



Outcomes of an Effectiveness Replication study of BEST in CLASS for Young Children at Risk for EBDs in Early Childhood Settings

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Agenda



- Background and Purpose
- About BEST in CLASS-PK
- Research Design and Methods
 - Research Questions
- Findings
- Key Takeaways and Implications



Behavioral Challenges in Early Childhood



- **~25% children** enter school with behavioral challenges that affect their learning experiences and increase risk for long-term academic and social-emotional difficulties.^{1, 2}
 - Reducing learning opportunities and straining teacher-child relationships.^{3,4}
- While disruptive behaviors are common and typically decline with development,⁵ **children with persistent and severe problem behaviors** face risks for learning delays and further social-emotional difficulties.⁶
- **Problem behavior is alterable with effective early intervention.**
- High-quality and evidence-based early learning can foster positive relationships and reduce problem behaviors.^{7, 8, 9}

¹Conroy et al. (2008), ²Ringeinsein et al. (2017), ³Hendricks et al. (2016), ⁴Myers & Pianta (2008), ⁵Chacko et al. (2009), ⁶Brennen et al. (2015), ⁷Hetzner et al (2011), ⁸McClelland et al (2007), ⁹Yoshikawa et al (2012)

Importance of Teacher-Child Relationships



- Positive teacher-child interactions can serve as a “protective” factor for social-emotional and academic success.^{1, 2, 3}
- **Supporting teachers to respond productively to problem behaviors is critical** to prevent negative teacher-child relationships and other negative long-term child outcomes.^{4,5}

¹Bulotsky-Shearer et al. (2012), ²McCabe & Altamura (2011), ³O'Connor & McCartney (2007), ⁴Coplan et al. (2015), ⁵Yoder & Willford (2019)

Critical Role of Coaching



- Teachers need training in strategies to prevent or ameliorate chronic social-emotional and behavior problems.¹
- Tier 2 interventions with teacher training and practice-based coaching (PBC) in ECE settings support effective implementation of strategies to address and prevent challenging behaviors
- Teachers need ongoing support to implement evidence-based practices with fidelity.

¹Snell et al. (2012)

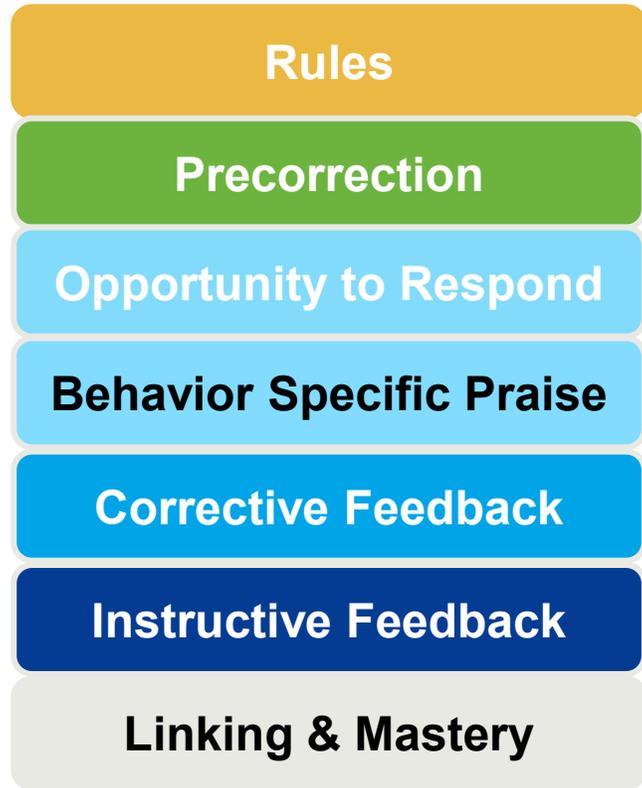


BEST in CLASS-PK Program

BEST in CLASS-PK Components



Tier 2 evidence-based intervention for young children with persistent and intensive challenging behaviors



BEST in CLASS Practices



BEST in CLASS Teacher Workshop and Manual



BEST in CLASS Practice-based Coaching

Practice-Based Coaching



- Used by Head Start programs as a professional development strategy.
- Uses a **14-week** framework in partnership with a trained coach.
- Employs **collaborative** decision-making, modeling, observation, performance feedback, and problem solving.
 - Coach and teachers develop a partnership based on trust, respect, honesty, and nonevaluative communication.
- Offers **technical assistance and support** in weekly sessions to help teachers use BEST in CLASS practices with focal children.
 - Teachers identify focal children who are “high risk” for developing emotional and behavioral disorders.
 - Coach helps plan strategies for communicating with caregivers about using these strategies at home.

BEST in CLASS-PK Instructional Practices



Rules:

Teach short, simple classroom rules to support focal children's compliance and appropriate behavior.

Precorrections:

Remind or instruct focal children to engage in appropriate, alternative behaviors before challenging behaviors can occur.

Opportunities to repond:

Enhance instructional queries and pacing to increase focal children's active engagement and decrease their challenging behaviors.



Behavior-specific praise:

Build positive relationships with focal children and reinforce their appropriate behaviors with specific, verbal encouragement.

Corrective feedback:

Use learning opportunities to help focal children learn the correct responses and appropriate behaviors via timely, high-quality feedback.

Instructive Feedback:

Expand focal children's preacademic and behavioral learning via extended learning opportunities.

Linking and mastery:

Link and combine BEST in CLASS instructional practices to maximize effectiveness and promote continued mastery, maintenance, and generalization.

Evidence for BEST in CLASS-PK



In comparison to Business as Usual, there is evidence that **BEST in CLASS-PK** leads to:

**Improved
classroom
atmosphere**

**Improved
teacher-child
interactions**

**Improvements in
child appropriate
behavior,
engagement, and
social skills**

**Reductions in child
challenging
behavior**

- **BEST in CLASS-PK** is an intervention that mitigates obstacles shown to negatively impact short- and long-term child outcomes

- These findings have maintained

Over **time**
&
Across **trials**



Systematic Replication Study



Current evidence base for BEST in CLASS-PK from **efficacy trials**

- Conducted under **ideal** conditions:
 - Coaches were **highly trained** and experienced research staff, closely **supervised**.
 - Coaches observed teaching practices and **corrected deviations**.
 - Program developers provided **regular monitoring**.

Systematic replication study

- Intervention implemented in **naturally occurring** conditions (e.g., typical early childhood classrooms) with **typical end users** (e.g., current program staff) and **evaluated independently**.
- Results will provide practically important impacts on **meaningful education outcomes**.



Research Questions



The purpose of this effectiveness replication study is to examine the impacts of the BEST in CLASS Tier 2 teacher training and coaching model.

1. What are the impacts of BEST in CLASS-PK on children's **problem behaviors** and **self-regulation**?
2. How does BEST in CLASS-PK influence the **quality of teachers' positive interactions** with children?
3. To what extent do school-based coaches **implement BEST in CLASS-PK practices using practice-based coaching (PBC)** with fidelity and quality?

Research Design



- **Cluster randomized control trial** study of BEST in CLASS-PK under routine conditions in authentic early childhood settings
 - Teachers were randomly assigned to BEST in CLASS or “business-as-usual”/ comparison group
 - Blocked by location and center size
 - Teachers within same centers randomized to condition
- Two data collection waves
 - **Baseline** child and teacher data prior to randomization
 - **Outcome** data after completion of practice-based coaching sessions
- Three cohorts: 2022-2023, 2023-2024, 2024-2025
- Implementation study with teacher survey items and coach interviews

Participating Sites



Site 1: Northeast/ Central Florida

- ECE agency serving children in 14 counties
- Suburban and **rural communities**
- ~3,000 children across more than 300 Head Start classrooms
- Children are **44% Black, 31% White**, 14% Latinx, 6% Multi-racial
- 8% speak Spanish at home
- 7% are children with disabilities

Site 2: Northern Virginia

- Public school district in **mid-size city**
- 95 early childhood programs
- Children are **89% Black**, 4% Multi-racial, 3% Latinx, 3% White
- 3% speak Spanish at home
- 8% are children with disabilities

Site 3: Northern California

- **Suburban** school district
- Over 1,000 children across approximately 190 center-based Head Start programs
- Children are **37% Asian, 33% Latinx, 20% White**, 8% Multi-racial, 2% Black
- **40% speak Spanish at home**
- 17% are children with disabilities

Participants



Total sample

- 181 children and 78 teachers

Treatment

- 86 children and 40 teachers

Comparison

- 95 children and 38 teachers

Site 1: Northeast/ Central Florida

- 124 children
- 51 teachers
- 6 coaches
- 26 centers

Site 2: Northern Virginia

- 33 children
- 17 teachers
- 6 coaches
- 6 centers

Site 3: Northern California

- 24 children
- 10 teachers
- 2 coaches
- 9 centers

Participant Demographics



- Children participating in the study were between 3-5 years old (M = 4.1) across the Head Start sites.
 - Teachers completed a systematic screener for behavior disorders ([SSBD](#)) for children to determine eligibility

| Child characteristics by condition | | | |
|------------------------------------|------------|---------------|--|
| | Comparison | BEST in CLASS | |
| | Percent | Percent | |
| Child gender is female | 39.6 | 31.5 | |
| Child race/ethnicity | | | |
| Black/African American | 53.3 | 52.2 | |
| Hispanic/Latinx | 18.5 | 21.1 | |
| Multi-ethnic/racial | 2.2 | 5.6 | |
| White | 16.3 | 13.3 | |
| Other | 9.8 | 7.8 | |
| Child home language-English | 78.6 | 74.1 | |
| Child has IEP/504 | 6.3 | 4.5 | |

[Teacher Characteristics](#)

Measures



Direct Child Assessment

- Preschool Self-Regulation Assessment (PSRA) to measure **children's self-regulation**



Teacher Survey

- Caregiver-Teacher Report Form (C-TRF) to **measure children's problem behaviors**
- Coaching and implementation experience questions
- Student-Teacher Relationship Scale (STRS)
- Teachers' Sense of Self Efficacy Scale (TSES)



Teacher and Classroom Observation

- TCIDOS and BICACS to measure **adherence and quality of implementation**
- Classroom Assessment Scoring System (CLASS 2nd Edition)

Analytic Approach

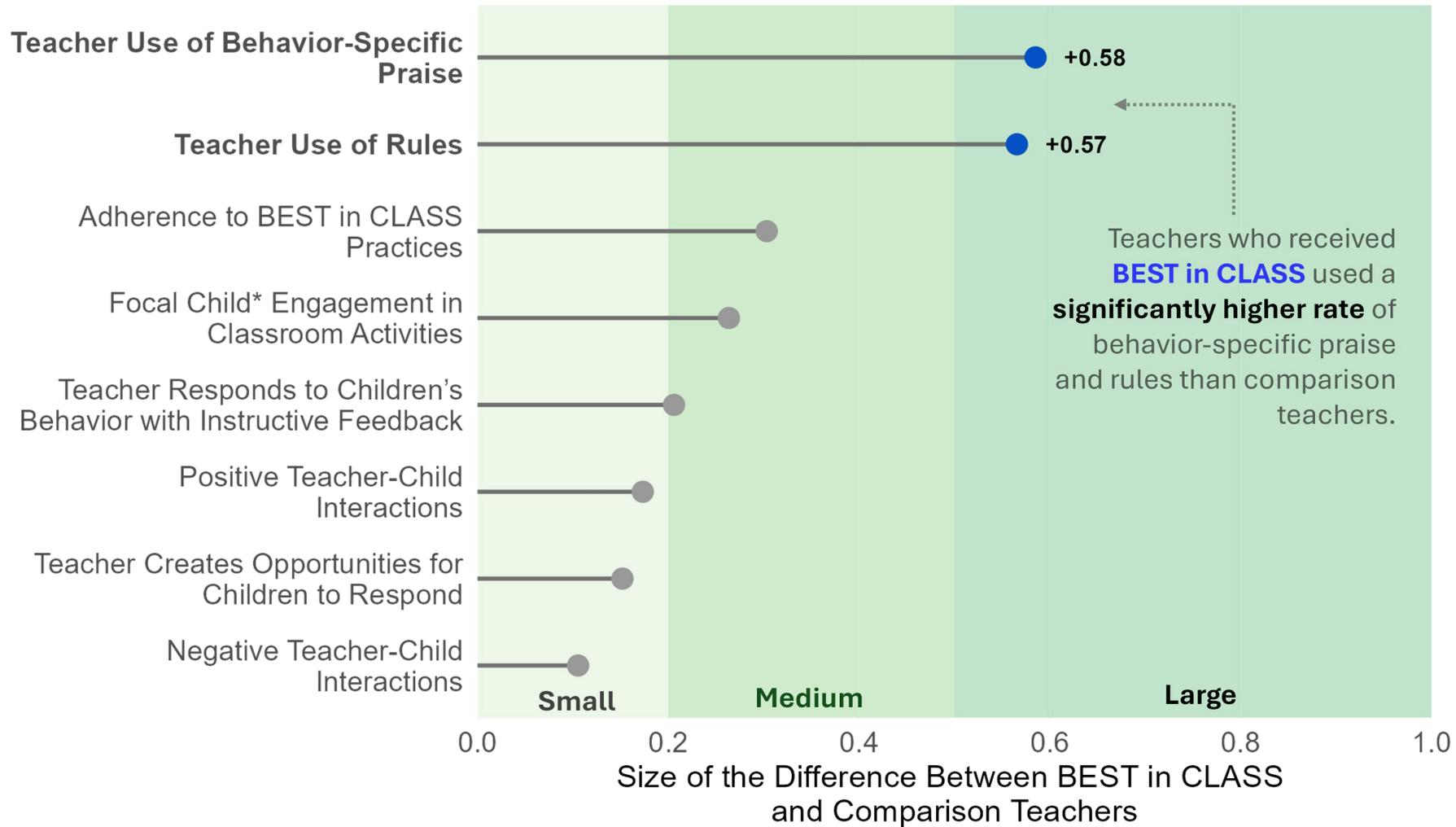


- Two-level Hierarchical Linear Regression (HLM)
 - Child-Level outcomes: Children nested within teachers
 - Teacher-Level outcomes: Teachers nested within region/district



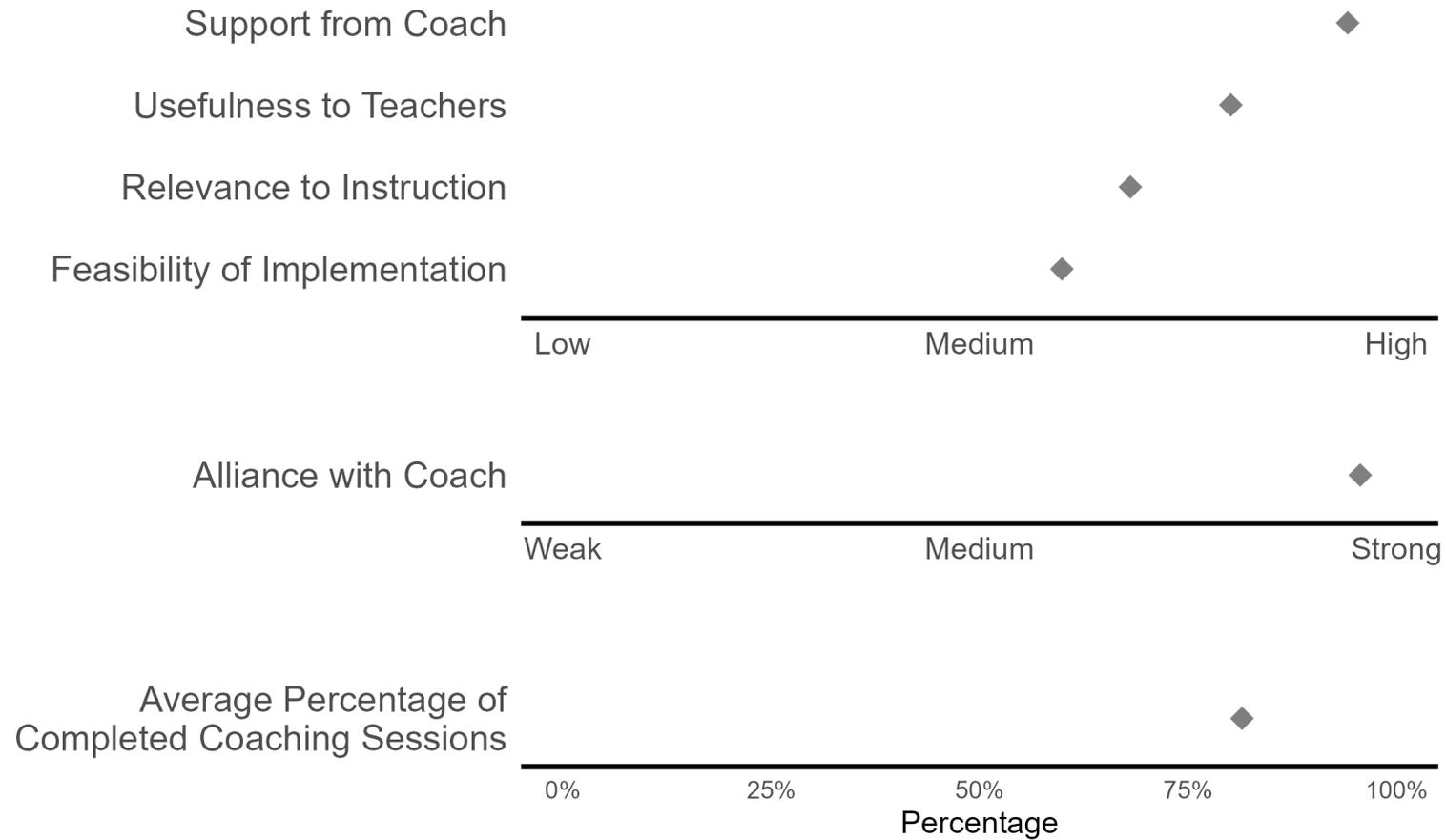
Findings

Notable Effect Sizes



*Focal children are identified by teachers as children who display some challenging behaviors in the classroom.

Contextualizing Findings with Teacher Implementation Measures



Note: The values on the first two visuals are the simple average across 35 individual items, grouped into 5 sub-scales. Overall n= 37. Site n= 23.

Contextualizing Findings with Coach Implementation Interviews



- Coaches found BEST in CLASS-PK to be practical and impactful due to the focus on concrete strategies. Coaches observed changes in student behavior, teacher practice, and teacher self-efficacy.
- Coaches discussed overall classroom effects beyond focal students.
- Strong coach-teacher alliance and ongoing coaching supports were seen as essential for successful implementation and fidelity.
- Consideration for the school context and infrastructure is important to support implementation.
 - An implementation challenge included competing coach demands and high caseloads.
 - An implementation facilitator included alignment of BEST in CLASS-PK with other professional development



Key Takeaways and Implications

Key Takeaways



- Beginning to see patterns in teachers' increase in use of BEST in CLASS-PK practices in the classroom.
- Evidence for impact not as strong as prior BEST in CLASS-PK evaluations suggesting challenges in implementation in authentic classroom settings.
 - Supported by prior literature^{1,2,3,4}
 - Scaling and sustaining implementation remains difficult due to workforce and systemic barriers.^{5,6}

¹Payne (2008), ²Scott (2002), ³Supovitz & Weinbaum (2008), ⁴Weiz & Jenson (2001), ⁵Fagan et al. (2019), ⁶Wackerle-Hollman et al. (2021)

Implications for Practice



- When designing coaching programs consider integrating program elements that are practical, relationship-driven, and adaptable, with attention to real-world classroom dynamics like co-teaching and limited time.
- Provide consistent and ongoing supports to teachers and coaches to support fidelity and continuous learning.
- Ensure programs are aligned with existing professional development systems to promote sustainability.



Purpose: To help stakeholders learn about **evidence-based** approaches to support all students' **positive behavior**, **mental health**, and **well-being**.

Includes tips and findings from our research, evaluation, and TA work.

- Perspectives from our partners on the ground, too!

Send comments and inquiries about partnering or working with us to:
studentbehaviorblog@sri.com

Visit us at:

<https://studentbehaviorblog.org/>

Teacher Characteristics



| Teacher characteristics by condition | | |
|--------------------------------------|------------|---------------|
| | Comparison | BEST in CLASS |
| Has teaching license | 54% | 53% |
| Years teaching | 18.7 years | 15.8 years |
| Teacher has BA or higher | 73% | 61% |
| Teacher-child ratio | 7.54 | 7.76 |

Identifying Children Who Would Benefit from Tier 2 Supports



- Asked teachers to engage in a **systematic screening for behavior disorders (SSBD)** to identify focal children
- 1-3 children in each classroom to be eligible to participate

STEP 1. Carefully study the definition of externalizing behavior and then review your class roster.

Externalizing refers to all behavior problems that are directed outwardly by the child toward the external social environment. Externalizing behavior problems usually involve behavioral excesses (i.e., too much behavior) and are considered inappropriate by teachers and other school personnel. Nonexamples of externalizing behavior problems would include all behavior that is appropriate for the child's age and school.

Examples include:

- Displaying aggression toward objects or persons
- Not listening to the teacher
- Arguing
- Having tantrums
- Being hyperactive
- Disturbing others
- Stealing
- Not following classroom rules

Non-examples include:

- Cooperating and sharing
- Listening to the teacher
- Interacting appropriately with other children
- Attending to the class activity (e.g., painting)
- Complying with teacher requests

STEP 2. In Column 1, enter the five children whose characteristic behavior patterns most closely match the externalizing behavior definition.

STEP 3. In Column 2, rank order children you have listed in Column 1 according to the degree or extent to which each displays externalizing behavior. The child who exhibits externalizing behavior to the greatest degree is ranked first and so on until all five children are rank ordered.

To ensure confidentiality, please use child initials or ID#.

Most Exemplifying
EXTERNALIZING BEHAVIOR

| COLUMN 1 List Externalizers | |
|--------------------------------|--|
| Child initials or ID# | |
| | |
| | |
| | |
| | |
| | |
| | |

EXTERNALIZING
Least → Most

| COLUMN 2 Rank Order Externalizers | |
|--------------------------------------|--|
| Child initials or ID# | |
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |

Children’s Problem Behaviors and Self-Regulation (RQ1)



| | N | B | SE | p | g |
|----------------------------|-----|-------|------|------|-------|
| PSRA effortful control | 123 | -0.05 | 0.11 | 0.69 | -0.07 |
| PSRA executive functioning | 133 | -0.13 | 0.17 | 0.45 | -0.13 |
| C-TRF Internalizing | 152 | -0.87 | 1.57 | 0.58 | -0.08 |
| C-TRF Externalizing | 152 | -0.94 | 1.66 | 0.57 | -0.09 |

Note: Parameter estimates reflect the main treatment effect (assignment to BiC). Each row represents a separate 2-level hierarchical model with children nested within teachers. Models include baseline scores for each respective outcome.

Quality of Teachers' Positive Interactions (RQ2)



| | N | B | SE | p | g |
|------------------------------|----|-------|------|------|-------|
| CLASS Emotional Support | 66 | -0.01 | 0.17 | 0.97 | -0.01 |
| CLASS Classroom Organization | 66 | 0.17 | 0.22 | 0.5 | 0.18 |
| CLASS Instructional Support | 66 | -0.02 | 0.15 | 0.89 | -0.03 |

Note: Parameter estimates reflect the main treatment effect (assignment to BiC). Each row represents a separate 2-level hierarchical model with children nested within teachers. Models include baseline scores for each respective outcome.

Implementation Fidelity and Quality (RQ3)



| | N | B | SE | p | g |
|----------------------------------------|------------|-------------|-------------|-------------|-------------|
| TCIDOS rules | 145 | 0.02 | 0.01 | 0.01 | 0.6 |
| TCIDOS pre-correction | 145 | 0 | 0 | 0.88 | 0.03 |
| TCIDOS opportunity to respond | 145 | 0.02 | 0.04 | 0.54 | 0.12 |
| TCIDOS behavior-specific praise | 145 | 0.01 | 0.01 | 0.03 | 0.56 |
| TCIDOS Corrective feedback | 145 | 0 | 0.01 | 0.64 | -0.1 |
| BiCACS Adherence | 137 | 0.3 | 0.19 | 0.11 | 0.36 |
| BiCACS Quality | 127 | 0.1 | 0.27 | 0.71 | 0.09 |

Note: Parameter estimates reflect the main treatment effect (assignment to BiC). Each row represents a separate 2-level hierarchical model with children nested within teachers. Models include baseline scores for each respective outcome.