction time significantly impaired

McCarthy, Pedersen, Thompsen, and Leuty (2006)

- Evaluated the expectancies of young adults on drinking and driving
Hypotheses

Performance (in terms of RT and accuracy) on the hard level of the computerized detection task would be worse than on the easy one.

Performance on both tasks will be impaired by a verbal distractor
- Perform best: repetition detection task only
- Perform slightly worse: repetition detection task + word shadow distractor
- Perform worst: repetition detection task + word generation distractor

Worse performance on computer task for participants with positive expectancies regarding cell phone use and driving, as they believed that the distraction would not impair them.
Method

Participants
- Emails to 600 randomly selected Wofford students
- 47 participants

Questionnaire and the Marlowe-Crowne Social Desirability Scale
- Used to account for the defensive reactions

Visuospatial Repetition Detection Task (Bopp & Verhaeghen, 2009)
- Distractors: None vs. Easy vs. Hard
- Measured response time and accuracy

Ospan Task used as a rule out
- Above 85% accuracy

Counterbalanced order
- Randomized difficulty level of repetition task and distractor task
Visuospatial Repetition Detection Task
Single Series
Visuospatial Repetition Detection Task
Single Series
Visuospatial Repetition Detection Task
Double Series
Repetition task + Distractor task

Single series +
- No additional task
- Word repetition
- Word generation

Double series task +
- No additional task
- Word repetition
- Word generation
Expectancy Measure

View of cell phone use while driving
- positive or negative

3 composite variables (McCarthy et al., 2006)
- Convenience  saves time
- Thrill  sense of danger
- Avoid consequences  getting in a wreck
Results

Data analyzed with MANOVAs

**IV:**
- Easy vs. Hard Task (1 or 2 locations)
- Difficult vs. Easy vs. No Distractor
- Positive vs. Negative Expectancies for Cell Phone Use

**DV:**
- Reaction Time (BPT)
- Accuracy
Results: Hypothesis One

Performance was worse on the hard task than on the easy task in terms of accuracy.

No effect of RT- time participants took to identify repetition in the tasks was not significantly different.
Results: Two

Subjects were most impaired by the word generation distractor, especially during the hard task.
Results: Hypothesis Three

Participants who thought cellular telephone use while driving was convenient had the lowest performance on the difficult task.
Results: Hypothesis Three

Participants who thought cellular telephone use while driving was convenient had the lowest performance with the word generation distractor.
Discussion

Hypotheses

- Performance was worse in terms of accuracy on the hard task than the easy task was supported
- Performance was worse with the difficult verbal distractor was supported
- Subjects who expected that cell phone use positively affects driving performed worse than subjects who believed cell phone use impairs driving was supported

Experimenter errors

- Letters ending with “e” or “k” for word generation task
- List repetition
- Experimenter bias
Future Directions

Participants
- Equal number of gender
- Wider age range
- Wider geographic range

Touch screen vs. key pad

Remote word administrations
- Eliminate experimental bias

Effect of evoked emotion on performance
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