Title: Does Exercise Influence Cognitive Difficulties in West Virginia?

Author: Ethan J. Boddy

Background/Purpose: Many adults experience difficulty concentrating, remembering and making decisions (Geda et al., 2010). Rural adults are often insufficiently physically active (Frost et al., 2018). A promising method of supporting cognitive health may be to increase cardiovascular activity in an individual's lifestyle.

Methods: Using West Virginia data from the 2020 Behavioral Risk Factor Surveillance System (BRFSS), we conducted a cross tabulation examining physical activity and cognitive difficulties among 1174 younger adults (ages 18 to 44 yrs.), 1893 middle-aged adults (45 to 64 years), and 1617 older adults (ages 65+ years). Of note, 14% of younger, 16% of middle-aged, and 11% of older adults reported difficulty with cognition.

Results: The overall test was significant, $\chi^2(1, N = 4895) = 92.39, p < 0.001$. Most (89.5%) of those who exercised did not report cognitive difficulties. This result was robust across all three age groups.

Conclusions: Physical activity throughout life can be beneficial to cognition. That younger adults reported such high cognitive difficulty requires more investigation. Identifying ways to encourage exercise may be especially important for rural adults.