The Psychology Department in the College of Science presents a colloquium by

Dr. Charles Hillman
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“Run for your life! Physical Activity, Brain, and Cognition in Children”

There is a growing public health burden of poor health behaviors (e.g., physical inactivity, excessive energy intake) among children of industrialized nations. Children have become increasingly inactive, leading to concomitant increases in the prevalence of being overweight and unfit. Poor health behaviors during childhood often track throughout life and have implications for the prevalence of several chronic diseases during adulthood. Particularly troubling is the absence of public health concern for the effect of poor health behaviors on cognitive and brain health. It is curious that this has not emerged as a larger societal issue, given its clear relation to childhood obesity and other inactivity-related disorders that have captured public attention.

My research program has investigated the relation of health behaviors (e.g., physical activity, diet) and their related physiological correlates (e.g., aerobic fitness, adiposity) to cognitive and brain health across the human lifespan, with particular interest in preadolescent childhood. My techniques of investigation involve a combination of neuroimaging (i.e., electroencephalography [EEG], magnetic resonance imaging [MRI]), behavioral assessments, and scholastic achievement in an effort to translate basic laboratory findings into everyday life. Central to this translational approach is the identification of etiological substrates of brain regions and networks that are susceptible to health behavior intervention. As such, the overarching goal of my research is to determine factors that improve cognition, maximize health and well-being, and promote the effective functioning of individuals as they progress through the lifespan. Findings from my studies have indicated that greater aerobic fitness, healthy body weight, and diet quality are positively related to brain structure and function, cognition, and scholastic achievement. Such discoveries are timely and important for public health concerns related to chronic disease prevention as a function of childhood inactivity and obesity. These findings link pervasive societal concerns with brain health and cognition, and have implications for the educational environment and the context of learning.

Thursday, December 1, 2016 at 4pm
Refreshments served at 3:45
415 Shillman Hall