
Update on PBIS Maryland and Collaborative Research Efforts

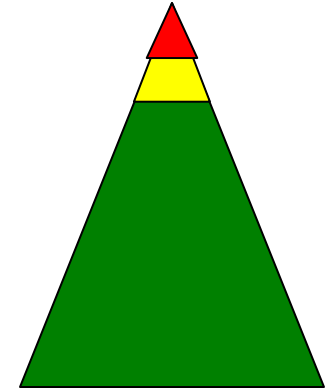
PBIS Maryland Management Team

Maryland State Department of Education, Sheppard Pratt Health System & Johns Hopkins School of Public Health

November 17, 2008

Overview

- Brief Overview of PBIS
- Update on National PBIS Activities
- Update on PBIS in Maryland
- Summary of Findings from Project Target
- Current and Future Directions
- Next Steps



Positive Behavioral Interventions and Supports (PBIS)

- Application of behavioral, social learning, & organizational behavioral principles
 - Clear behavioral expectations
 - Procedures for managing disruptions
 - Positive rewards
- Public health approach (universal / selective / indicated)
 - Requires a shift from punitive to preventive
- Focus on changing adult behavior
 - Team-based & data-based process
 - Emphasizes staff buy-in
- Can be implemented in any school level, type, or setting
 - Non-curricular model – flexible to fit school context
- Coaching to ensure high fidelity implementation

(Horner & Sugai, 2001; Lewis & Sugai, 1999; Sugai & Horner, 2006)

Positive
Behavior
Support

Social Competence &
Academic Achievement

OUTCOMES

SYSTEMS

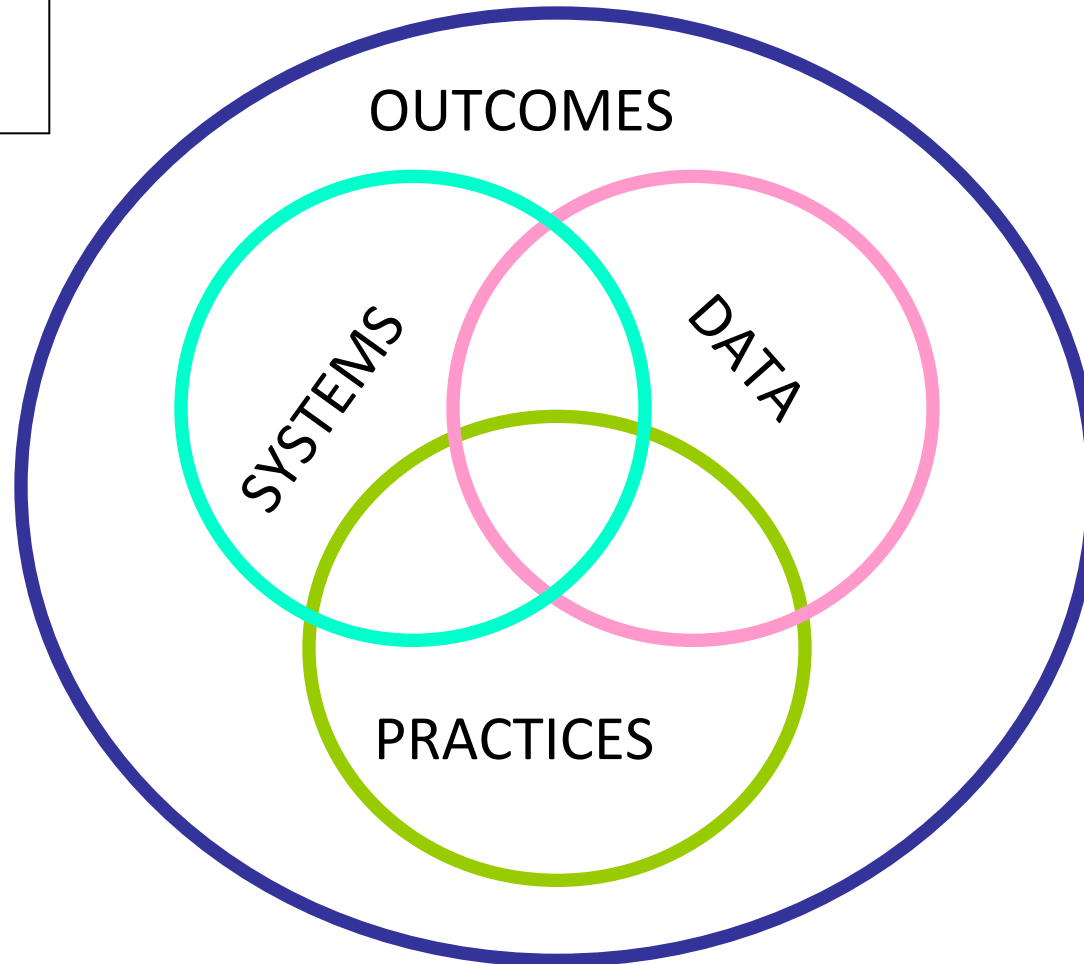
DATA

PRACTICES









Supporting
Staff Behavior

Supporting
Decision
Making

Supporting
Student Behavior



Status Report

Doing	Continuing
■ PBIS I & II (1998-2008) 	PBIS III (2008-2013)
■ Center >7500 schools 	100,000 public schools
■ 40 States 	Regional Coordination
■ Demonstration & Sustainability 	Continuous Regeneration & Scaling
■ Three-tiered Prevention Logic 	Responsiveness to Intervention
■ Technical Assistance 	Capacity Building
■ Positive Host Environments for All 	Enhanced Outcomes for Individuals
■ Evaluation & Training 	Upgrades & Refinements

School-wide Positive Behavior Support:

Integrated Systems for All Students

2008 National Forum for Implementers of School-wide PBS

October 30-31, 2008

Hyatt Regency O'Hare
Rosemont, Illinois



sponsored by the
OSEP Center on PBIS with support
from the Illinois PBIS Network

This Year's Forum...

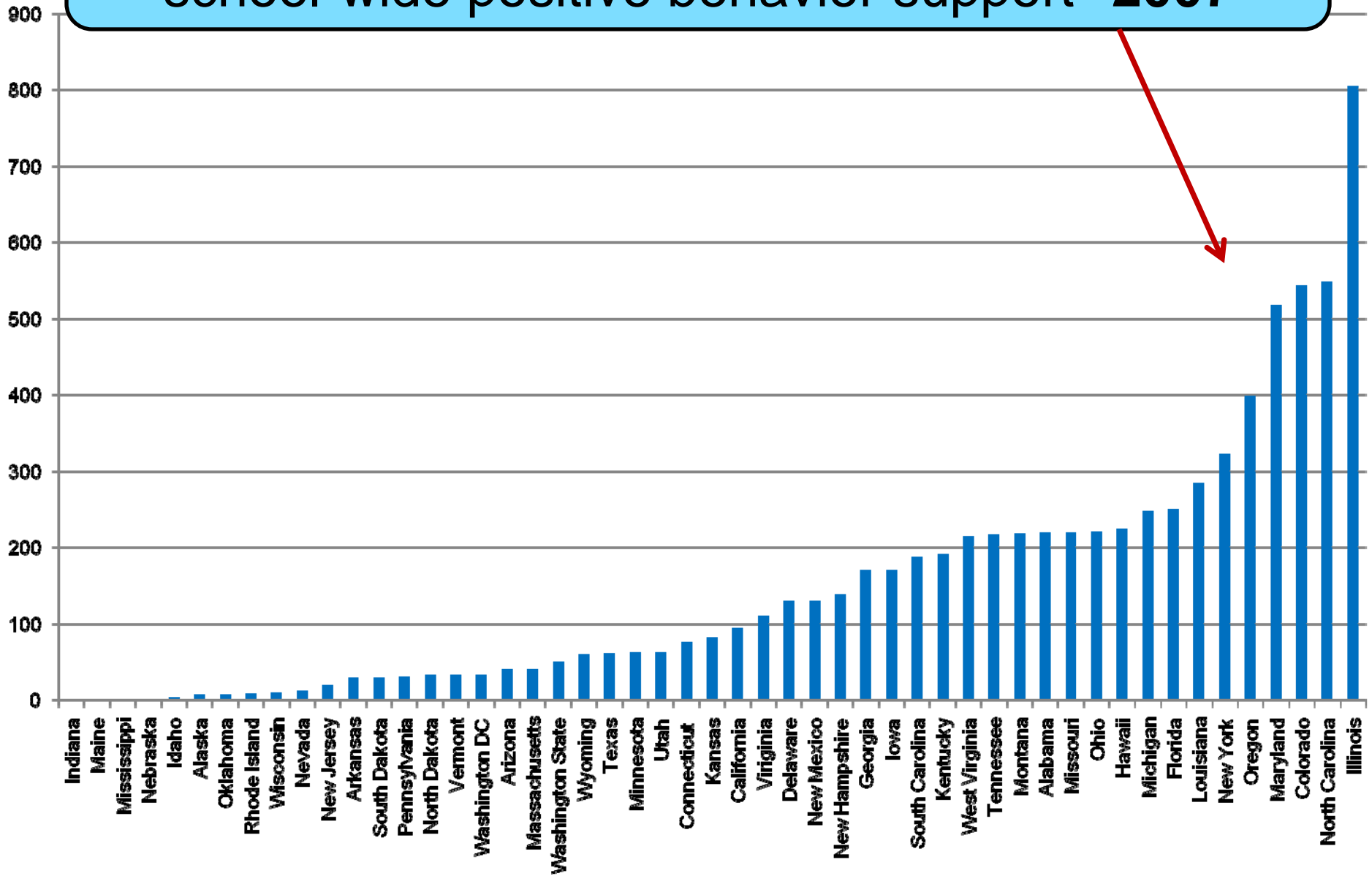
930 Participants from:

- 43 States
- 4 Countries (Australia, Canada, Norway, United States)

Sample Session Topics:

- ❑ Achievement in Dropout Prevention and Excellence (APEX II): PBIS Implementation in High Schools in New Hampshire
- ❑ Bullyproofing your PBIS School
- ❑ Integrating Mental Health Services Across All Three Tiers of PBIS
- ❑ District Leadership Team Process
- ❑ Organization and Delivery of Tertiary Systems at the District Level
- ❑ RTI and PBIS
- ❑ Taking Evidence Based Practices to Scale: Capacity Building
- ❑ Establishing Sustainable Coaching Capacity at the District and State Level
- ❑ School to Prison Reform Project

7500 Schools across 44 states implementing school-wide positive behavior support--2007



Maryland's Tiered Instructional and Positive Behavioral Interventions and Supports (PBIS) Framework

Academic Systems

Intensive, Individually Designed Interventions

- Address individual needs of student
- Assessment-based
- High Intensity

Targeted, Group Interventions

- Small, needs-based groups for at risk students who do not respond to universal strategies
- High efficiency
- Rapid response

Core Curriculum and Differentiated Instruction

- All students
- Preventive, proactive
- School-wide or classroom systems for ALL students

Behavioral Systems

Intensive, Individually Designed Interventions

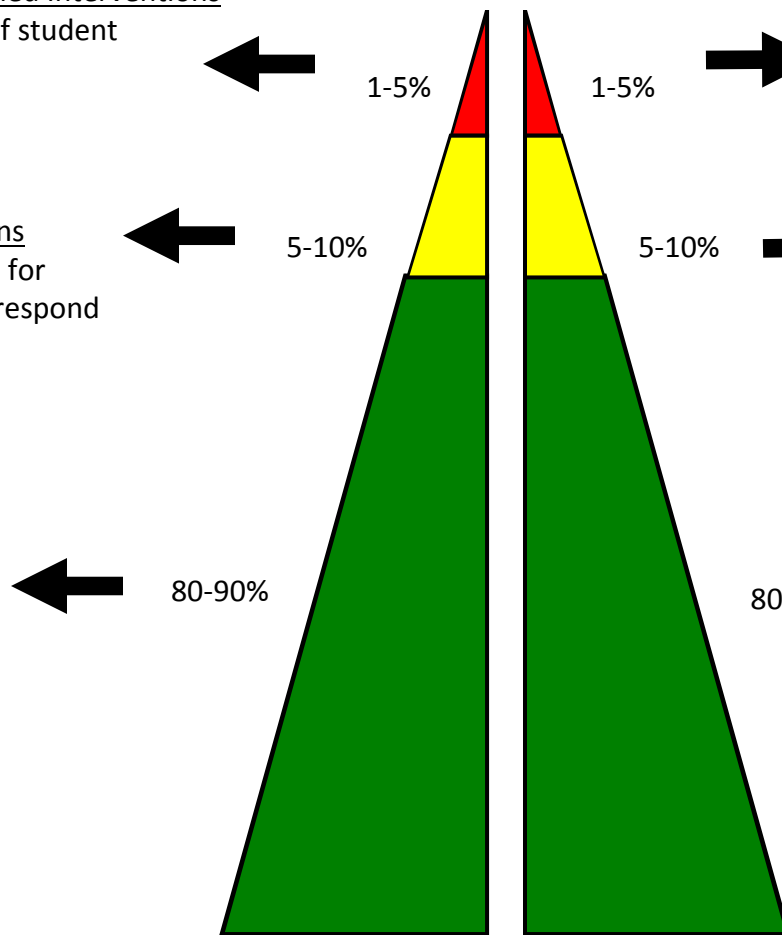
- Strategies to address needs of individual students with intensive needs
- Function-based assessments
- Intense, durable strategies

Targeted, Group Interventions

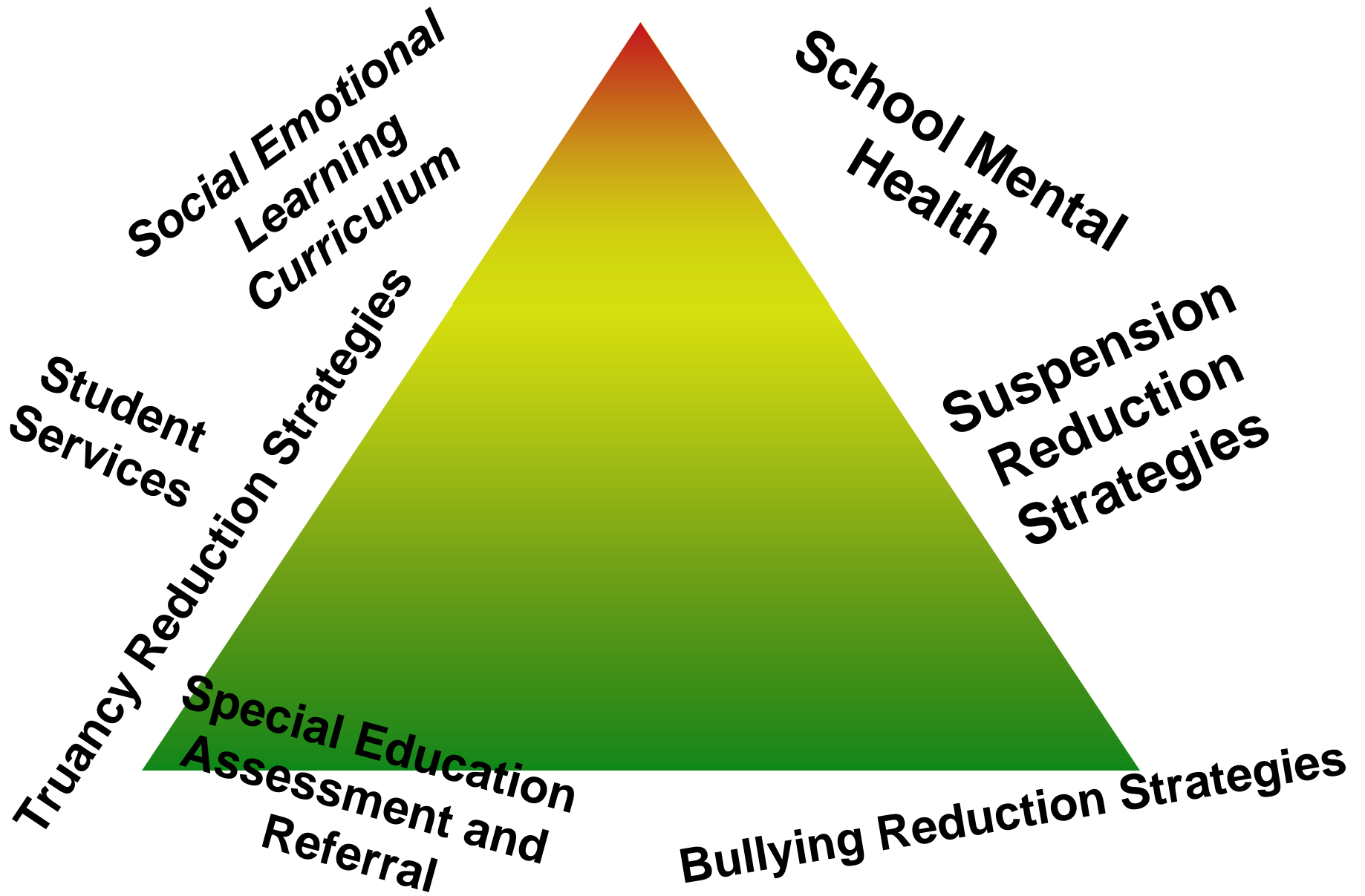
- Small, needs-based groups for at-risk students who do not respond to universal strategies
- High efficiency/ Rapid response
- Function-based logic

Core Curriculum and Universal Interventions

- All settings, all students
- Preventive, proactive
- School-wide or classroom systems for ALL students and staff

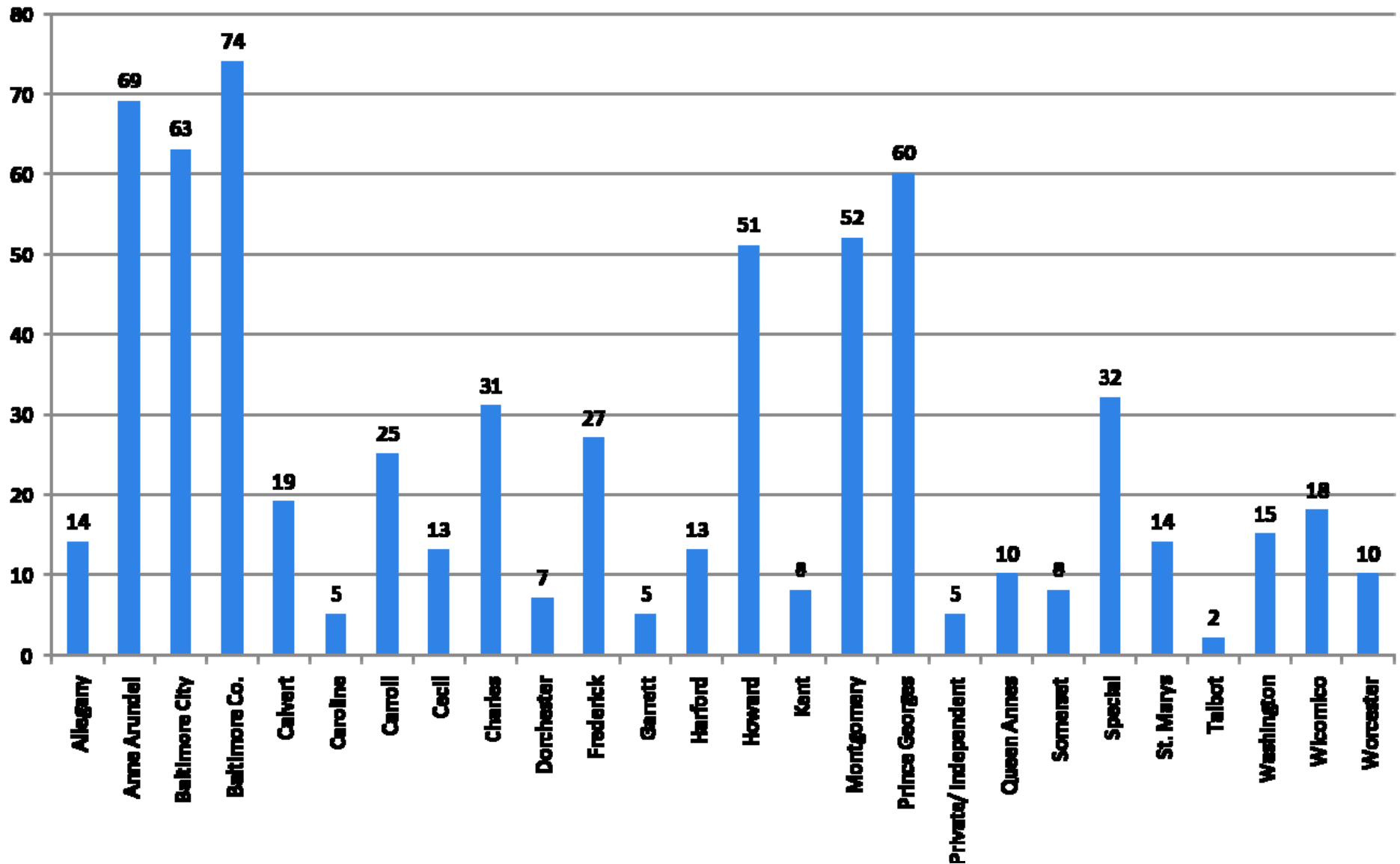


Maryland's Tiered Instructional and Positive Behavioral Interventions and Supports (PBIS) Framework



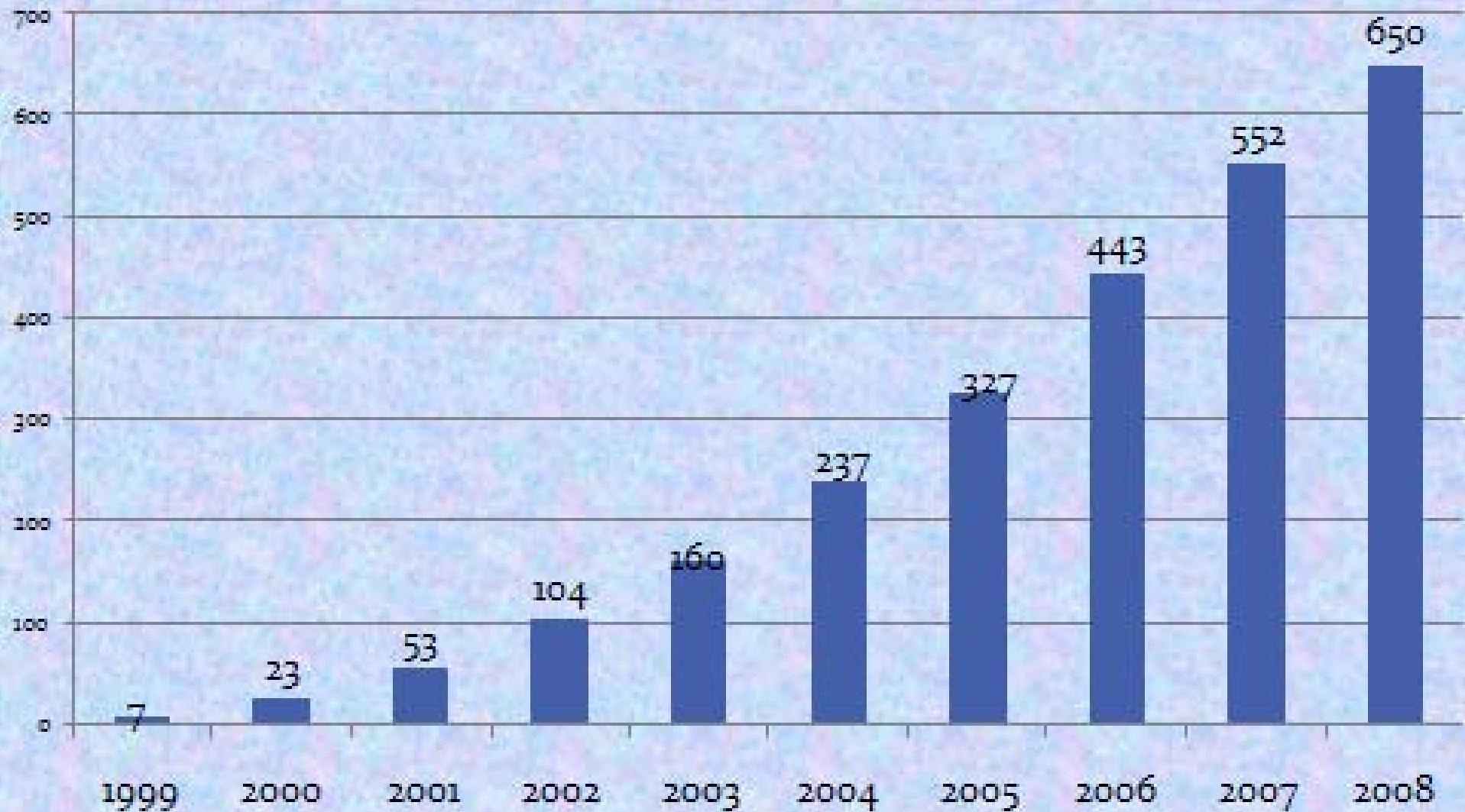
Where Are We In 2008?

Trained Schools by LSS



Where Are We In 2008?

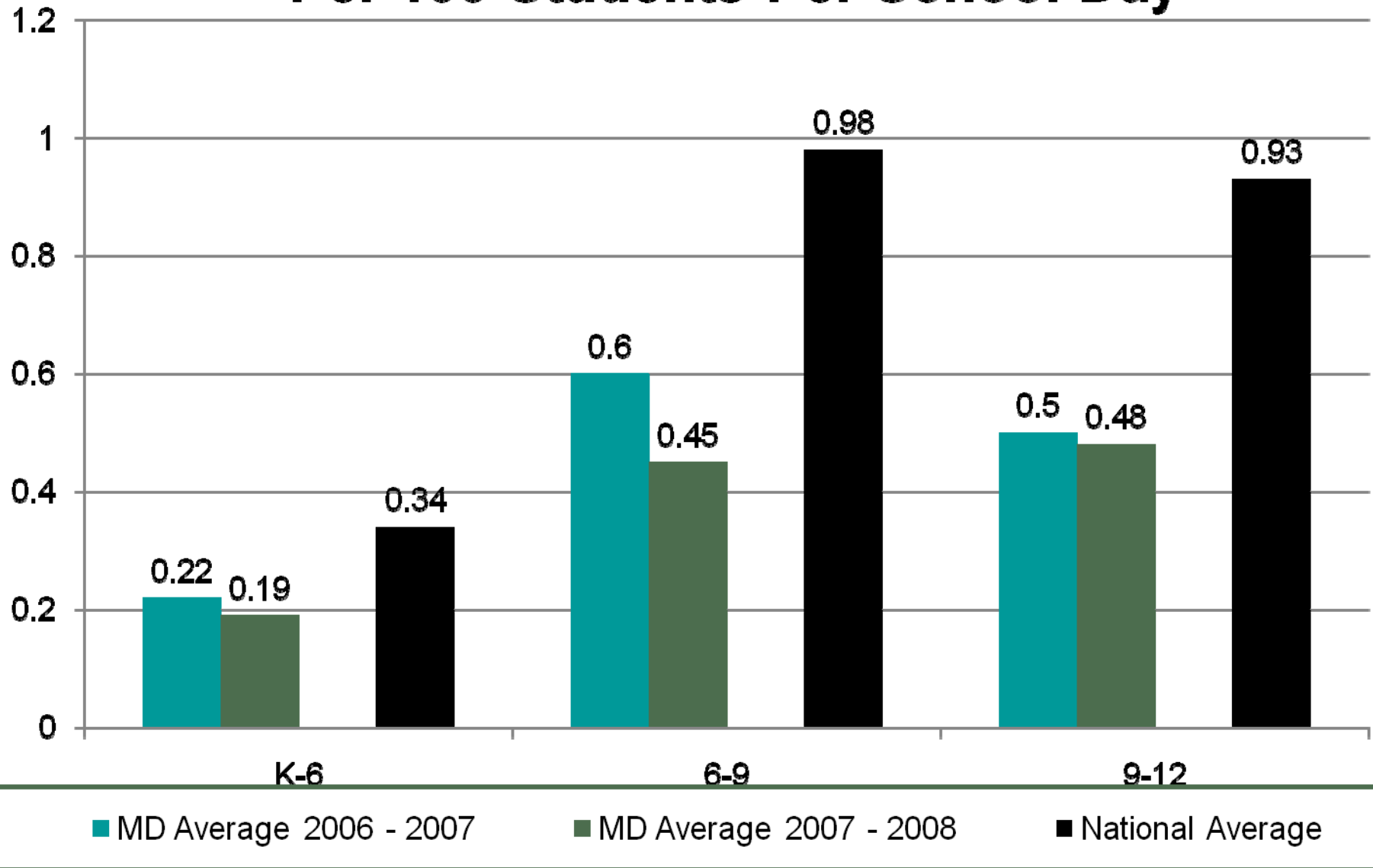
Trained Schools by Cohort



Where Are We In 2008?

School Type	Count
Elementary	334
Elementary/Middle	14
High	81
K-12	2
Middle	177
Other	1
Special	33
Special/Alternative	8

Office Discipline Referrals (ODRs) Per 100 Students Per School Day



Data from the School-Wide Information System (SWIS)



JOHNS HOPKINS
BLOOMBERG
SCHOOL of PUBLIC HEALTH

Protecting Health, Saving Lives – *Millions at a Time*



Preliminary Findings from Project Target: A Randomized Controlled Effectiveness Trial of School-Wide PBIS in Elementary Schools

Catherine Bradshaw, PhD & Philip Leaf, PhD

Johns Hopkins Center for the Prevention of Youth Violence

In Collaboration With

PBIS Maryland Management Team

Supported by NIMH (1R01MH67948-1A) & CDC (1U49CE 000728 and K01CE001333-01)

Group Randomized Trial of SWPBIS: *Project Target*

Funding

- Centers for Disease Control & Prevention (CDC; Leaf, PI)
- National Institute of Mental Health (NIMH; Leaf PI)

Sample

- 37 voluntary elementary schools across 5 school districts
 - Enrollment 227-983; 60% Caucasian; 48% suburban; 41% urban fringe; 49% Title I

Design

- Group randomized effectiveness trial
 - 21 PBIS & 16 “Focus/Comparison”
- Baseline plus 4 years (spring 2002 - spring 2007)
 - Data from 29,423 students & 3,563 staff



Project Target

School Characteristics

<i>School Characteristics</i>	PBIS (<i>n</i> = 21 schools)		Comparison (<i>n</i> = 16 schools)	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
School Enrollment	471.76	132.78	505.50	188.57
Student to Teacher Ratio	18.48	4.33	18.61	4.69
Free/Reduced Meals (%)	42.93	19.22	36.25	20.93
Special Education Students (%)	13.24	4.27	15.08	6.66
Caucasian Students (%)	53.81	33.16	67.51	28.99
Student Mobility (%)	25.88	8.24	20.51	7.19
Suspension (%)	7.73	7.43	5.06	4.73
Math Performance (%)	47.20	22.37	46.96	19.05
Reading Performance (%)	50.66	19.32	52.94	16.43

Note. No overall significant difference between PBIS and comparison schools at baseline, Wilks' $\Lambda = .89$, $F(5, 31) = .76$, $p = .58$

Data Collected



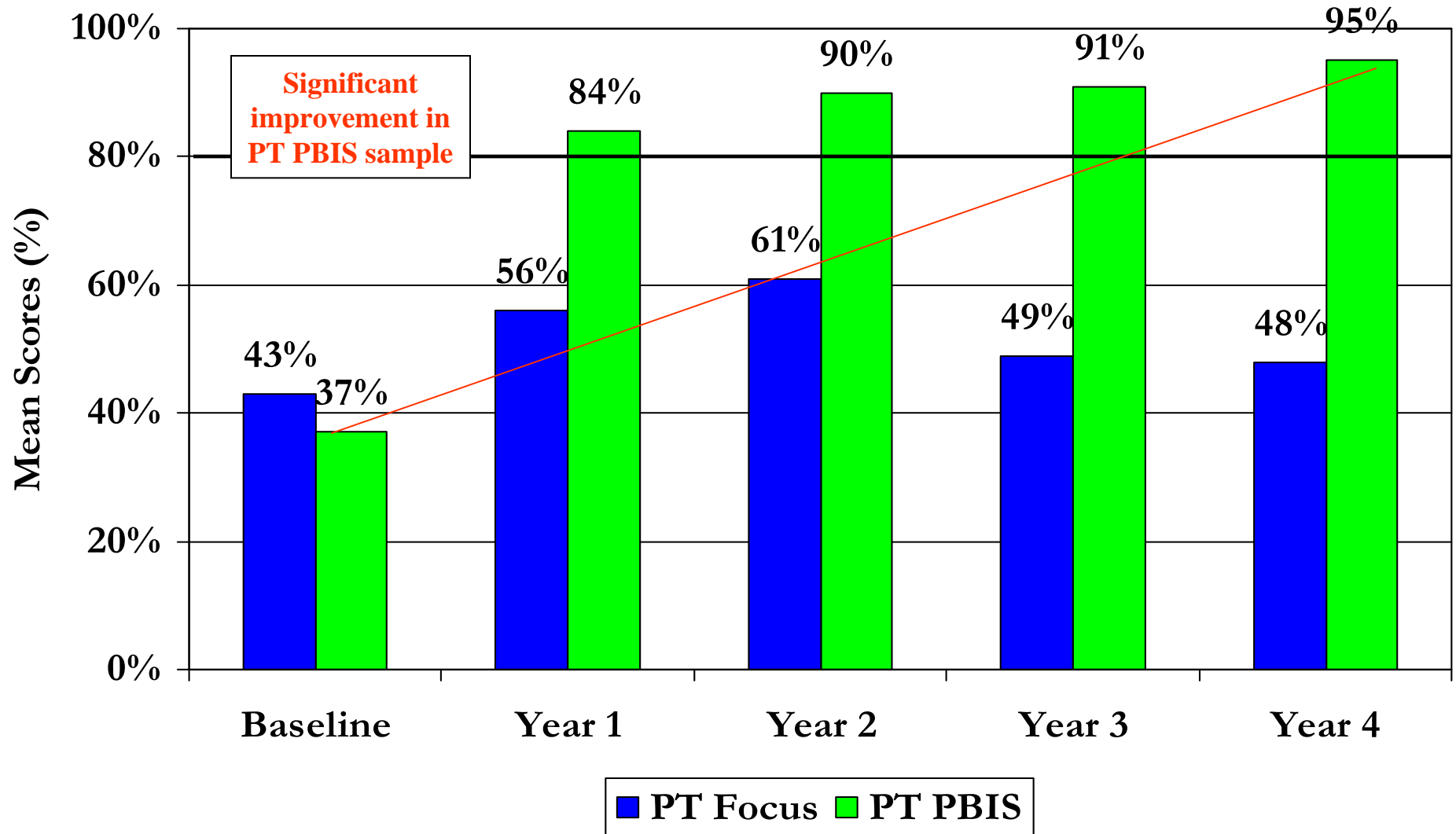
- **Implementation fidelity**
 - School-wide Evaluation Tool (SET; Sugai, Lewis-Palmer, Todd, & Horner, 2001)
 - Effective Behavior Support Survey (Self-assessment; Sugai, Todd, & Horner, 2000)
- **Organizational health**
 - Organizational Health Inventory (OHI; Hoy et al., 1990)
- **School climate**
 - School Climate Survey (Haynes, Emmons, & Comer, 1994)
- **Disruptive behavior**
 - Teacher Observation of Classroom Adaptation (TOCA; Werthamer-Larsson et al., 1991)
 - Office discipline referrals (SWIS; School-Wide Information System & teacher report)
 - Suspensions
- **Need for & use of services**
 - Special education, counseling
- **Academic information**
 - State standardized test scores (school-level)

Data Collected



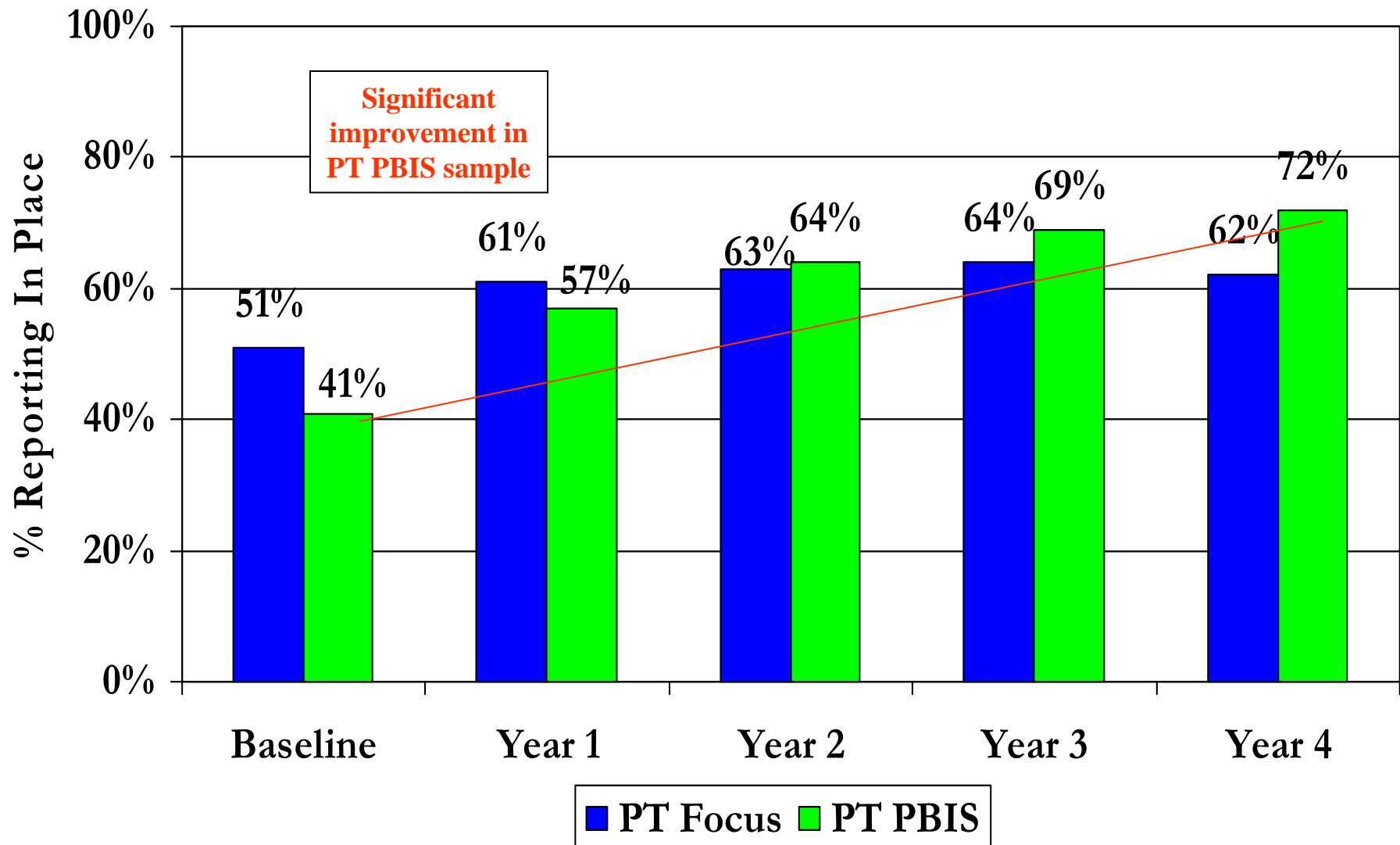
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SET: PBIS Implementation Fidelity



Notes. No significant differences between groups at baseline, but differences at all other years at $p < .05$. Overall SET score: Wilks' $\Lambda = .38$, $F(4,32) = 13.36$, $p < .001$, partial $\eta^2 = .63$, $d = 3.22$.

Staff Survey: Staff Reports of PBIS Fidelity



Repeated measures GLM, baseline vs. year 4, sig. intervention effect: $F(1,28) = 14.36, p=.001$; adj= controlled for student mobility, school enrollment, % Caucasian, % FARMs, student-teacher ratio, & cohort.

Data Collected

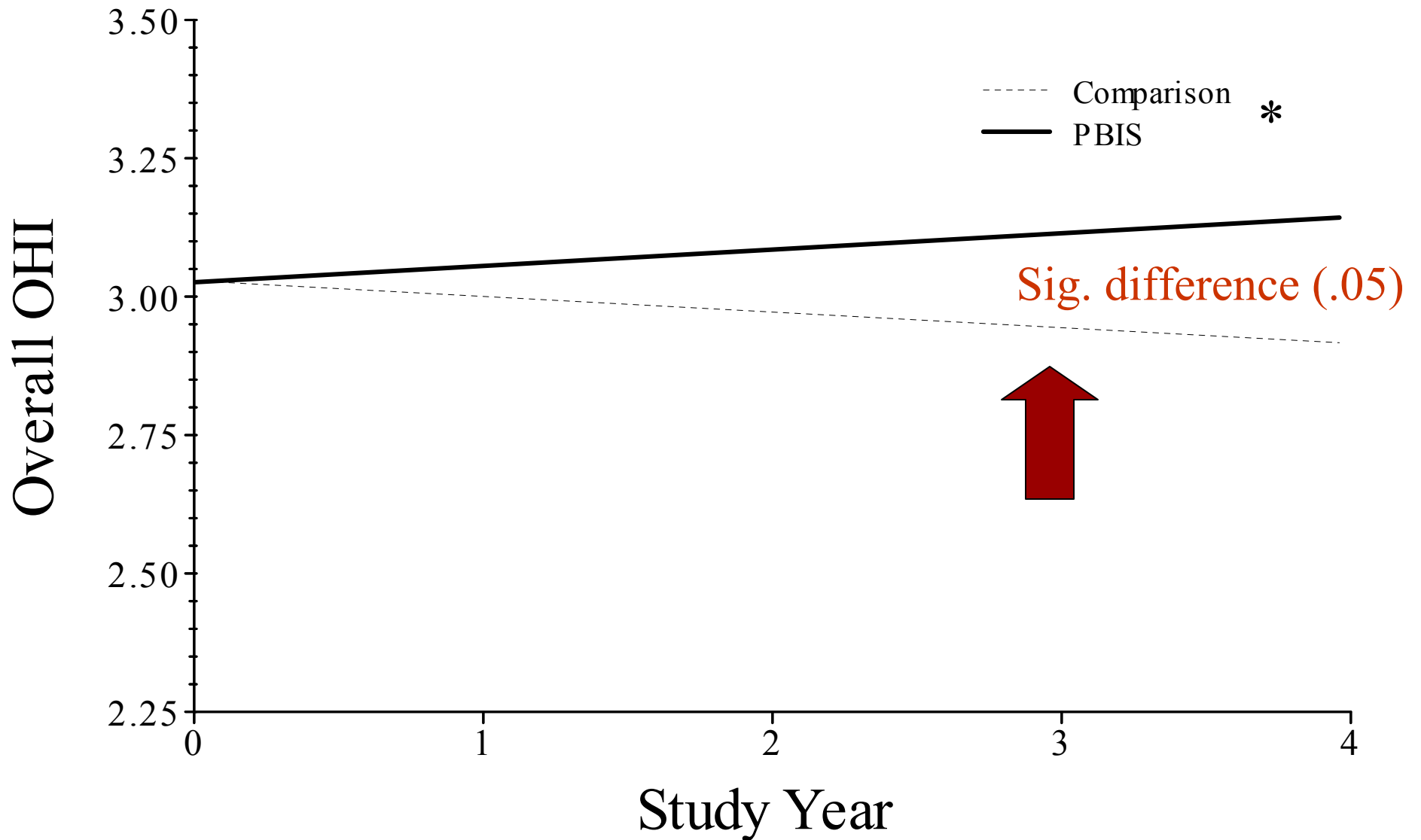


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Organizational Health Inventory (OHI)

- OHI: 37 item staff-report measure of 5 aspects of a healthy functioning school (Hoy et al., 1991)
 - academic emphasis - students are cooperative in the classroom
 - staff affiliation - warm and friendly interactions, commitment, trust
 - collegial leadership - principal's behavior is friendly, supportive, open
 - resource influence - principal's ability to lobby for resources for school
 - institutional integrity - protected from unreasonable community demands
 - overall OHI score (average of 5 subscales)
- Analyses
 - Longitudinal analyses conducted using a 3-level model
 - Adjusted for staff (sex, race, age) and school (FARMs, student mobility, faculty turnover, & school enrollment) covariates on intercept and slope

Effect of PBIS on Overall OHI

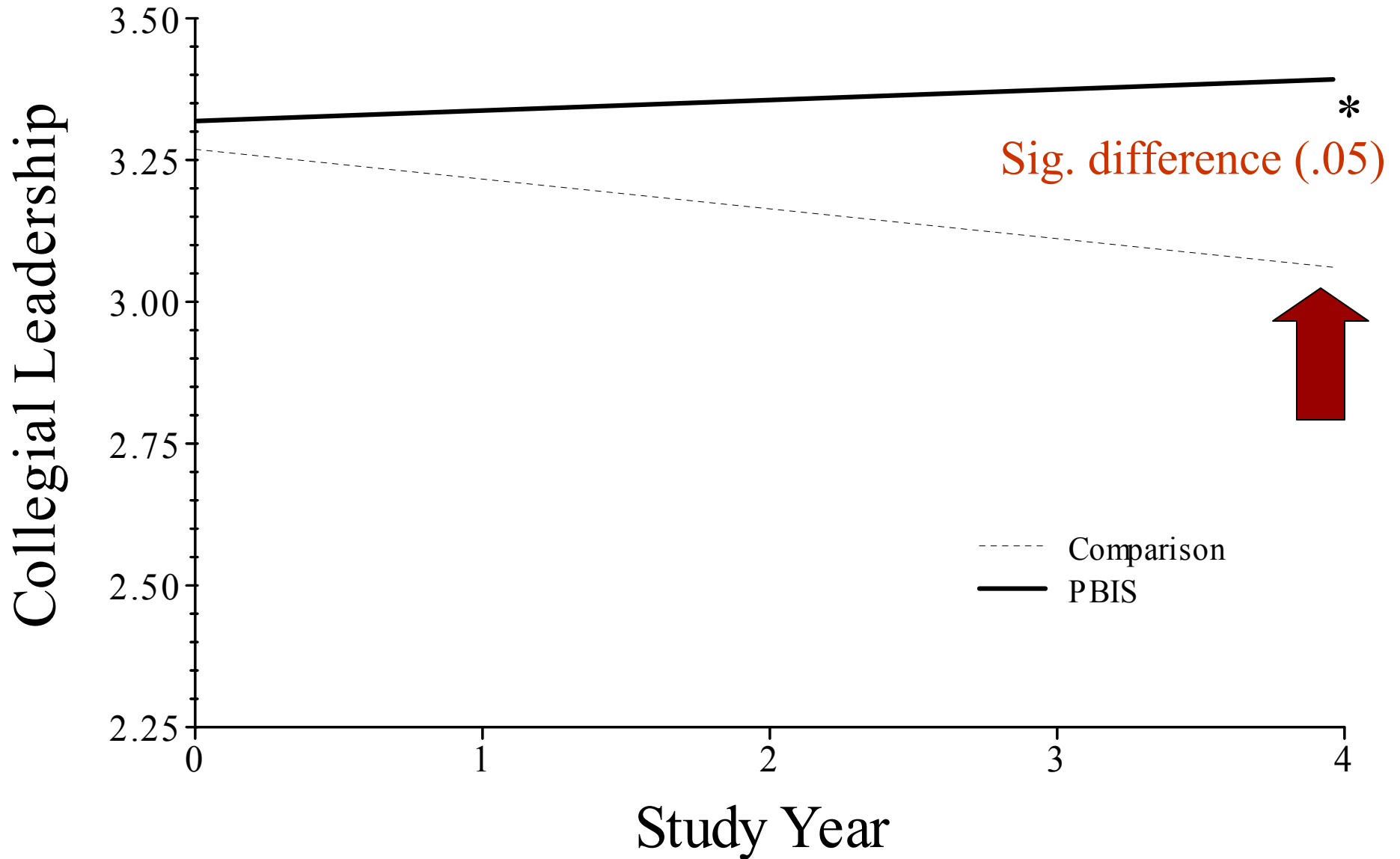


Note. Adjusted means from 3-level model.

* Intervention effect on slope of overall OHI significant at $p < .05$.

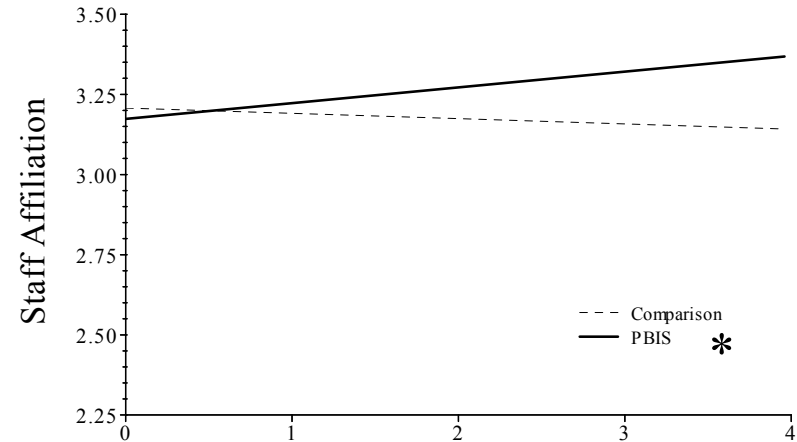
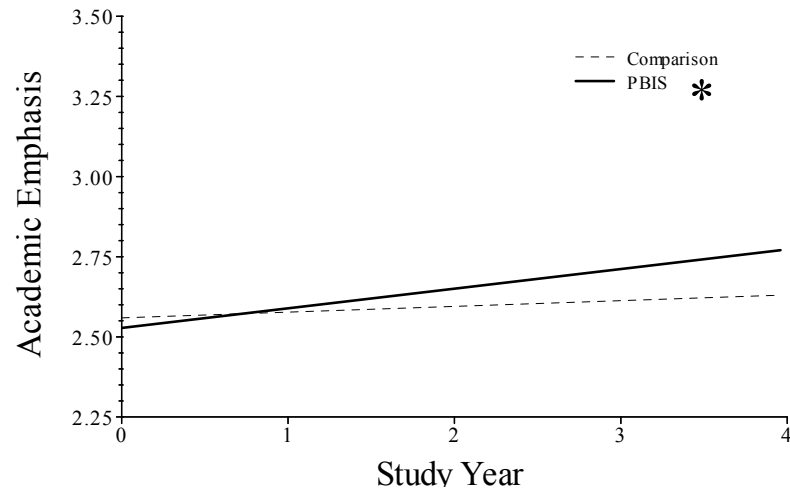
(Bradshaw et al., in press; *SPQ*)

Effect of PBIS on Collegial Leadership

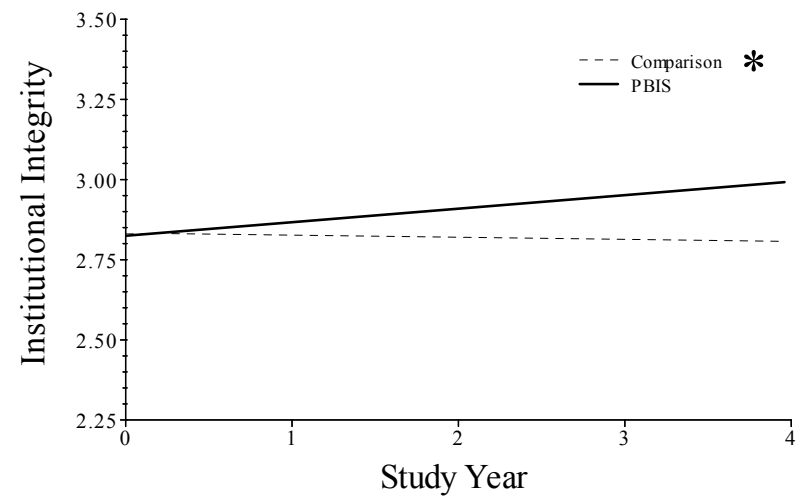
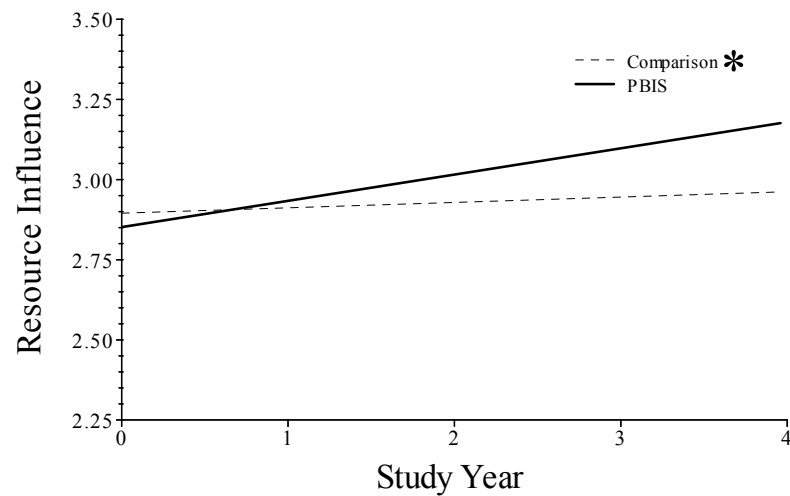


Note. Adjusted means from 3-level model. * Intervention effect on slope significant at $p < .05$.

Effect of PBIS on Other OHI Subscales



All sig. difference in the slopes (.05)



Note. Adjusted means from 3-level model. * Intervention effect on all slopes significant at $p < .05$.

OHI and Fidelity

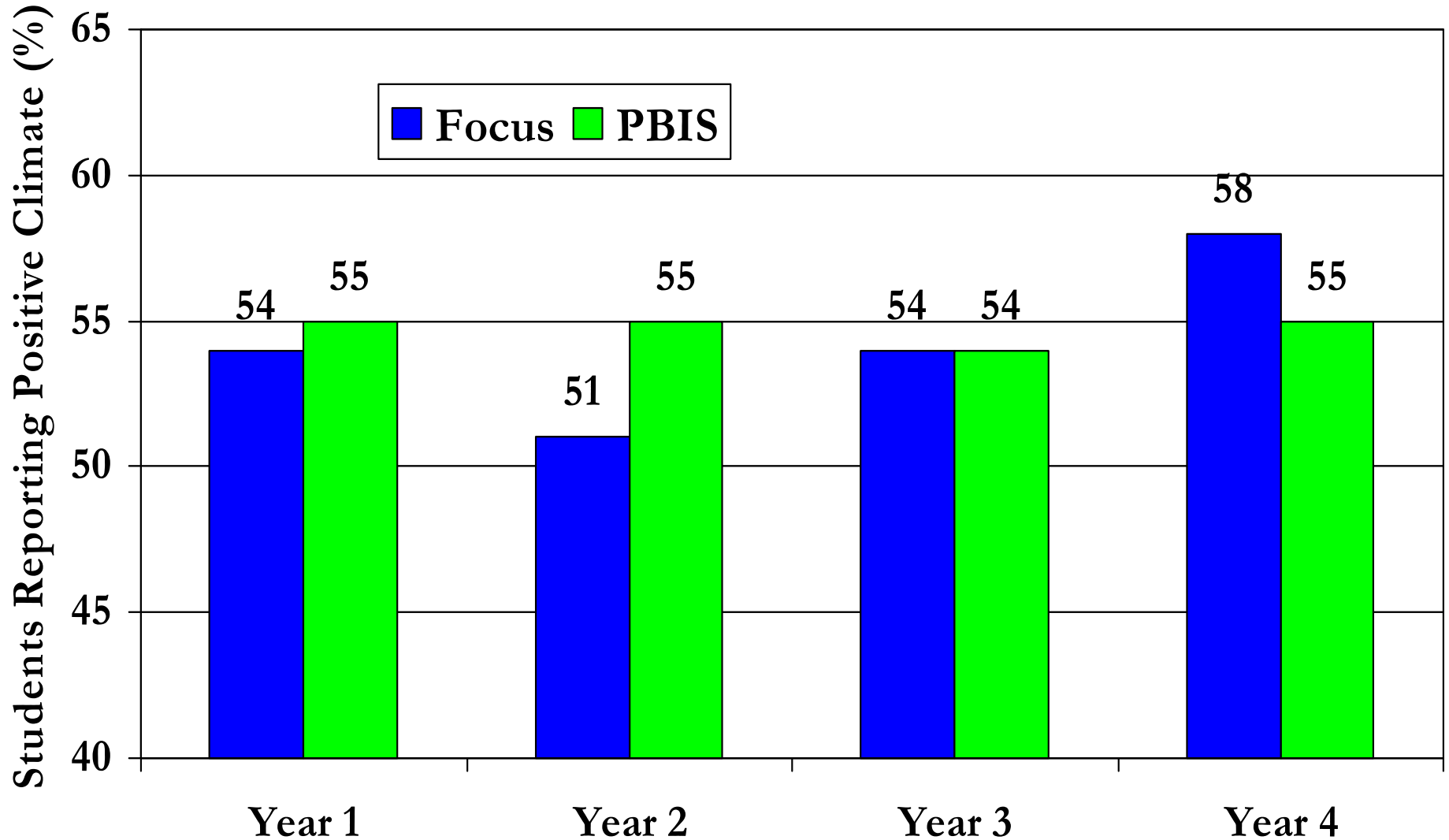
- Baseline SET score (“naturally occurring PBIS”) did not predict speed of implementation or baseline OHI
- Schools starting with lower levels of OHI tended to take longer to reach high fidelity, but improved the most

Data Collected



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Student School Climate Report (*Adj*)



Adj = adjusted estimates. No sig. main intervention effect.

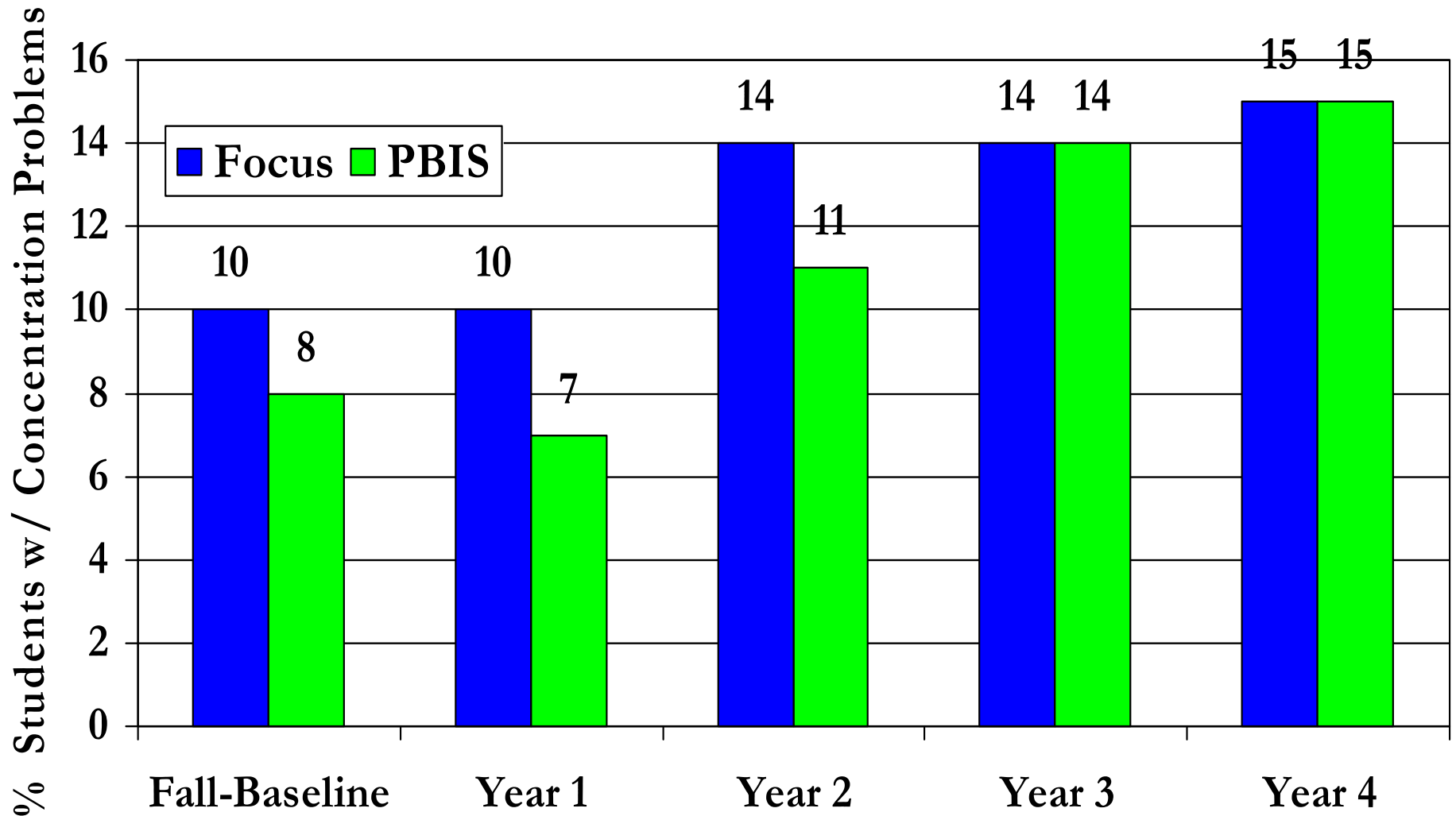
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TOCA – Concentration Problems: Gen. 1 (*Adj*)

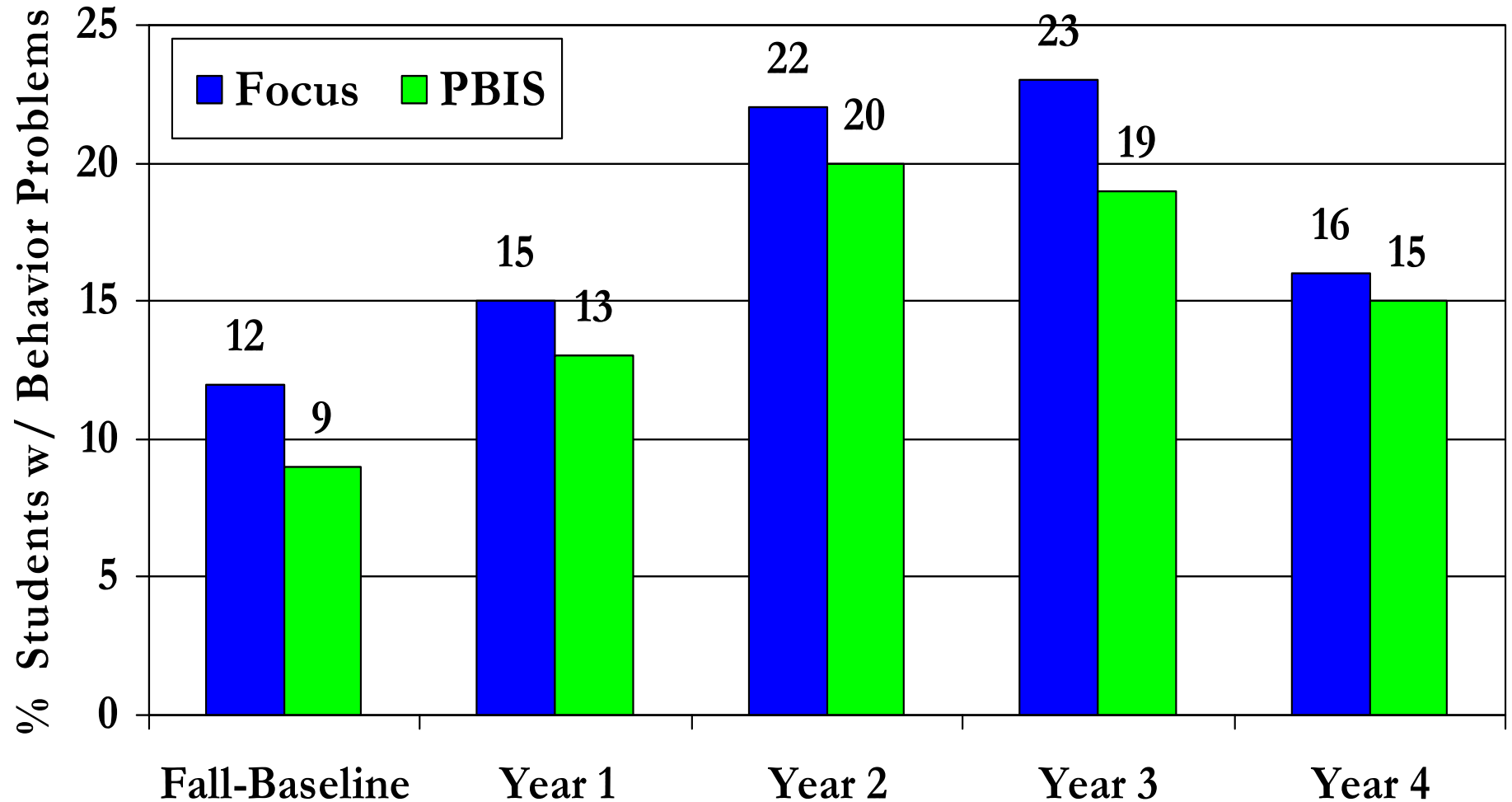
Lower is better



Adj = control for student mobility, stu-teachr ratio, enrollment, % Caucasian, % FARMS, & cohort., No sig. main effect.

TOCA – Behavior Problems: Gen. 1 (*Adj*)

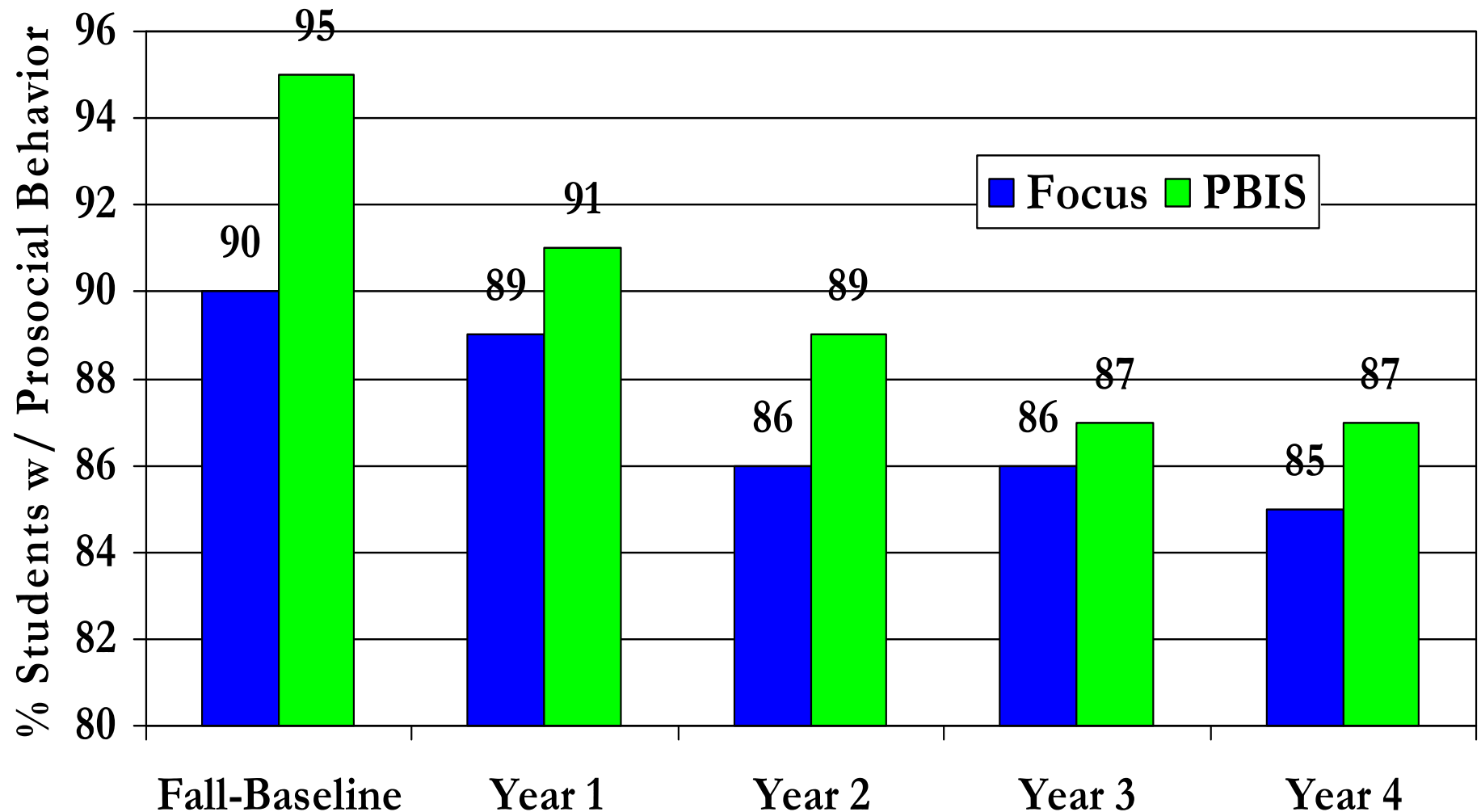
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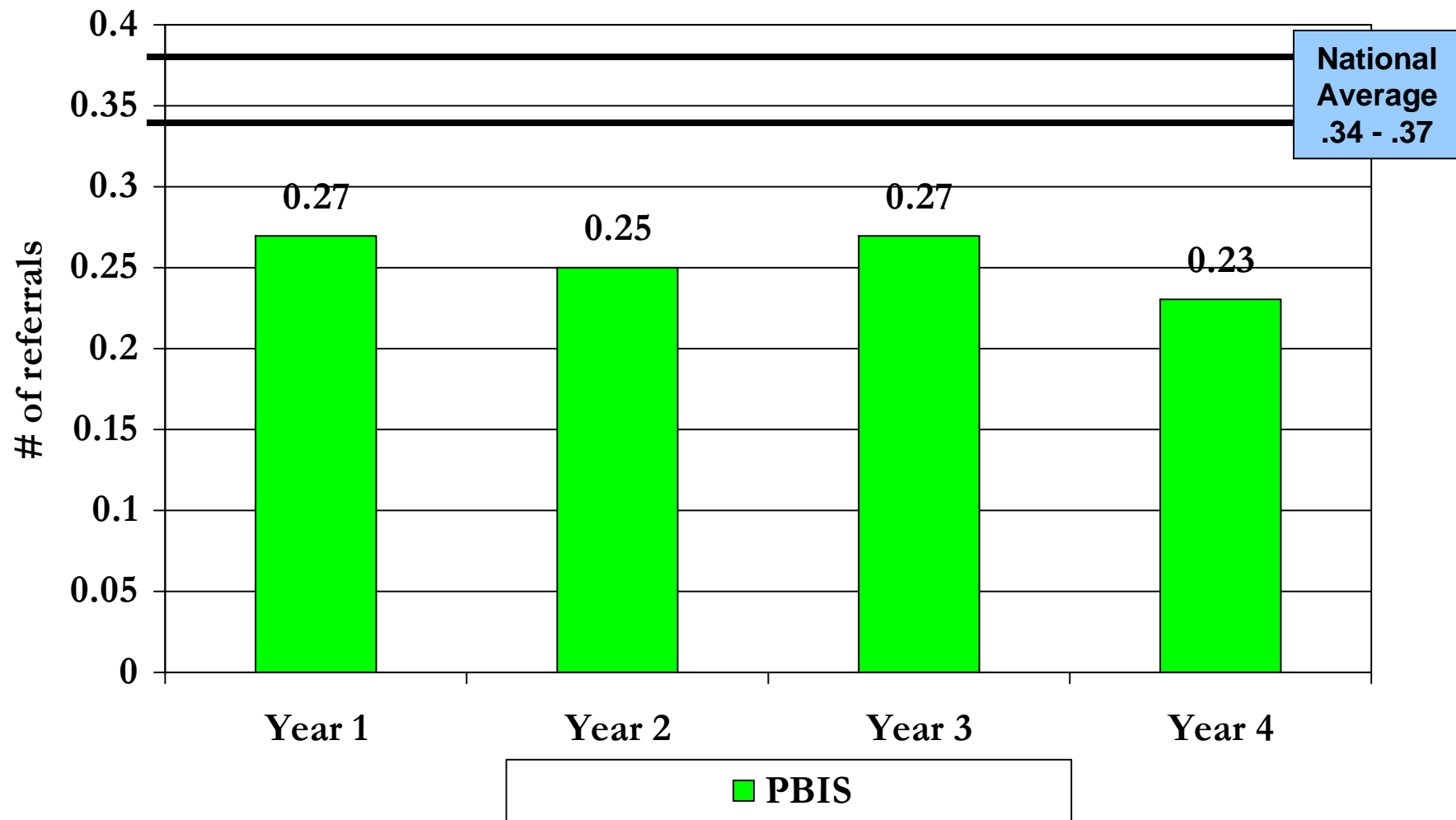
TOCA – Prosocial Behaviors: Gen. 1 (*Adj*)

Higher is better



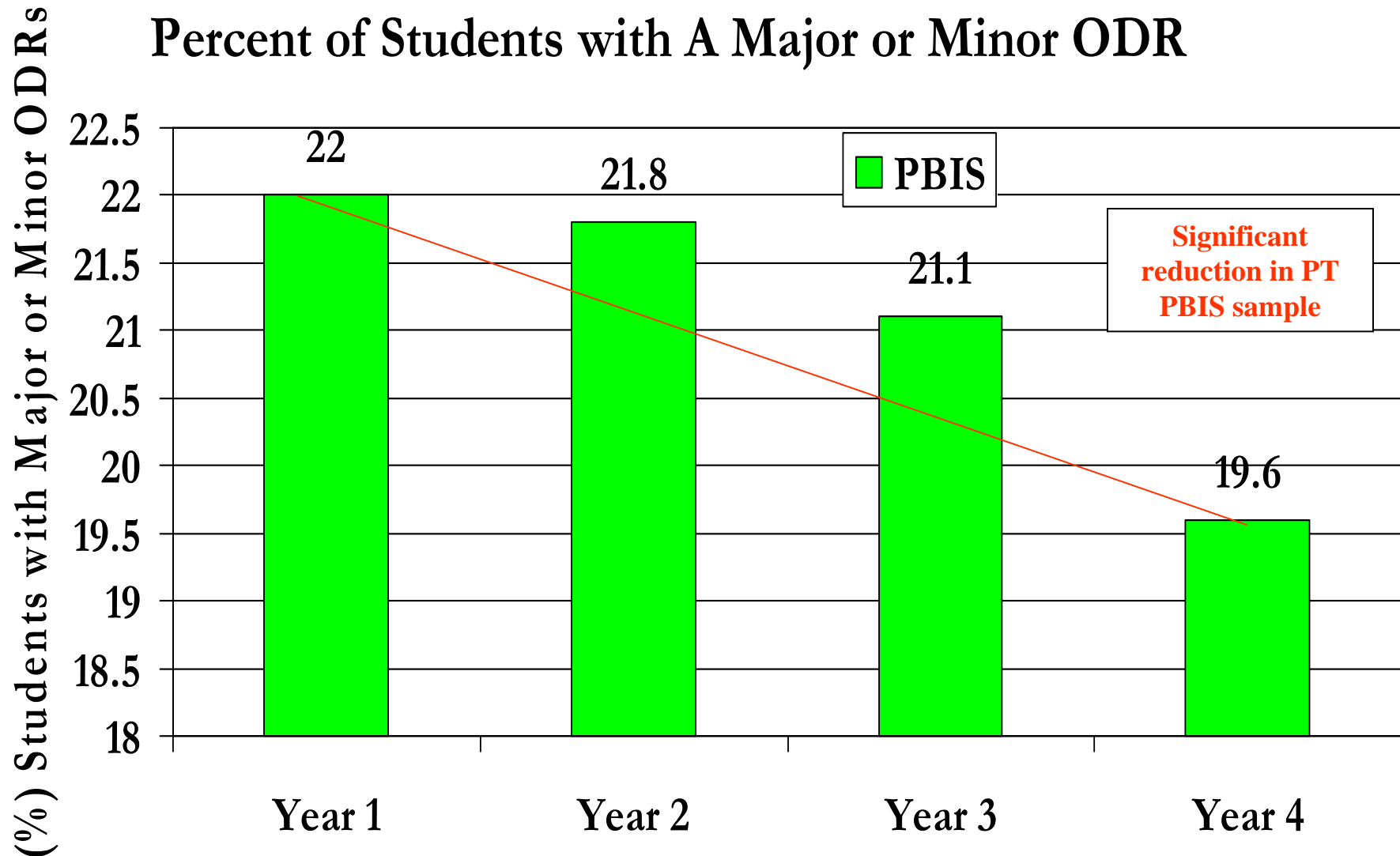
Adj = control for student mobility, stu-teachr ratio, enrollment, % Caucasian, % FARMS, & cohort., No sig. main effect.

Major Office Discipline Referrals (ODRs) per 100 students per day



Note. Adjusted rates; Wilks' $\Lambda = .84$, $F[1,14] = 2.59$, $p = .13$, $\eta^2 = .16$, $d = .17$, adjusting for school system, % FARMS, and school enrollment.

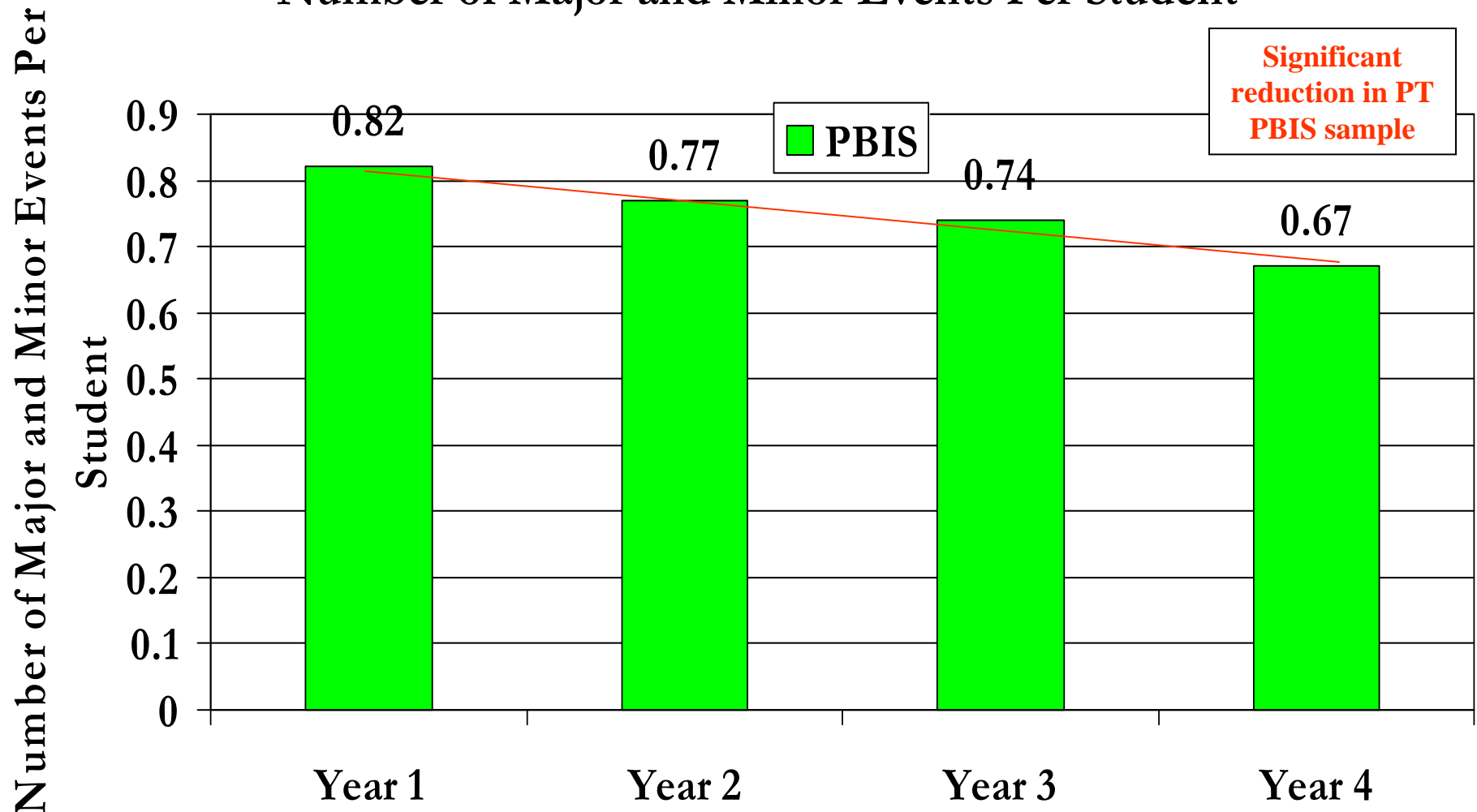
Office Discipline Referrals (ODRs)



Note. Wilks' $\Lambda = .67$, $F[1,14] = 6.99$, $p = .019$, $\eta^2 = .33$, $d = .05$, adjusting for school system, % FARMS, and school enrollment.

Office Discipline Referrals (ODRs)

Number of Major and Minor Events Per Student



Note. Wilks' $\Lambda = .52$, $F[1,14] = 12.90$, $p=.003$, $\eta^2 = .48$, $d = .06$, adjusting for school system, % FARMS, and school enrollment.

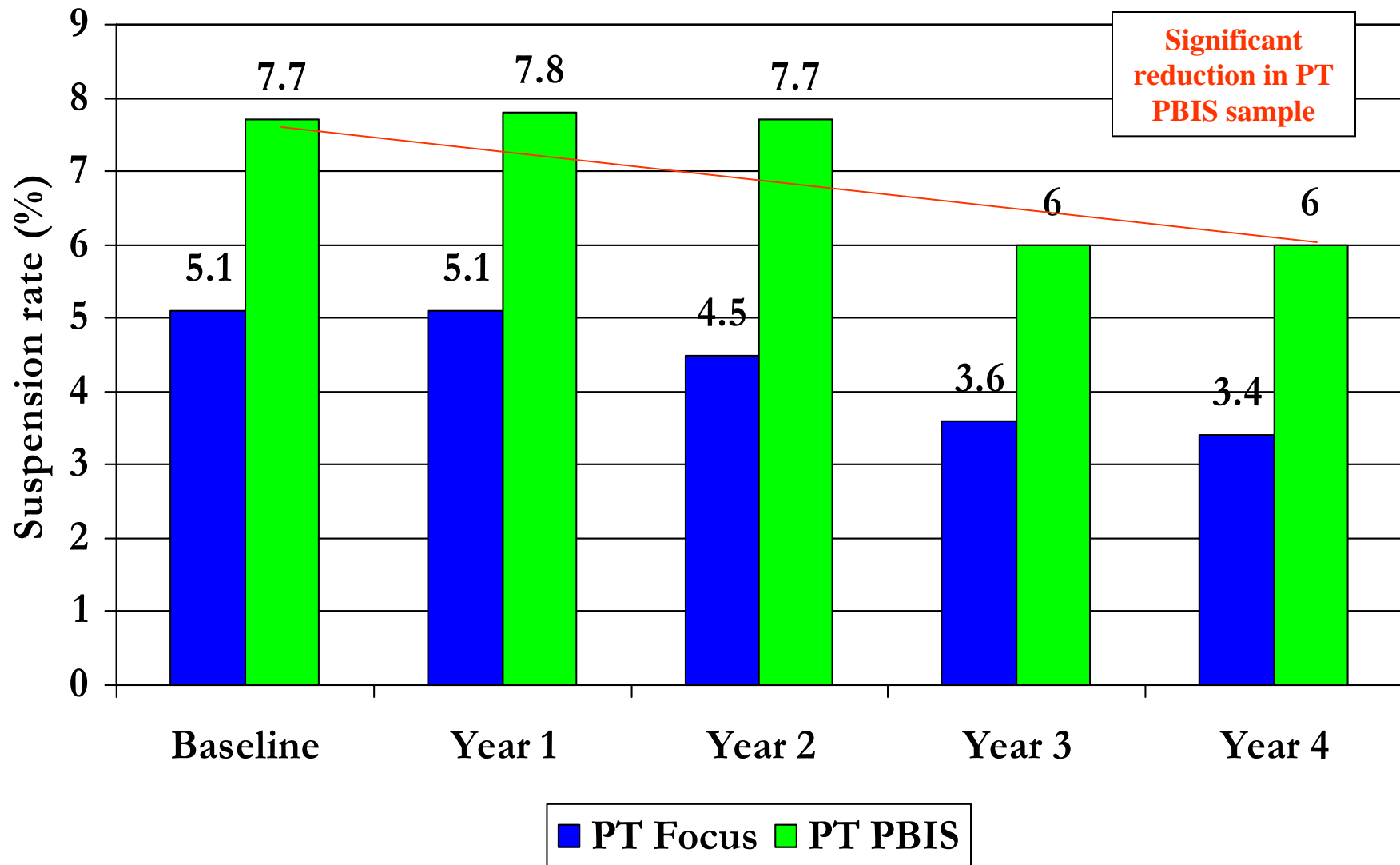
Teacher-Reported Office Discipline

Referrals (ODR): Comparing PBIS and Focus Across All Study Years

- Students in PBIS schools were 35% less likely than students in Focus schools to receive an ODR
 - Boys were 29% less likely to receive an ODR
 - Girls were 45% less likely to receive an ODR
 - Effects were strongest for students who first received PBIS in Kindergarten or 1st grade

Note. Based on teacher report. Estimates varied by generation (i.e., the grade the children were in during the first year of the Project Target), $p < .05$. Analyses adjust for school level covariates.

Suspension Rate (school-level duplicated counts)



Note. Wilcoxon test: (PBIS) $Z = -2.17, p = .03, d = .27.$; (Comparison) $Z = -1.54, p = .12$

Data Collected



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 - Suspensions
- Need for & use of services
 - Counseling & special education
- Academic information
 - State standardized test scores (school-level)

Teacher-reported Need & Use of Services:

Comparing PBIS and Focus across All Study Years

- Generation K students in PBIS schools were 39% less to receive counseling for inappropriate behavior
 - Generation K girls in PBIS schools were 45% less likely
- Generation K students (overall and boys and girls) were 33% less likely to need counseling for social skills
 - Generation K boys in PBIS schools were 35% less likely
- There were no significant differences in special education service referral or use
 - Referral: 14.9% in PBIS vs. 15.4% in Focus schools
 - Use: 12.8% in PBIS vs. 12.7% in Focus schools

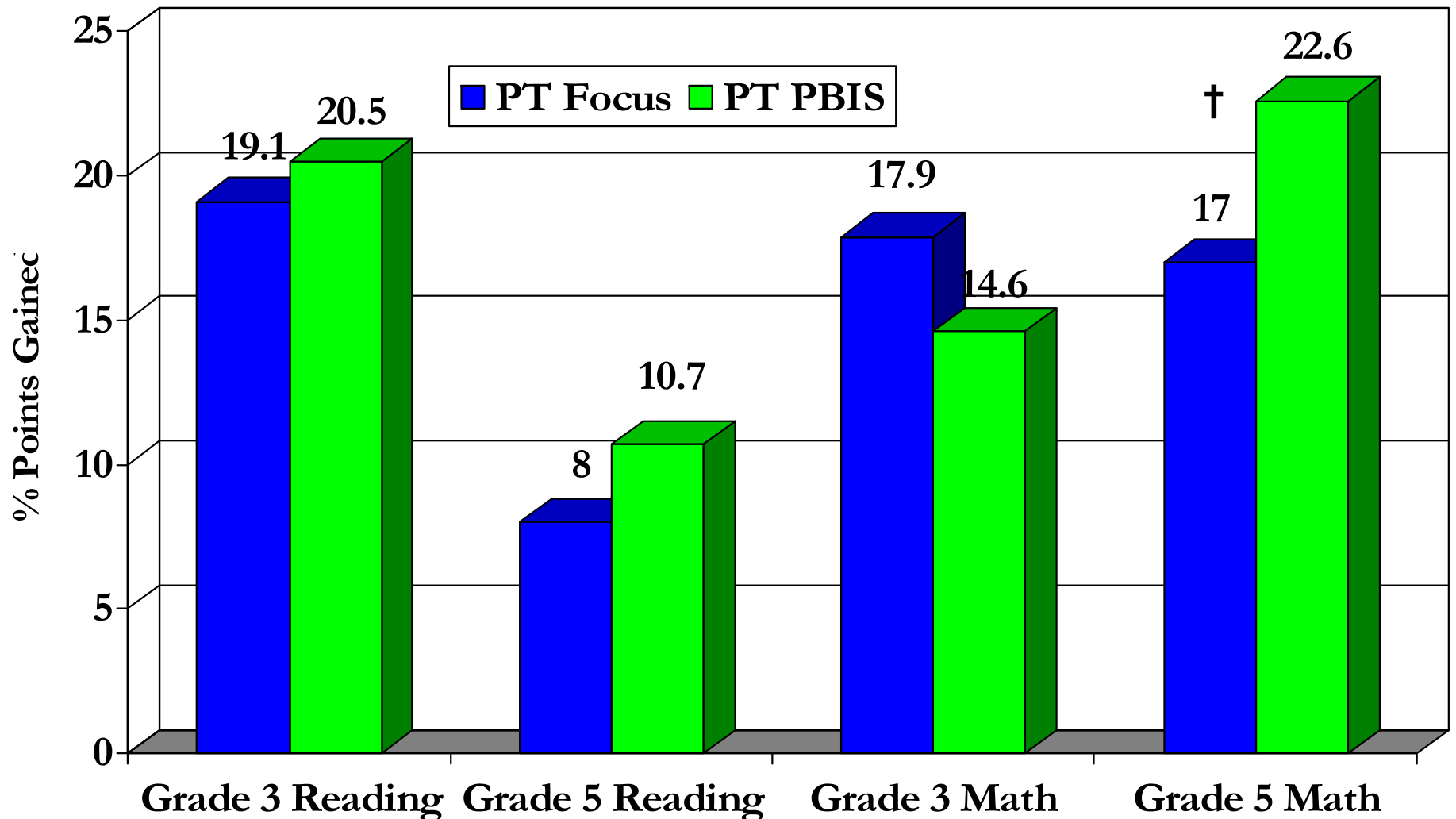
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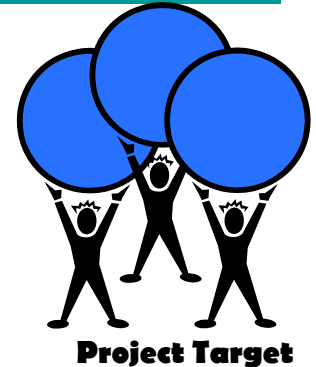
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Achievement Data: Cumulative Gains in MSA Advanced and Proficient Across All Available Years



Note. †Grade 5 math: $t = -1.67$, $df = 35$, $p = .105$, $d = .54$

Summary



- High fidelity implementation of PBIS
 - Comparison schools adopted some aspects of PBIS
- PBIS training associated with increase in school's organizational health
 - Especially those starting at a *slightly* lower level
- Impact on students
 - Reductions in office discipline referrals
 - Reductions in school-level suspensions
 - Reduced need for counseling
 - Positive trend in MSA achievement

Current & Future Research Directions

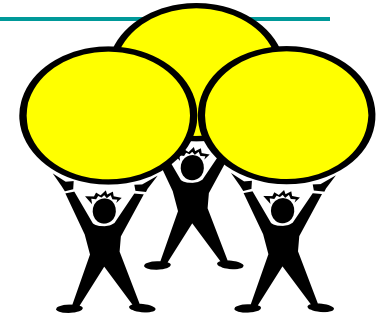
- Ongoing Analyses – Project Target
 - TOCA analyses
 - Variation in impact by level of behavior problems
 - Contextual factors and observational data
 - Student & staff perceptions of climate
 - Disproportionality in office discipline referrals (ODRs)
 - Increased risk of ODRs among African American students
- Evaluation of PBIS in Maryland
 - Design challenges
 - Outcome findings mixed and vary by district

Current & Future Research Directions *(Cont)*

■ Grants

- “Variations Grant” to U.S. DOE (IES)
 - Link Project Target and MSDE data to examine student-level achievement, attendance etc.
 - Determine needs of students not responding adequately to PBIS
- Center for Prevention and Early Intervention (NIMH/NIDA, N. Ialongo) – BCPSS
 - PATHS & Good Behavior Game with PBIS
 - Middle School PATHS & Good Behavior Game with PBIS
 - Middle School Coping Power for PBIS non-responders
- PBIS*plus* Project
 - Supports for non-responders through connection with SST

PBIS_{plus} Project



PBIS_{plus}

Design

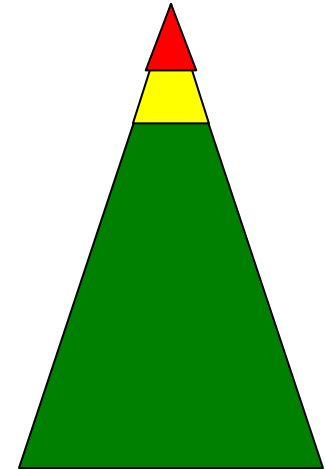
- Federally funded 3-year randomized controlled trial (USDOE/IES)
- 46 elementary schools (in 6 districts) that have high fidelity PBIS & “yellow-zone” needs
- Random assignment to either “SWPBIS” or “Plus” condition

Aims

- Address needs of PBIS “non-responders”
- Increase use of evidence-based programs
- Reduce behavior problems & improve achievement
- Reduce disproportionality

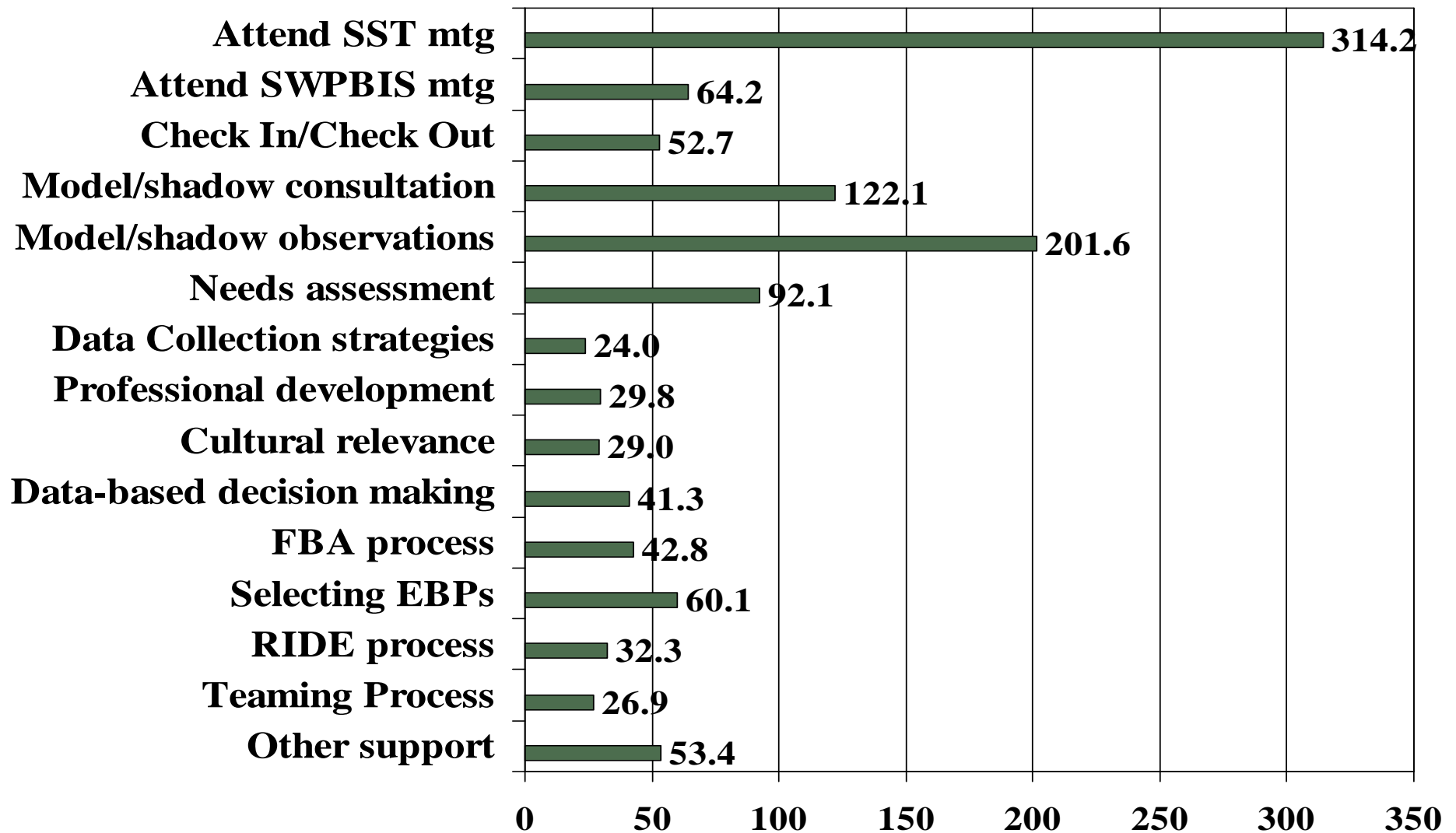
Strategy

- Provide training, support, and on-site technical assistance to SSTs and staff regarding:
 - Simplified functional behavioral assessment and “function-based thinking”
 - Evidence-based programs
 - Effective teaming and collaborative problem-solving
 - Cultural competency & culturally appropriate interventions



Summary of Support Services Provided by PBIS^{plus} Liaisons

Liaison Services Provided (total hours)



Note. Data from Year 1 (Sept – May), N=14 schools

Observations from the Field: Year 1 in *PBISplus*

- Schools need additional services and supports for the children not responding adequately to the universal model
- In Year 1, Liaisons conducted 432 school visits
 - \approx 3.4 visits per month, 3 hours each
 - 1,296 total hours of consultation
- Most common services:
 - Attend SST meetings, conduct needs assessment, model/shadow classroom observations, & model/shadow consultations with teachers
- Potential areas for additional technical assistance:
 - SWPBIS coaching, FBA, SST process, data-based decision-making, & implementation fidelity/quality of check-in/check-out

Next Steps: Topics for Discussion

- Dissemination
 - Local and national
 - Co-author manuscripts for multiple audiences
- Additional collaborative research questions
- Future collaborative grants
 - Middle school
 - Check & Connect / Checkin-Checkout
 - Vary level of coaching, training, and technical assistance

Additional Information on PBIS

www.PBISMaryland.org

www.PBIS.org

www.jhsph.edu/PreventYouthViolence/Research/index.html

Acknowledgements

Johns Hopkins

- Susan Keys
- Katrina Debnam
- Qing Zheng
- Christine Koth
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- Michele Trieb
- Ashley Sawyer

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- Chuck Buckler
- Andrea Alexander
- Milt McKenna

Sheppard Pratt Health System

- Burt Lohnes
- Susan Barrett
- Jerry Bloom

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P. Leaf: CDC (R49/CCR318627)

C. Bradshaw: CDC (K01CE001333-01)

P. Leaf & C. Bradshaw: IES (R324A07118)