

## **Relationship Between BMI and Bilateral Coordination/Agility in Youth (7-21 yrs) with Intellectual Disability**

**Chantal Prester,\* Carolyn Binter, Brianna Huynh, Brittany McGeary, Elnaz Pashezadeh**

**Faculty: Ken Pitetti**

*Department of Physical Therapy, College of Health Professions*

Previous studies of typically developing children have reported significant negative relationships between motor capacity (MC) and body mass index (BMI). That is, the greater the BMI (e.g., overweight, obesity), the lower the scores on tests measuring MC. The purpose of this study was to determine if this relationship exists among children, adolescents, and young adults (7-21 years) with mild to moderate intellectual disability (ID) but without Down syndrome. Body mass index (BMI,  $\text{kg/m}^2$ ) was determined by height and weight measurements on the day of testing and participants were classified as normal weight (NW), overweight (OW), and obese (OB) using international cut-off points for BMI from Cole et al. (2000). Participants included 222 males and 108 females, ages 8-21 years, with ID. The Bruininks-Oseretsky Test of Motor Proficiency (BOT-2) was used to measure three tests for bilateral coordination (jumping jacks, jumping in place same sides and jumping in place opposite sides synchronized) and one test for agility (stepping sideways over a balance beam). An analysis of covariance (ANCOVA) controlling for age was performed to determine if motor performance differences existed between BMI classifications for each of the 4 test items. Male and female participants were evaluated separately. For both male and female participants, no significant differences were seen among BMI weight classifications. These results suggest that for clinicians, when evaluating the MC of youth with ID but without DS for bilateral coordination and agility, BMI weight classification should not affect outcome measurements.