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# **Positive Impacts of Playworks on Students' Healthy Behaviors: Findings from a Randomized Controlled Trial**

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**MATHEMATICA**  
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# Study Team

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# A Brief Introduction to Playworks

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- **Playworks places full-time coaches in low-income schools to provide opportunities for organized play throughout the school day through**
  - Organized recess activities
  - Class game time
  - Junior coach program
- **Playworks activities are designed to**
  - Encourage physical activity
  - Improve quality of play
  - Foster social skills
  - Improve ability to focus on class work
  - Decrease behavioral problems
  - Improve school climate

# Study Components and School Recruitment

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- **Two study components**
  - Impact study
  - Implementation study
  
- **School recruitment**
  - Targeted schools that were:
    - Eligible for Playworks ( $\geq 50\%$  of students qualify for free or reduced-price lunch)
    - Not currently implementing Playworks, but interested
  - **Multiple geographic regions across the United States**
  - **Study took place over two school years**

# Random Assignment

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- **29 schools from 6 cities recruited**
- **17 schools randomly assigned to the treatment group; 12 to the control group**
  - **Treatment group schools implemented Playworks during 2010–2011 (cohort 1) or 2011–2012 (cohort 2)**
  - **Control group schools were not eligible to implement Playworks until following year**

# Data Sources

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## ■ Impact Study

- Student surveys (4th- and 5th-grade students, N=2331)
- Teacher surveys (1st- through 5th-grade teachers, N=296)
- Administrative records
- Accelerometers (N=1579)
- Structured recess observations

## ■ Implementation Study

- Semistructured recess observations
- Class game time observations
- Interviews with teachers, principals, and coaches
- Focus groups with junior coaches

# Outcome Domains

- We examined the impact of Playworks on 10 domains:

Domains of Focus for Presentation	Additional Domains
Physical activity	School climate
Recess activities	Conflict resolution and aggression
Recess equipment	Learning and academic performance
Student interactions at recess	Youth development
Perceptions of recess	Student behavior

# Approach for Estimating Impacts

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- **We compared average outcomes in treatment and control schools using regression models.**
- **A multiple comparison adjustment was applied within each domain.**
- **Standard errors accounted for the clustering of students and teachers within schools.**
- **Weights were used in model fitting to account for sampling and nonresponse.**
  - **Unweighted impact estimates yielded similar results**



# Impacts on Physical Activity

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- **We found beneficial impacts of Playworks on:**
  - Accelerometer intensity counts recorded during recess\*
  - An accelerometer-based measure of time spent during recess in vigorously intense activity\*
  - The main recess activity in which students were observed to be engaged
  
- **We found no significant impacts on:**
  - Student and teacher reports about physical activity at recess
  - A measure of physical activity based on structured recess scans
  - The number of steps taken at recess (as measured by accelerometer)

\* Impacts were only marginally significant

# Impacts on Recess

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- **We found beneficial impacts of Playworks on:**
  - Staff participation in recess activities
  - The number of organized games at recess
  - The availability of recess equipment
  - Teacher-reported recess behavior and readiness for class
  - Teacher-reported student enjoyment of adult-organized activities during recess
  - Teacher-reported student ownership over activities during recess
- **We found no significant impacts on:**
  - Student interactions as measured by structured recess observations or the student survey
  - Student-reported enjoyment of recess

# Impacts on Other Domains

Domain	Key Findings
School climate	Improvements in teachers' perceptions of students' feelings of safety and engagement in inclusive behavior, teachers' reports of students using positive, encouraging language, and school staff support for organized play during the school day; no impacts on students' perceptions
Conflict resolution and aggression	Reductions in teacher reports of bullying and exclusionary behavior; no impacts on aggression or student-reported outcomes
Learning and academic performance	Improvements in the transition from recess to learning activities; no impacts on academic performance or student engagement with classroom activities
Youth development	No significant impacts
Student behavior	No significant impacts

# Summary

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- **We found significant, beneficial impacts related to physical activity, recess activities, recess equipment, recess behavior and readiness for class, perceptions of recess, school climate, bullying/exclusionary behavior, and the transition from recess to learning activities.**
- **We found little evidence of significant impacts based on student reports.**
- **No impacts were found in the youth development or student behavior domains.**

# For More Information

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- Reports available on the Mathematica website:

<http://www.mathematica-mpr.com/Education/playworks.asp>

- Contact Jane Fortson:

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# EXTRA SLIDES

# Outcome Domains

Outcome Domain	Key Constructs/Subdomains
Physical Activity	Intensity Counts Number of Students Taken Time Spent in Activity Groups Reports on Physical Activity During Recess Participation in Sports and Clubs
Recess Activities	Observed Recess Activities Student Reports on Recess Activities
Recess Equipment	Availability of Equipment Condition of Equipment and Recess Space

# Outcome Domains (continued)

Outcome Domain	Key Constructs/Subdomains
Student Interactions at Recess	Student and Teacher Reports of Conflict and Behavior During Recess Observed Behaviors During Recess
Perceptions of Recess	Student Perceptions of Recess, Sports, and Games Teacher Perceptions of Recess, Sports, and Games



# Outcome Domains (continued)

Outcome Domain	Key Constructs/Subdomains
School Climate	Sense of School as Community Student Safety/Inclusion Support for Organized Play
Conflict Resolution and Aggression	Relationships with Other Students Student Bullying/Exclusion Aggressive Behavior/Beliefs
Learning and Academic Performance	Transition from Recess to Class Engagement with Classroom Activities Academic Performance

# Outcome Domains (continued)

Outcome Domain	Key Constructs/Subdomains
Youth Development	Interactions with Peers and Adults Social Competence Responsibility and Altruism
Student Behavior	Classroom Behavior General Behavior Attendance Discipline

# Random Assignment/Blocking

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- **Blocking**
  - Within each city, schools were grouped into blocks of 2, 3, or 4 schools based on school-level characteristics
  - Blocking improves precision and reduces chance differences between treatment and control groups at baseline
- **Random assignment was conducted within blocks**
  - For blocks of 2 schools, 1 assigned to treatment and 1 to control
  - For blocks of 3 schools, 2 assigned to treatment and 1 to control
  - For the block of 4 schools, 3 assigned to treatment and 1 to control

# Sampling for Student and Teacher Surveys

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## ■ Student Surveys

- 30-minute survey administered during the school day
- 5 classrooms randomly selected from each school
- Balance of 4th- and 5th-grade classrooms across schools

## ■ Teacher Surveys

- 50-minute self-administered survey
- 15 teachers (from grade 1 through grade 5) randomly selected from each school (3 per grade)
- 5 students from each teacher's classroom (balanced by gender) were randomly selected and asked about in second part of the survey