Randomized Trial Testing The Integration of the Good Behavior Game and MyTeachingPartner™: The Moderating Role Of Distress Among New Teachers On Student Outcomes

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Supported by IES Award R305A130107
Journal of School Psychology, 78 (2020) 75–95
Background

- Growing body of research documents effects of classroom management programs on range of student outcomes (Bradshaw et al., 2009; Greenberg et al., 2003; Petras et al., 2011)

- New/early teachers often have no direct training on classroom management, and express concerns about handling student disruptive behavior (Browers & Tomic, 2000; Greenberg, Brown, & Abenavoli, 2016)

- Early career teachers may be more amenable to training, innovations, and feedback

- Major areas of need for PD of new teachers: classroom behavior management, classroom organization, positive and engaged relationship around learning among teachers and students (Ialongo et al., 1999; Oliver & Reschley, 2007; Pianta et al., 2007)
Three Major Aims

• Combine 2 empirically supported approaches (GBG and MTP) for improving classroom management and teacher-student relationships
  – Both have previously been shown to impact student behavior and achievement

• Focus on new/early teachers to promote effective practices from the start

• Test for moderation of program effects by teacher (distress) and class characteristics (student disruption)
Supporting Classroom Management and Instruction

Integrating Two Evidence-Based Interventions

- Good Behavior Game (GBG)
  - Classroom Management System
- My Teaching Partner (MTP)
  - Enhancing Teacher-Student Interactions
Good Behavior Game (GBG)

- Group-based classroom behavior reinforcement approach

- Teams of students “compete” for rewards for staying on task, minimizing disruptive behaviors during class instruction

- Facilitates academic instruction opportunities/time through increased student inhibition and reduced distracting behaviors

(Bradshaw et al., 2009; Ialongo et al., 1999; in press; Kellam et al., 1998; Petras et al., 2011)
MyTeachingPartner (MTP) Coaching Model

- One-on-one, video-based coaching mediated through the web
- Focuses on facilitating teacher-student interactions that are emotionally supportive, well-organized, and cognitively enriching
- 8-10 cycles per year

(Pianta et al., 2007)
Study Design: Teacher-level Randomized Trial

• Enrolled 3 cohorts of teachers for 2 years each
  – Annually enrolled an average of 75-80 K-3 new/early career teachers

• Eligible teachers (1\textsuperscript{st} - 3\textsuperscript{rd} year teachers)
  – Hired to start full-time classroom instruction for grades K-3 in the fall
  – Completed at least bachelors in education; eligible for certification
  – All served urban, relatively impoverished communities

• Participate for 2 years
  – 1\textsuperscript{st} year: coaching
  – 2\textsuperscript{nd} year: sustainability

• Student data at class level
  – 8-10 students randomly selected from each class for assessment
Measures for Present Study

- **School Characteristics:** Total student enrollment, racial/ethnic breakdown, percent free/reduced lunch

- **Teacher Characteristics:**
  - Demographics, Professional Experience & Level of Education
  - Distress About Teaching

- **Classroom Behavior (Observations):**
  - Level of Student Disruptive Behavior
  - Level of Off-Task Behavior
  - Student Compliance with Teacher Directions

- **Academic Achievement:** Woodcock Johnson Reading and Math
## Training Year Timeline

<table>
<thead>
<tr>
<th>GBG + MTP Teachers</th>
<th>Control Teachers</th>
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</thead>
<tbody>
<tr>
<td><strong>1. Fall Assessments</strong> <em>(Aug. – Oct.)</em></td>
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<tr>
<td>- Classroom Observations</td>
<td>- Classroom Observations</td>
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<tr>
<td>- Teacher Ratings</td>
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<tr>
<td>- Student Assessments</td>
<td>- Student Assessments</td>
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<td><strong>2. Random Assignment to Condition</strong> <em>(Oct.)</em></td>
<td><strong>2. Random Assignment to Condition</strong> <em>(Oct.)</em></td>
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<tr>
<td><strong>3. GBG+MTP Teacher Training</strong> <em>(Oct.)</em></td>
<td><strong>3. Spring Assessments</strong> <em>(May)</em></td>
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<td><strong>4. Intervention Implementation</strong> <em>(Oct-June)</em></td>
<td>- Classroom observations</td>
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<td><strong>5. GBG Booster Training Sessions</strong> <em>(Dec/Jan)</em></td>
<td>- Teacher Ratings</td>
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<tr>
<td><strong>6. Spring Assessments</strong> <em>(May)</em></td>
<td>- Student Assessments</td>
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<td>- Classroom Observations</td>
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<td>- Student Assessments</td>
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Sample

- 236 teachers consented to participate across the 3 cohorts and 3 large, urban districts

Teacher Demographics
- 93% Female
- 74% White/Non Hispanic; 20% African American; 6% Other/Mixed Race
- 22% Kindergarten; 29% 1st Grade; 25% 2nd Grade; 24% 3rd Grade
- 56% 1st Year; 25% 2nd Year; 19% 3rd Year

Student Demographics
- 62% African American, 17% Hispanic or Latino, 11% White, 3% Asian American, <1% Native American, 7% other/mixed race
- 52% of the student sample received a free or reduced price lunch
Consort Chart

Total Eligible
n=272

Total Consented
n=236

Withdrawn before randomization
n=8

Total Randomized
n=228

Assigned to Intervention n=115

Assigned to Control n=113

Deemed ineligible
n=15

Total with Pre-test Data (included in ITT analyses)
(Pre-test n=188)

Withdrawn prior to pre-test n=25
Consort Chart

Total with Pre-test Data (included in ITT analyses)  
n=188

Intervention  
n=94  
Control  
n=94

Total with Post-Test Data  
n=167

Intervention  
n=83  
Control  
n=84

Withdraw or became ineligible  
n=21
Analytic Plan

Outcome Variables (Post-Test, controlling for Pre-Test)

- Class (Student) Behavior
  - Student Socially Disruptive Behaviors
  - Student Off-Task Rate
  - Student Compliance
- Class (Student) Achievement
  - Reading Composite
  - Math Composite

Moderators (Pre-Test)

- Class (Student) Socially Disruptive Behavior Level
- Teacher Self-Report of Work Distress

Control Variables

- School district
- School total enrollment, percent eligible for free/reduced lunch, percent White and percent African American
- Teacher gender, race (white/non-white), year of teaching, level of education, grade level taught
- # days between pre and post assessments
## Results

<table>
<thead>
<tr>
<th>Student Behavior</th>
<th>Academic Achievement</th>
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<tbody>
<tr>
<td>Student Socially Disruptive Behavior (SSDB)</td>
<td>Student Off-Task Behavior</td>
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<tr>
<td><strong>Main effect of CONDITION</strong></td>
<td>n.s.</td>
</tr>
<tr>
<td><strong>Moderation by teacher distress</strong></td>
<td></td>
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<tr>
<td><strong>Moderation by SSDB</strong></td>
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<tr>
<td><strong>3 way interaction</strong></td>
<td><strong>&quot;&quot;&quot;</strong></td>
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**significant**

*marginally significant*

*did not test these 2-way interactions on their own since 3-way interaction was significant*
Probing 3-way interactions

• Computed simple slopes reflecting relations between intervention condition and outcome at specific conditional values of our two moderators (baseline classroom disruptive behavior, baseline teacher distress)

• Conditional values of moderators:
  – Median of top 1/3rd on each respective moderator = “high”
  – Median of bottom 2/3rds on each respective moderator = “low”

• Resulting simple slopes reflect difference between intervention and control among each of the different “subgroups” of teachers:
  – High distress, highly disruption
  – High distress, low disruption
  – Low distress, high disruption
  – Low distress, low disruption
Outcome: Student Socially Disruptive Behavior at Post-Test

*Significant difference between intervention and control group only among teachers with high baseline levels of teacher distress and student disruptive behavior*
Outcome: Student Compliance at Post-Test

Highly Disruptive Classrooms at Baseline

Student Compliance at Post-Test

Control Intervention

Low Disruptive Classrooms at Baseline

Student Compliance at Post-Test

Control Intervention

*Significant difference between intervention and control group only among teachers with high baseline levels of teacher distress and student disruptive behavior.
Outcome: Student Off-Task Behavior at Post-Test

Highly Disruptive Classrooms at Baseline

*Significant difference between intervention and control group only among teachers with high baseline levels of teacher distress and student disruptive behavior.

Low Disruptive Classrooms at Baseline

--- Low teacher distress

--- High teacher distress
Outcome: Reading Achievement at Post-Test

*Significant difference between intervention and control group only among teachers with high baseline levels of teacher distress and student disruptive behavior.
*Teachers who were highly distressed with highly disruptive classrooms at baseline showed the most positive relation between intervention condition and post-test math achievement, though none of these relations are significant.*
Summary of Findings

• Substantial and consistent three-way interaction between condition, *baseline teacher distress* and *baseline classroom student disruptive behavior* when predicting post-test scores (controlling for pre-test scores):
  – socially disruptive behavior ($B = -.57, p < .001$)
  – student off-task behavior ($B = -.38, p = .03$)
  – student compliance ($B = .34, p = .02$)
  – math achievement ($B = .09, p = .05$)
  – reading achievement ($B = .09, p = .05$)
Conclusions & Implications

• Combined program shows benefits were most concentrated among highly distressed teachers in highly disruptive classrooms at the outset

• Benefits most evident for classroom behavior, with some indications of academic benefits as well

• Relatively few teacher training programs focused specifically on classroom management

• May be beneficial to target early-career teachers, particularly those in highest risk contexts (i.e., early distress & disordered classrooms)
Limitations & Future Directions

– Which particular component(s) of the GBG+MTP intervention were beneficial and why?

– Whether initial impacts on novice teachers and their students may extend into future years of teaching, with future cohorts of students?