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The Mere Presence of a Cell Phone May be Distracting

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Cell Phones Are Not Distracting in a Classroom Test of Cognitive Tasks

Samantha Sanchez

Introduction

Previous research

Thornton, Faires, Robbins, and Rollins (2014, Exp 2) reported that students in a classroom setting performed more poorly on a series of cognitive tasks when their cell phones were on their desk than when they were not.

This study's hypothesis:

In this direct replication study, it was predicted that students whose cell phones were on their desk would perform more poorly on the Trail Making B test and the Additive Cancellation Task.

Procedure

Participants:

Two classes taught by the same instructor were randomly assigned to condition.

- 21 participants (7 male) were in the cell phone condition
- 57 participants (9 male) were in the control condition.

Materials:

- A Number Cancellation Task
- An Additive Cancellation Task
- Trail Making A Test
- Trail Making B Test
- A Possession Scale, altered to refer to cell phones

Method: Experimental

Both groups were asked to clear their desks, and the cell phone group was asked to put their cell phones on their desk.

The cognitive tasks were completed in the order listed above, and each task was timed. The Possession Scale was completed afterwards, followed by the demographic questions of age and sex.

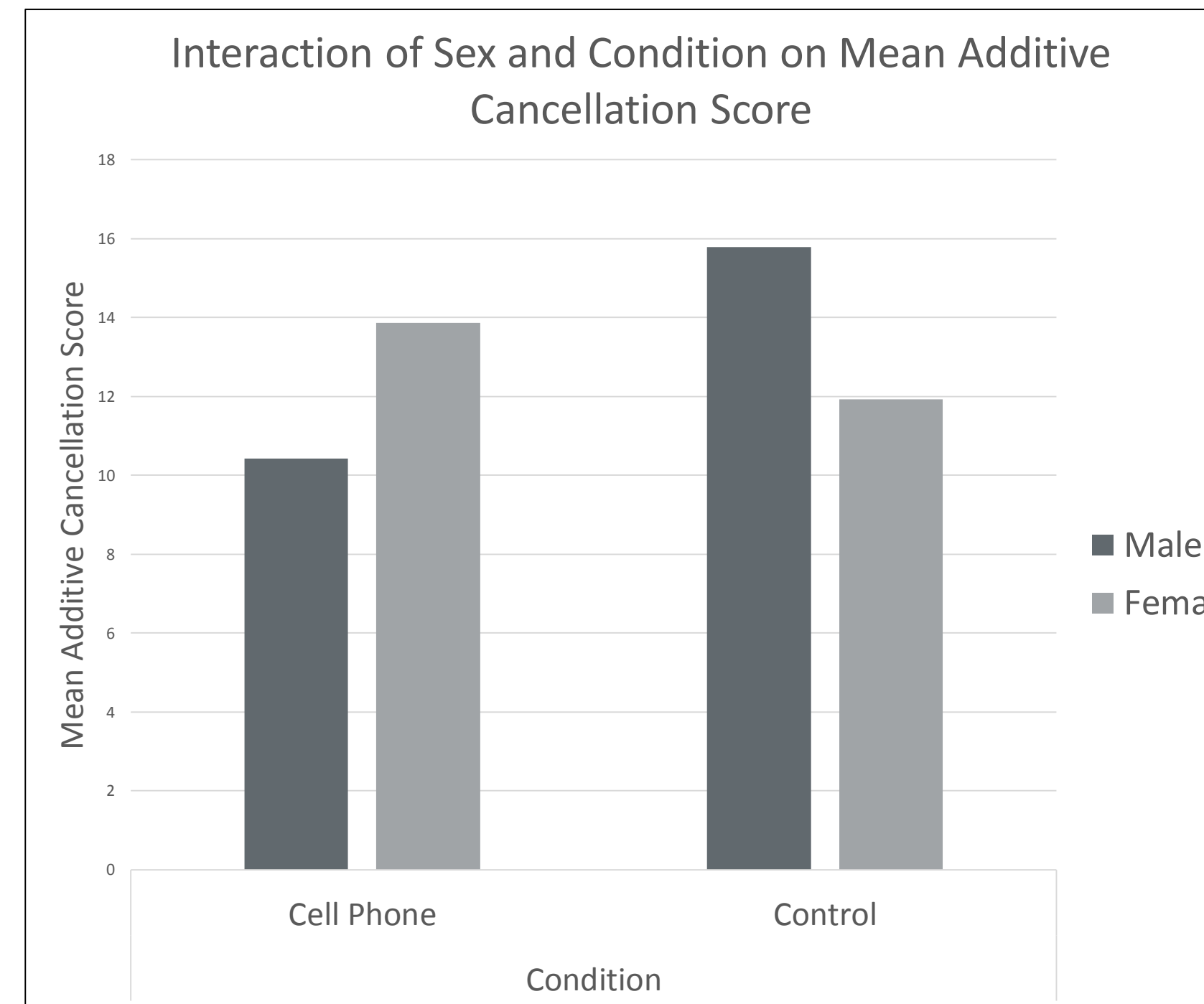
Results

Correlations

| | 1. | 2. | 3. | 4. | 5. |
|--------------------------------------|----|--------|------|-------|-------|
| 1. Age | 1 | -.279* | .067 | .025 | .112 |
| 2. Possession Scale | | 1 | .008 | -.131 | -.165 |
| 3. Additive Cancellation Lines | | | 1 | .814* | .146 |
| 4. Additive Cancellation Total Score | | | | 1 | .274* |
| 5. Trail Making B Test | | | | | 1 |

* Significant at the $p < .05$ level

** Significant at the $p < .01$ level



Sample Materials

Additive Cancellation Task

Additive Cancellation
Participant #:

As you begin a new row, circle the target number, and then cross off any pairs of numbers that add up to the target number.

Target number
10

Trail Making Test Part B

Possession Survey

Please respond to each item by writing the number that best represents your feelings, using the following scale:

1-----2-----3-----4-----5
Strongly Disagree Disagree Neither Agree nor Disagree Agree Strongly Agree

1. I would feel lost if I didn't have a cell phone.
2. I would feel uncomfortable if I didn't have my phone with me.
3. I would feel detached from my friends if I didn't have a cell phone.
4. I would rather lose my wallet than my cell phone.
5. I feel momentarily distressed if I realized that I am without my phone while I am out and about.

Results

Correlations:

Younger students scored higher on the Possession scale. There were no correlations between the Possession Scale score and any other variable. The scores on the cognitive tests were correlated with each other.

Hypothesis tests:

- Main effect of presence of cell phone: No difference between groups on additive cancellation task or Trail Making B.
- Interaction of sex and condition: Males performed better in the control condition, and females performed better in the cell phone present condition ($F(1, 53)=7.39, p=.009$.)

Discussion

- The results of this study did not replicate the finding from Thornton, et al (2014).
- The main difference is that these participants did not perform more poorly with their cell phone present.
- In addition, there was an interaction with sex in this study, which was not present in the Thornton et al (2014) study.
- These findings suggest that cell phones are not as distracting as the original study suggested. It is possible that cell phones were distracting at the time of the original study, but students have adapted to them.

Reference

Thornton, B., Faires, A., Robbins, M., & Rollins, E. (2014). The mere presence of a cell phone may be distracting. *Social Psychology*.