

APA citation of journal article:

Wechsler, K., Drescher, U., Janouch, C., Haeger, M., Voelcker-Rehage, C., & Bock, O. (2018). Multitasking During Simulated Car Driving: A Comparison of Young and Older Persons. *Frontiers in Psychology, 9*, 910. <https://doi.org/10.3389/fpsyg.2018.00910>

The Basics:

1. What was the broad question being asked by this research project? What was the specific question being asked by this research project?
 - a. Summarize the background information on the research topic in three sentences.
 - b. What is the gap in the literature identified by the researchers? What question(s) are they trying to answer? What is their hypothesis and what should happen if the author's hypothesis is true?
 - c. What are alternative hypotheses?

The study compared the ability of the young and the old to multitask while driving. The researchers believe that an increase in age is correlated with decline in cognitive ability, such as working memory capacity and attention span. They hypothesized that the old will perform worse in driving when engaging simultaneously in multiple tasks that adds on to their cognitive load in comparison to their younger counterparts.

2. What experiments were done to test the hypothesis or investigate the research question?
 - a. Explain the task design – what are participants instructed to do and what is being measured? Think about the independent and dependent variables.

Young and older adults were recruited in this study. They were asked to simulate driving in a simulator while performing different cognitive loaded activities.

3. What evidence supports each of the conclusions?
 - a. Before you read the discussion, summarize the main findings and link each one back to the research question(s). How does each result inform the hypothesis?

The result shows that both the young and the old were impaired in their driving when multitasking. However, such effect was more salient in older adults. The older adults were more likely to make mistakes driving, and they perform poorer in some cognitive tasks. This supported the hypothesis that aging deteriorates people's ability to multitask.

4. What are the major conclusions?
 - a. What do the results add to the field? How do the researchers interpret their findings? Summarize any limitations identified by the researchers.
The results confirm existing theories regarding the impact of aging on working memory capacity. The study adds to the field because little research has been done on multitasking; most focused only on single and dual-tasking.

The Critique:

1. Is the paper well written? How do you know? For week 2 & later, use this space to practice headlines & summaries of the articles via tweets.
#Tell Grandpa to turn off the radio before driving
#Is educating your children while driving a good idea?
#Don't try to memory calculus while driving: you won't remember much
2. Do the conclusions seem logical given the data processed? Why or why not? Another way of thinking about this: do the results adequately support the conclusions that are drawn? Are there alternative explanations for the findings? What inferences about the hypotheses and questions can be made based on these results?

The conclusions are very logical. It would be interesting for them to explore why the difference in cognitive ability of the young and the old differ in some cognitive tasks but not others.

3. Are the conclusions important? How do you think this relates to everyday behavior?

The conclusions are pretty important. This study could be used to educate the mass on the potential danger of multitasking while driving.

4. What were the best aspects of the research presented, and how could the research be improved? Name at least one way to improve the experiment.

The experiment didn't really ask the participants to multitask. They were only performing another task in addition to driving at a given time. Maybe future studies can implement true multiple tasks while driving.

5. How would you follow-up this experiment or study?

Keep up with the research of the authors.

Additional Resources: What are the basic concepts that you need to know to understand the science presented in your paper? What other information or resources would help you better understand the paper? This is helpful to consider for your science communication pieces. It would be better to understand the concepts of cognitive load and working memory.

Further Questions:

Write at least five comments or questions about the article to discuss with the class.

1. Why did the older adults exhibit declines abilities in some cognitive tasks but not others?
2. This study really tried hard to mimic real life scenarios
3. Did they find sexual differences?
4. This is such an interesting study!
5. Does task-switching impact driving in addition to dual tasking?