

Michelle W. Voss, PhD,

Assistant Professor in the Department of Psychological and Brain Sciences at the University of Iowa, received her Ph.D. in Psychology from the University of Illinois at Urbana-Champaign.

She directs the Health, Brain, and Cognition Lab at the University of Iowa. With funding from the NIH National Institute on Aging, her lab investigates the effects of interventions, such as physical activity, exercise, and cognitive training, on structural and functional brain systems critical for cognitive abilities that decline with aging like episodic memory. Methodologically, her lab applies magnetic resonance imaging (MRI) to assess the specificity of aging and exercise effects across anatomically distinct brain regions and networks. Results from her research support specificity in how exercise benefits brain systems negatively affected by aging. For instance, benefits are not global across frontal and temporal lobes, and instead networks involving specific sub-regions of the hippocampus, insula, and prefrontal cortices are affected by greater cardiorespiratory fitness and aerobic exercise. Current projects are investigating the timescale of these changes and the mechanisms underlying their specificity. Progress in detecting early decline in brain structure, function or performance, and how these may be non-pharmacologically stabilized or reversed, will lead to theoretical insight on how such plasticity is possible and inform prevention strategies.

Dr. Voss will give a speech on "*Exercise to slow brain and cognitive aging: key mechanisms and moderators*".