

## What Are the Correlations Between Muscle Strength, Motor Coordination, and Daily Function of the Upper Extremities in Older Adults?

**Keishona Roby**<sup>1,2</sup>, Chiung-ju Liu<sup>2</sup>, and Alyssa Gutierrez<sup>2</sup>

<sup>1</sup>Ivy Tech Community College; <sup>2</sup>Department of Occupational Therapy, Indiana University School of Health and Rehabilitation Sciences

Muscle strength is a basic body function needed to perform everyday activities. Therefore, age-related decline in muscle strength may impair older adults' independence at home. Age-related decline in muscle strength occurs in the lower and upper extremities. The literature has shown a strong correlation between the loss of muscle strength in the lower extremities and mobility disability. However, little is known about the loss of muscle strength in the upper extremities and daily function. The purpose of this study is to estimate how muscle strength relates to motor coordination and daily function in the upper extremities of older adults. We plan to recruit 50 community dwelling older adults without major neurological disorders in a cross-sectional study. We have tested 18 participants (36% of our expected total) with an average age of 69 (SD = 4.5). Participants tested so far include 6 males and 12 females, in which 7 were African American and 11 were Caucasian. The average grip strength was 23.6 kg (SD = 10.1). The average number of arm curls done in 30 seconds were 12.7 (SD = 4.4). The average score from the Purdue Pegboard was 9.7 (SD = 1.9). The average score of the upper extremity function measure by the Late Life Function & Disability was 74.1 (SD = 13.8). The correlations among variables will be calculated when we reach the recruitment goal of 50 participants.

Mentor: Chiung-ju Liu, Department of Occupational Therapy, Indiana University School of Health and Rehabilitation Sciences, Indianapolis, IN