**Real Title Here**

**Working Memory**

Human society has used working memory since the beginning of existence. For clarification, working memory can be defined as: the processes involved in examining, considering, manipulating, and responding to internal and external events (Robinson-Riegler, G., & Robinson-Riegler, B., 2004).

**Measurement of Working Memory**

The best way to test working memory is to use an operation task (OSPAN) created by Turner and Engle (1989). Turner and Engle have written multiple papers on their validity and reliability of the OSPAN. Besides the creators of the task, Klein and Fiss (1999), also tested the validity and reliability of it to an astounding .78 alpha coefficient average. The only “bad” thing Klein and Fiss had to say was within their error, they used the same participants, so the participants may have had test-retest correlations from the three times they redid the OSPAN.

**Fluid Intelligence**

There are of course more factors that work into how much you can hold in your working memory that could affect the way you think. One of focus is fluid intelligence (*Gf*). Jaeggi, S., Buschkuehl, M., Jonides, J., & Perrig, W., (2008) classify *Gf* as a human ability that allows participants to adapt their thinking to the problem at hand regardless of acquired knowledge. In their research they wanted to improve *Gf* by having their participants work through working memory tasks over time because they share a common capacity constraint. The idea of a capacity constraint is by the number of items held in working memory. This construct is much like George Miller’s “magical number”, 7 +/- 2. Jaeggi et al. argues that because working memory and *Gf* use similar neural networks, they have a shared variance (Kane, M., & Engle, R., 2002; Gray, J., Chabris, C., & Braver, T., 2003). Jaeggi et al. accomplished their goal by using a training intervention on working memory over time and it did improve the *Gf* of their participants, *F*(3, 29) = 8.93; *p* < 0.001; ηp2 = 0.48.

**Measuring Fluid Intelligence**

The most common practice when it comes to testing *Gf* is using the Raven’s Advanced Progressive Matrices (RAPM or APM). This is where participants are given a number of difference diagrams with different lines and shapes and they have to distinguish which image would come next. The APM has been tested within a range of groups across geographic boundaries, and it still shows great reliability ranging from a .76 to .91 (Raven, 1990; Mills, C. J., Ablard, K. E., & Brody, L. E., 1993). Gray, J., Chabris, C., & Braver, T. (2003) wanted to experiment and see what the neural mechanisms of *Gf* would show using the RAPM. They specifically did this by using the RAPM to test what a participant’s *Gf* was outside of an fMRI. Gray et al. had three different types of trials to test their computerized system; those were a target, lure, and nonlure. The participants were supposed to match the targets, but lures were placed to get the participants to choose those instead. Their results found that those with a higher *Gf* outside of the fMRI correlated with their accuracy scores on the lure trials (*r* = 0.36, *p* < 0.001).

**Expertise**

The last construct that may affect your working memory or fluid intelligence is expertise. Gobet, F. and Ereku, M. (2016), spoke of Dreyfus and Dreyfus (1988) paper where they categorized expertise as, “fluid, automatic behavior without any conscious control,” which is how anyone should think of it. Although there is not a good overall way to test if someone has expertise, most articles just use a median split to separate participants into a novice group, or an expert group (Sattizahn, J.R., Moser, J.S., & Beilock, S.L., 2016). This may not be the best way to show or categorize a person’s expertise, but it is the best we have currently available and that has been used in research. With these three constructs combined, they could help shape how things may get stored in our short term or long-term memory. They each play an important part in how we view the world around us and evaluate everyday situations.

**Interplay between these systems**