### Purpose
- Physical therapy (PT) school-based services support educational programs of children in the United States (US) & other countries, however minimal evidence exists on effectivenes.
- We examined relationships of school-based PT to student change using Goal Attainment Scaling (GAS) and standardized change using the School Function Assessment (SFA).

### Hypothesis:
- PT service amount & type, activity focus, & interventions will predict GAS & SFA outcomes.
- Knowing relationships of student outcomes & PT services should influence practice & research worldwide.

### Measures
- **GAS goals**
  - Individualized Education Plan student goals were converted into sub-goals using GAS. Researchers categorized goals into posture/mobility, recreation/fitness, self-care, & academic categories. Therapists identified a primary goal for the year.
  - Dichotomized GAS scores for goal categories into: score of +1, +2 (> goal expectation, n=198) & 0, -1, -2 (met or < goal expectation, n=106).
  - Variables included in logistic regressions were selected based on services that differed between students who exceeded expected goal attainment and students who did not.
- **SFA**
  - Criterion-referenced, standardized, judgment-based measure of child’s participation in school environment, grades Kindergarten through 6th grade.
  - Divided SFA Criterion Change Score into: SFA -5 (n=9-14); -5 to 5 (n=151-157); +5 (n=123-134).
  - Variables included in multiple regression were selected based on services by sub-section that differed between students whose criterion change score was >5 & students whose score was -5 to 5.
- **SPTIP**
  - Form & manual to record PT services (http://www.mc.uky.edu/healthsciences/grants/ptcounts)
  - Service to the student: Time in activities, types of interventions, how/where services provided, student engagement in therapy
  - Service on behalf of the Student: Inservice, consultation/collaboration, curriculum development, documentation

### Results: GAS Goals
- **Student whose GAS score >=1 (p<0.05)**
  - **Posture/mobility goals**: More self care activities & greater minutes on behalf of the student associated with GAS >=1
    - Increase of 100 minutes of services on behalf of the student, increased odds of exceeding goal by 24%
    - Increase of 100 minutes of self-care activities, increased odds of exceeding goal by 380%
  - **Recreation/Fitness goals**: Greater use of functional strength & mobility for playground access and cognitive behavioral interventions with GAS >=1
    - Increase in functional strength & mobility for playground access, increase odds of exceeding goal by 5.6%
    - Increase in cognitive/behavioral, increase odds of exceeding goal by 8.8%
- **Self-care and academic goals**: No regression analyses due to small n, instead group comparative analyses
  - Self-care goals - more neuromuscular interventions & PT time with other students present; less documentation time with GAS >=1
  - Academic goals - more mobility interventions with GAS >=1

### Results: SFA
- **Student whose SFA criterion change scores >5 had**: (p<0.05)
- **Participation**: Higher average number of mobility interventions
- **Mobility Composite** (Travel, Maintaining & Changing Position, Manipulation with Movement):
  - Higher average number of mobility assistive interventions, higher total counts of motor learning & aerobic/conditioning interventions, & higher student engagement in therapy sessions
  - Lower PE/recreation activity minutes & lower frequency of positioning interventions
- **Recreation**: Higher total counts of mobility for playground access interventions, total counts of sensory processing interventions, & higher student engagement in therapy sessions
- **Lower average number of orthoses & equipment interventions**
- **ADL Composite** (Clothing Management, Eating & Drinking, Hygiene):
  - Higher average number of mobility & motor learning interventions

### Conclusions
- **GAS**: Students who improved most received more self-care activity, services on behalf of the student, & functional strength, playground access, cognitive/behavioral interventions.
- **SFA**: Students who improved most on SFA had more time spent on active practice that facilitated mobility in the school environment and higher student engagement in therapy sessions.

### Clinical Relevance
- Therapists should consider: time spent on behalf of students; a focus on active mobility practice in school environments utilizing motor learning intervention, increasing endurance, & engaging students in therapy

### Methods
- **Parent-reported data**
  - Students (n=296)
  - Female Gender, n (%) 130 (44%)
  - Age, Mean (SD) 7.3 (2.02)
  - White, n (%) 213 (72%)
  - Hispanic/Latino Ethnicity, n (%) 51 (17.6%)

- **Completed GAS, SFA & School Physical Therapy Intervention for Pediatrics (SPTIP)** training
- **Measured GAS goals & SFA on 1-6 students**
- **Completed SPTIP weekly for 6 months**
- **Rescued GAS goals & SFA on same students**
- **Researchers used group comparisons & regression statistics to examine relationships of services to outcomes**

### Participants
- Physical therapists from across the US

### Results
- **Students (5-12 years-old) who received PT**
  - Gender, n (%)
    - Female 105 (95.5%)
    - White 105 (96%)
  - Age, Mean (SD) 7.3 (2.02)
  - White, n (%) 213 (72%)
  - Hispanic/Latino Ethnicity, n (%) 51 (17.6%)

### References

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