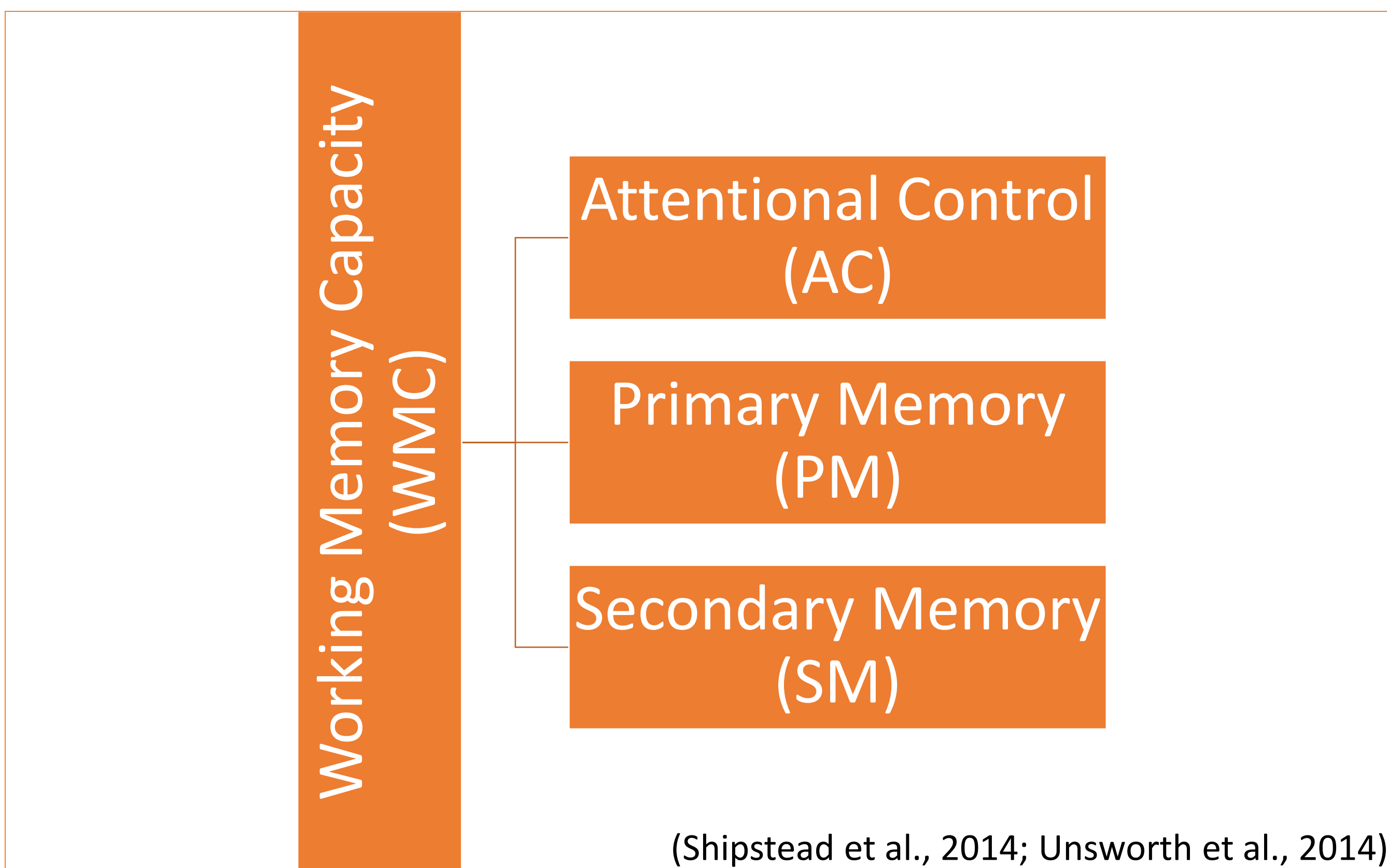


Investigating Which Cognitive Processes Are Assisted by Viewing Virtual Nature

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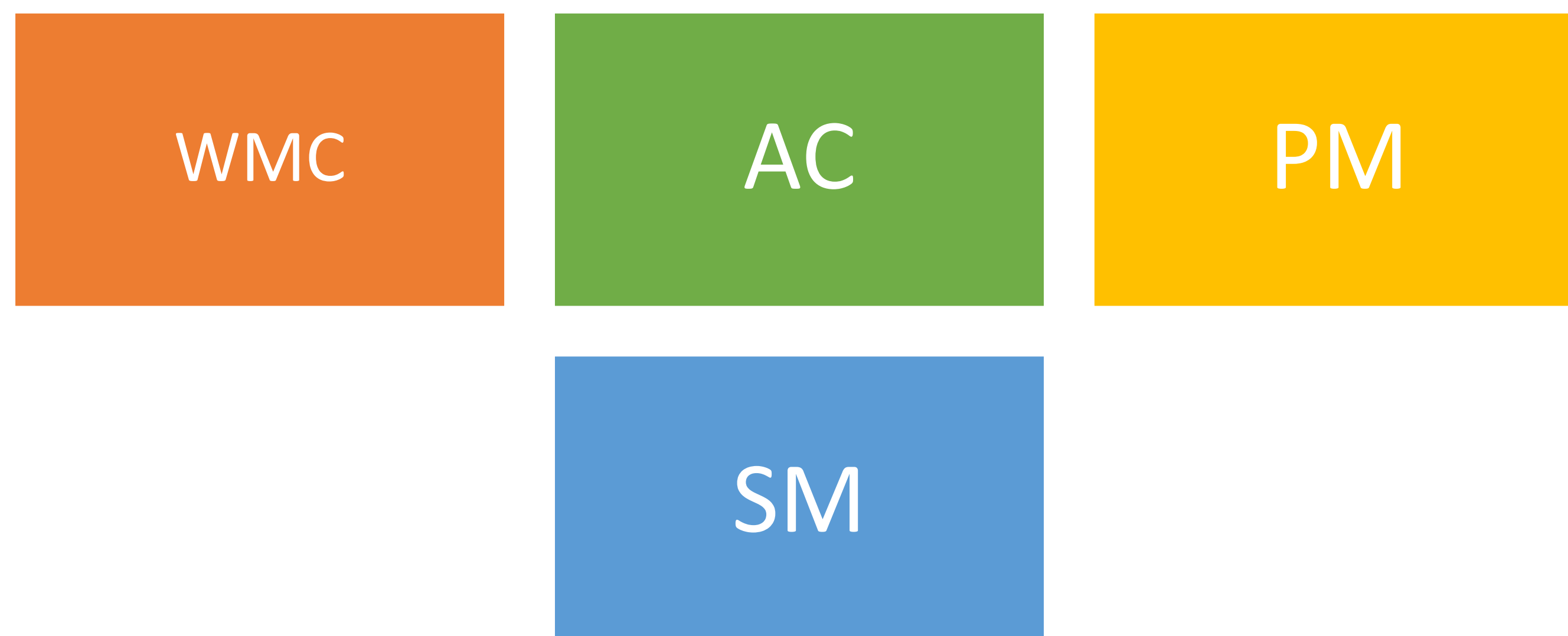
Background:

- *Attention Restoration Theory (ART) states cognition benefits while in nature* (Kaplan, 1995)
- Mixed results of which cognitive processes are benefited (Stevenson et al., 2018)
- Results showed Working Memory Capacity and Attentional Control
- Possible that one component of WMC is benefited from viewing nature compared to others



Research Questions:

Does viewing nature provide benefits to –

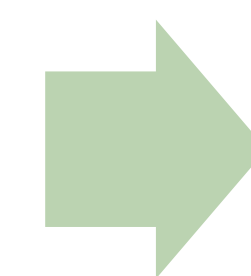


Methods:

- 249 MSU participants recruited online
 - 85 completed the WMC tasks
 - Rotation Span, Symmetry Span
 - 90 completed the AC tasks
 - Antisaccade, Flanker DL
 - 74 completed the Memory (PM/SM) tasks
 - Recognition (PM/SM), Digit Span (PM), Continuous Paired Associates
- Tasks selected based on Shipstead et al. (2014) tasks
- Completed online- Klingon letters and numbers used to reduce cheating (Hicks et al. 2016)
- Factors between subject and nature vs. urban images within, controlling for preference
- 40 nature (Szolosi, et al., 2014) and 40 urban (Berman et al., 2008)



Nature or Urban Image (10 seconds)



Block of Task Trials

Results:

Only AC and SM tasks had better performance on nature trials.

Factor Tasks	Effect	df	F	p	η_p^2
WMC	Image	1, 84	>.001	.987	>.001
	Image x Task	1, 84	.460	.499	.005
AC	Image	1, 89	5.567	.020*	.059
	Image x Task	1, 89	1.926	.169	.021
PM	Image	1, 73	.281	.597	.004
	Image x Task	1, 73	.191	.664	>.001
SM	Image	1, 73	6.123	.016*	.077
	Image x Task	1, 73	2.537	.116	.034

Only AC tasks had better performance on nature trials after controlling for preference.

Factor Tasks	Effect	df	F	p	η_p^2
AC	Image	1, 74	3.975	.049*	.051
SM	Image	1, 62	.150	.700	>.001

Note. * = $p < .05$

Conclusions:

- Overall effect of nature
 - However, only significant in AC and SM
 - AC remains when controlling for preference