**Debriefing Form**

Thank you for participating in our cognitive psychology experiment! The goal of this study is to understand how performance on various cognitive tasks fluctuates and changes over the course of time. Our main cognitive interest is **episodic memory**, which is the ability to remember details of previously experienced events. We know that it takes effort to learn new things, and to remember things when tested, but we still don’t know much about when our learning and memory is optimal. Understanding the optimal conditions for learning and remembering has exciting implications, both at an individual level and at a structural level.

An important element to both learning and memory is our **sustained attention**, our ability to hold our attention to a particular thing or set of things. Sustained attention and learning ability go hand in hand- when sustained attention is high, learning performance is high. Based off previous research, we know that sustained attention gradually gets worse over time. *Therefore,**we hypothesize that learning performance may lower over time.* Think of a lecture- it’s difficult to hold your attention for the full 1-3 hours, and you may have to go back to relearn some of the later materials shown in the lecture. On the other hand, the relationship between sustained attention and memory has not been studied, so we don’t have clear predictions like the ones we have with learning. But we do know from that memory performance can improve over small periods of time. Previous studies from our lab have shown that when you remember something in one moment, you are more likely to correctly remember an unrelated complex memory in the next moment**.** For example, say you are at the store and see a face of someone you recognize from class. According to our data, right after you recognize that person, your ability to remember what you needed from your grocery list is better. Based off this, *it seems like memory performance may build over time,* as opposed to how learning decreases over time.

In our study, we tested cognitive performance on 4 tasks: shape counting, learning (size discrimination), arithmetic, and memory. Shape counting was included as a task that had similar attentional features to learning, but did not require later memory. Arithmetic was included as a task that had similar attentional features to memory. The purpose of these tasks was to explore whether learning and memory have distinct relationships between performance and time that are different from similar attention-based tasks. The *dependent variable* in these tasks was performance. The *independent variables* were time (how far along in the task you were) and the task you were completing. We will analyze how performance in each of the tasks changes over time. We hypothesize that learning performance may decrease over time and that memory performance may increase over time.

We additionally asked you to fill out a questionnaire about your **media consumption habits**. Our overall attentional habits differ from person to person, and we hypothesize that people who reported more multitasking during media consumption may show more variable cognitive performance over time compared to people who don’t multitask as much. The *dependent variable* in this case is also performance, and the *independent variable* is media consumption multitasking habits.

If any of this is unclear, if you have any questions or concerns not answered here, or if you would like to receive a report of the study findings when it is complete, please feel free to contact the lead researcher, Matthew Dougherty at [matthew.dougherty@mail.utoronto.ca](mailto:matthew.dougherty@mail.utoronto.ca).

**Important Note**

In order to maintain the integrity of this study, please do not discuss your experiences in the experiment with other students or individuals who could potentially be a participant in the future. If others know the details of the study before participating, it will affect our results in unexpected ways that we will not be able to control for.

**References**

Decker, A. L., Duncan, K., & Finn, A. S. (2023). Fluctuations in Sustained Attention Explain Moment-to-Moment Shifts in Children’s Memory Formation. *Psychological Science*, *34*(12), 1377–1389. https://doi.org/10.1177/09567976231206767

Patil, A., & Duncan, K. (2018). Lingering Cognitive States Shape Fundamental Mnemonic Abilities. *Psychological Science*, *29*(1), 45–55. https://doi.org/10.1177/0956797617728592

\*\* More information about this area of research – memory – can be found in your psychology textbook: *Discovering Psychology: The Science of Mind* in **Chapter 9: The Knowing Mind: Memory**.