Examining the Influence of Social Behavior on Motor Skills During Physical Activity in Children with Physical Disabilities
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Background
Children with physical disabilities typically participate in physical activities that are aligned with their function. As a result, children with physical disabilities engage in solitary activities more often, leaving little room to practice age-appropriate social behaviors during physical activity with peers1. Emerging literature supports the prescription of participation-based physical therapy for children with physical disabilities to achieve certain goals, such as improving motor skills2. This is a more psychological approach to physical therapy to increase function, as enjoyable participation proves to increase motivation, social skills and self-efficacy3. Communication and physical ability serve as significant determinants of physical activity participation for children with disabilities4. Motor skill proficiency is strongly correlated with a child’s physical activity (PA) level and children with physical disabilities are less physically active compared to typically developing children4. Participation-based therapy assumes that physical therapists support social environments to achieve a child’s personal goals. However, relations between social behaviors and motor skills during physical activities have been underexplored. We need to understand the mechanism behind social influence in order to further guide and support physical therapy’s participation-based treatment.

Purpose
The purpose of this investigation is to examine the relationship between social behavior and motor skills performance during PA in children with physical disabilities, in order to further guide and support participation-based therapy methods.

Hypothesis
I hypothesize that social behaviors will have a positive correlation with motor skill performance during a structured physical activity setting.

Methods
- **Design:** Observational/Cross Sectional.
- **Participants:** 10 children with disabilities ages 5 to 18 years of age were directly observed during a structured, 10 minute motor-skill based physical activity opportunity during their weekly adapted physical activity program, IMPACT*.
- **Procedure:** Participants were videotaped and later, and scored on the frequency that the child engaged in social interaction with peers and the number of times the child attempted a motor skill.

**Motor Skills Observed:**
- Running
- Jumping
- Kicking
- Catching
- Throwing

*IMPACT: “Individualized Movement and Physical Activity for Children Today” is an adaptive fitness program for children with disabilities. Each child has an assigned student volunteer who assists them through the activities in order to ensure safety and achieve attaining individualized goals.

**Motor Skill Activity:** These children engaged in a motor activity in a circuit setting consisted of 5 stations. Each station focused on 1 of 5 motor skills: running, jumping, kicking, throwing and catching. The goal of this activity is for each child to attempt a motor skill about 3 to 5 times at each station before the music cued them to rotate.

Results
- **Figure 3** shows that Subject A spent 18% performing motor skills and 4% socially interacting with peers during the activity. Subject B spent 54%. 3% performing motor skills and 4.3% socially interacting with peers during the activity.
- A Pearson’s correlation coefficient was computed to assess the relationship between motor skill performance and social behavior. This computation included all subjects:

**Correlation Analysis:** There was no correlation between the number of skills performed per minute during the activity and the percent of total visible intervals in which child interacts with peer, r=.316, n=10, p=.373.

**Figure 4** shows the correlation table.