

PBIS Academy Model Demo Brief: Impact of Statewide Support Model on High-Needs Schools

The PBIS Framework has demonstrated effectiveness in supporting schools in improving various prosocial outcomes including improved social, emotional, and behavioral skills; increased academic outcomes and attendance; decreased exclusionary discipline (e.g., office referrals, suspensions); and reduced reports of bullying and substance abuse (Algozzine et al., 2012; Bastable et al., 2015; Bradshaw et al., 2010; Bradshaw et al., 2012; Freeman et al., 2016; Gage et al., 2019; Horner et al., 2009; Horner et al., 2020; Kelm & McIntosh, 2012; Lee & Gage, 2020; Ross et al., 2009; Waasdorp et al., 2012). In addition, a number of statewide support systems have effectively trained schools to fidelity using a cohort training model (Barrett et al., 2008; James et al., 2019; Simonsen et al., 2012). However, there are fewer demonstrations of statewide systems of support that prioritize implementation and capacity building for schools in high needs communities. For the purposes of this project, schools are considered high needs that exhibit the following characteristics: lower performance on state assessments, disproportionate discipline rates, attendance concerns, higher rates of students receiving free or reduced lunch, and high staff turnover rates. In this evaluation brief, we describe the Massachusetts PBIS Academy model—a state-supported training approach for high-needs schools and districts. Then, we share evaluation data to document implementation fidelity and outcomes for participating schools, relative to matched comparison schools.

Massachusetts PBIS Academy Model

In 2014, the Massachusetts Department of Elementary and Secondary Education (MA DESE) partnered with the University of Connecticut to develop a statewide PBIS Academy. The primary goal of the PBIS Academy is to provide statewide access to training in PBIS with a focus on assisting high needs schools and districts in building and implementing the PBIS framework to address educational disparities. Originally, only high needs schools were accepted into the Academy. However, in the past three years some schools that are not high needs have been accepted as space allows. Priority continues to be given to schools with higher needs, based on performance on state reported indicators such as testing and attendance.

Since its inception in the 2014-2015 academic year, the PBIS Academy has supported between 20 and 30 schools each year, reaching a total of 152 schools across 51 districts at the time of this evaluation brief. This represents 8% of schools and 10% of districts in the state, including 6 of the 10 largest districts in the state. Schools and districts enrolled in the PBIS Academy receive 3 years of training and support solely focused on universal systems at the school and district level.

School Supports

School-level support included training for teams, training for coaches, and on-site technical assistance. Comprehensive training content across the three years strengthened implementation capacity by focusing on:

1. Getting started with school-wide PBIS
2. Establishing classroom PBIS practices and systems
3. Supporting family engagement
4. Promoting equity
5. Integrating and aligning initiatives
6. Developing staff knowledge of function of behavior
7. Teaching de-escalation and crisis resolution strategies

Training days were structured to allow time for team action planning, in addition to the content delivered.

Coaches' training developed the expertise and internal capacity of local PBIS leaders in each school. This vital role acted as the primary facilitator for the school team's implementation efforts. To broaden capacity and ensure sustainability over time, schools identified two or three people to share coaching roles and responsibilities. Content examined critical coaching roles and functions, implementation steps, and the use of data for decision-making. Coaches' meetings also built a community to collectively problem-solve barriers and prepare for upcoming team training events.

Team and coach training occurred in school and district cohort group events that facilitated collaboration among schools and districts, building a community of support for sharing ideas, problem solving barriers, and providing a variety of exemplars.

As part of the PBIS Academy, trainers offered each participating school on-site technical assistance to support implementation, action planning, and assessment of implementation fidelity. For example, visits may have focused on gaining staff buy-in and input, identifying and measuring outcome goals, developing lesson plans for teaching social skills, or engaging families and community stakeholders.

District Supports

Recent research identifies district level support as a key contributor to sustainability of PBIS over time (Coffey & Horner, 2012). Combined with collective concerns from project leaders regarding sustainability, the PBIS Academy added additional support to participating district leaders in the 2018 – 2019 school year. The goal of building district capacity to support implementation focused on teaming at the district level, connecting implementation to district level goals and evaluation, and supporting internal professional development and coaching. The PBIS Implementation Blueprint (Center on PBIS, 2015) informed development of these supports. Regular contact supported district leader understanding of training and evaluation efforts, as well as how to support integration and alignment of the PBIS framework with other practice models.

Evaluation Structure

The PBIS Academy evaluated fidelity of implementation at the district and school levels. Academy trainers encouraged evaluation of district implementation, using either the District Systems Fidelity Inventory (DSFI; Center on PBIS, 2019) or the Massachusetts MTSS Self-Assessment (Massachusetts Department of Elementary and Secondary Education, MA Tools for Schools, 2021), a state measure of Multi-Tiered Systems of Support. Schools measured implementation fidelity repeatedly each year with the Team Implementation Checklist (TIC; Sugai et al., 2014) as a self-assessment and annually in the Spring with the Tiered Fidelity Inventory (TFI; Algozzine et al., 2014) facilitated by an external coach. Both of these measures provided support for school team action planning. Embedded within the training model, trainers worked with participating schools to develop and continuously re-evaluate data-based goals and related outcome measures identified as significant to their school. For example, some schools in the project used their School Information Systems to track multiple sources of data (e.g., academic and behavioral screening, attendance, grades, suspensions); others used the School-Wide Information System (SWIS; May et al., 2003) to track office discipline referrals; and some used School Climate Survey results for students, staff, and families to monitor progress and plan implementation efforts.

Academy Outcomes

Fidelity of Implementation

The Academy used annual Tier 1 TFI results to assess fidelity of PBIS implementation for participating (and, when possible, “graduated”) schools. These data informed ongoing revisions of the training and technical assistance model, as well as monitoring goals of the Academy.

Table 1 summarizes TFI results for the 152 participating schools across cohorts and years. A TFI score of 70% on the Tier 1 subscale indicates fidelity of implementation (McIntosh et al., 2016). Trainers guided schools in completing Tier 1 of the TFI each spring over the 3 years of their participation in the Academy. In the year after graduating from the Academy, Tier 1 TFI scores were also collected from Cohort 1 schools to assess sustainability (shaded in blue). Table 1 reports the percentage of schools implementing to criterion across Academy participation years, with baseline years for each cohort shaded in peach. A majority of participating schools reached criterion for full implementation of Tier 1 by their third year of participation, with increasing numbers in later cohorts.

Table 1. Percentage of schools by cohort implementing to TFI criterion across years of PBIS implementation.

	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
Cohort 1	10%	55%	76%	66%	
Cohort 2		11%	50%	74%	
Cohort 3			5%	37%	71%
Cohort 4				3%	50%
Cohort 5					17%

Impact on Students

The Academy also annually analyzed common state-reported discipline information, including percentage of students receiving in-school and out-of-school suspensions (ISS and OSS, respectively), to evaluate project outcomes. However, to evaluate the impact of this state level system of support on high needs districts, we also compared state level data across three years of implementation for participating schools with matched controls. Specifically, we used the MA statewide data (<https://profiles.doe.mass.edu/>) to match PBIS schools with other MA schools based on three characteristics: grade range served, percentage of the student population that qualifies as economically disadvantaged, and total student enrollment. We matched PBIS schools with another school in the state that fell in the same groups across all three variables, where possible. If we identified more than one possible match, the exact values for each variable were consulted among possible matches with the same grade range served to find the closest match; starting with percentage of economically disadvantaged and moving to enrollment.

The following graphs compare schools participating in the PBIS Academy (blue) to matched control schools (yellow) in both behavioral and academic outcomes. Changes in ISS and OSS indicated an effect on student behavior and discipline practices. Changes in the percentage of students meeting or exceeding expectations in Math and ELA scores on the state exam indicated an effect on academic performance. We only included schools in these analyses if they reported data in the statewide database. Out of the 145 schools across the five cohorts, 37.9% (n=55) reported ISS and OSS data. Out of the 18 schools in Cohort 3 with available year over year academic data analysis, 88.9% (n=16) reported Math and ELA data.

Figure 1 below shows that the 55 participating schools reporting suspension data saw an average decrease of 49% in the percentage of students receiving ISS across three years. In comparison, matched control schools saw a 29% decrease across the same 3-year period. Overall, the results indicate that participation in the PBIS Academy is associated with fewer students receiving ISS compared to the matched non-participating schools as reported in the statewide data.

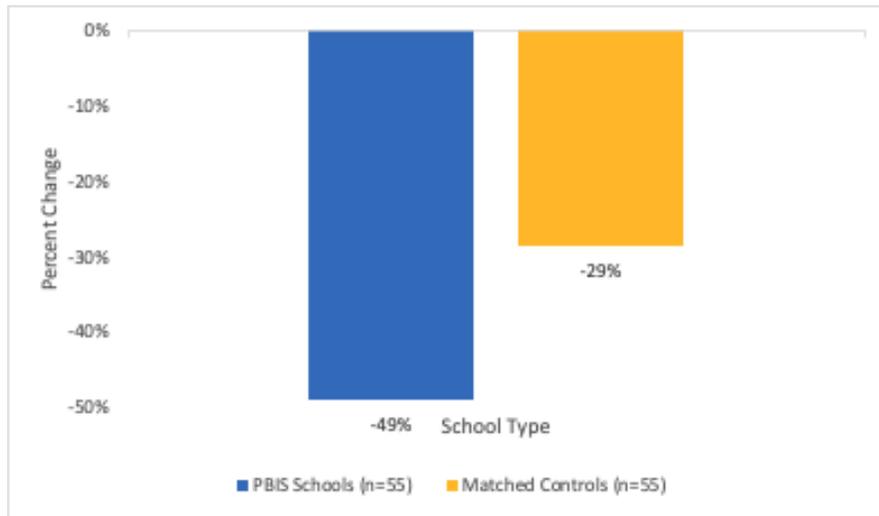


Figure 1. Decreases in percentages of students receiving in-school suspensions across three years, for PBIS schools and matched control schools.

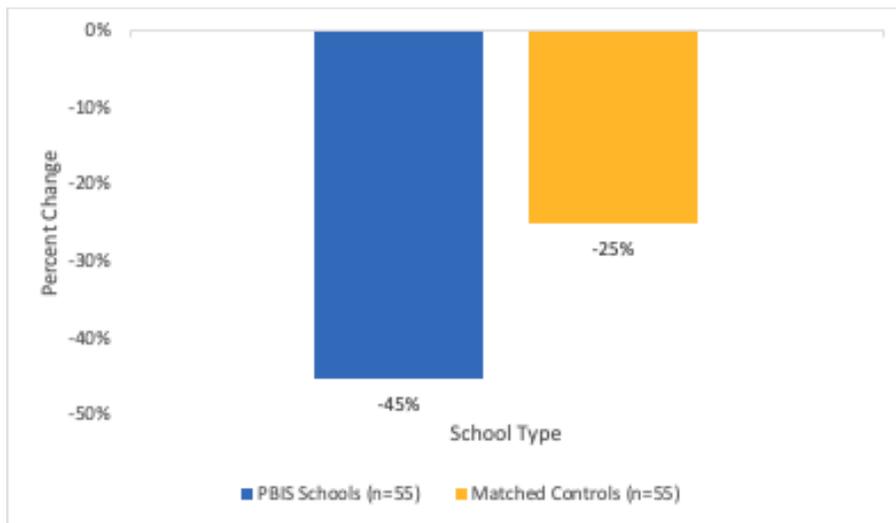


Figure 2. Decreases in percentages of students receiving out of school suspensions across 3 years, for PBIS schools and matched control schools.

Similarly, Figure 2 on the previous page shows that participation in the Academy is associated with fewer students receiving OSS. Schools participating in the Academy saw a 45% decrease across 3 years, while matched controls saw a 25% decrease across the same time frame, as reported in statewide discipline data.

Finally, we also compared PBIS schools and matched control schools using the state academic data by examining student performance on the Massachusetts Comprehensive Assessment System (MCAS) across three years. We included fewer schools (n=16) in this analysis, reflecting the shift to the “next generation” version of the MCAS in 2017. Figure 3 below shows that for PBIS Academy schools, the percentage of growth in students meeting or exceeding expectations in the area of math was 7%, whereas, the matched control schools showed a decrease of 10% across the same time period. Overall, the results indicate that participation in the PBIS Academy is associated with improved growth in students meeting or exceeding expectations in the area of math compared to the matched non-participating schools as reported in the statewide data.

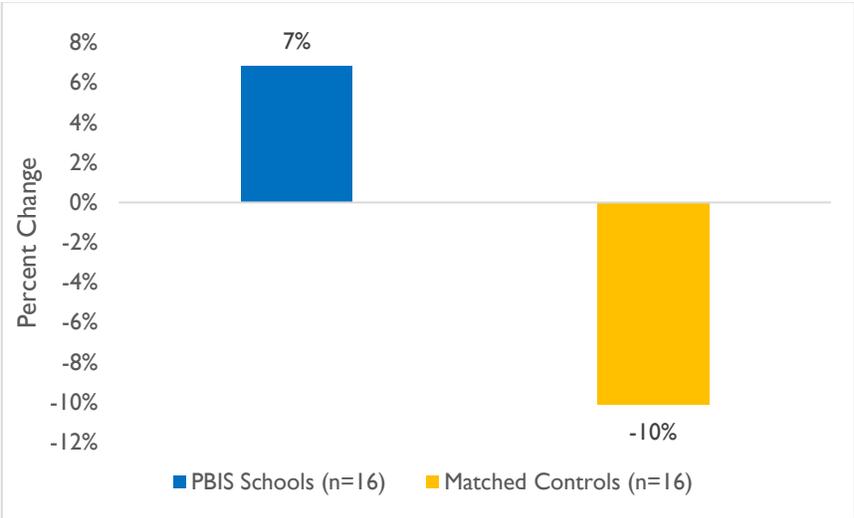
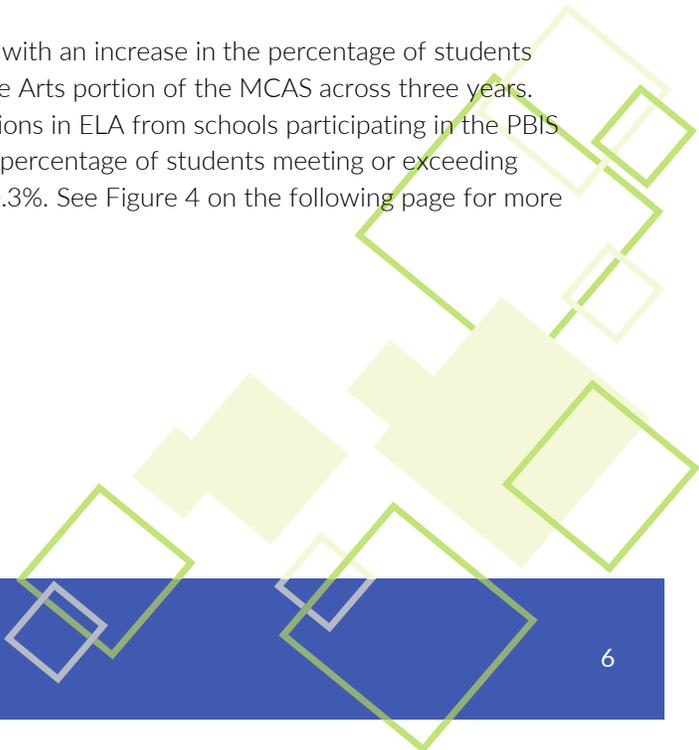


Figure 3. Percentage change of students meeting or exceeding expectations for the Math MCAS across three years, for PBIS Schools and matched control schools.

Similarly, participating in the PBIS Academy was associated with an increase in the percentage of students meeting or exceeding expectations on the English/Language Arts portion of the MCAS across three years. The percentage of students meeting or exceeding expectations in ELA from schools participating in the PBIS Academy increased by 6% across three years, whereas the percentage of students meeting or exceeding expectations in the matched control schools increased by 0.3%. See Figure 4 on the following page for more details.



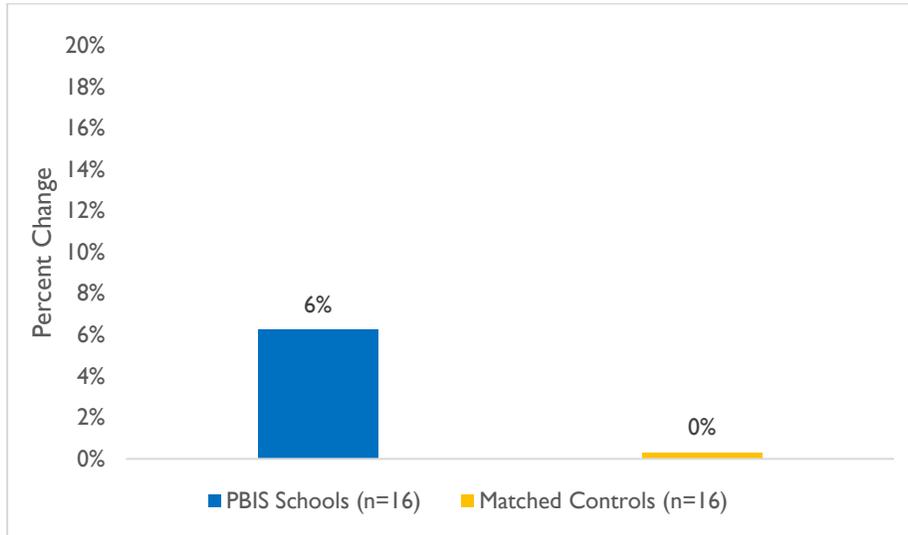


Figure 4. Percentage change of students meeting or exceeding expectations for the ELA MCAS across three years, for PBIS Schools and matched controls.

Summary

Our initial investigation suggests that the statewide PBIS model has shown improvements in discipline outcomes in comparison to matched schools. PBIS schools experienced positive outcomes, relative to matched schools, on measures of Literacy and Mathematics. These results provide preliminary evidence of this statewide model as a support for improving relevant outcomes in high needs schools. Several characteristics of this model are noteworthy with regard to high-fidelity implementation of Tier 1: (a) devoting 3 years of training to implementation of Tier 1, (b) facilitating the development of coaching communities, and (c) building internal capacity at the district level. Further, the active partnership with the Massachusetts Department of Elementary and Secondary Education has been critical to ensure that schools in high-needs LEAs are able to access and benefit from the PBIS Academy.



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This document was supported from funds provided by the Center on Positive Behavioral Interventions and Supports cooperative grant supported by the Office of Special Education Programs (OSEP) and Office of Elementary and Secondary Education (OESE) of the U.S. Department of Education (H326S180001). Dr. Renee Bradley serves as the project officer. The views expressed herein do not necessarily represent the positions or policies of the U.S. Department of Education. No official endorsement by the U.S. Department of Education of any product, commodity, or enterprise mentioned in this document is intended or should be inferred.

Suggested Citation for this Publication

Feinberg, A.B., Meyer, K.A., Everett, S., Robbie, K., Pierce, A., Shor, R., Ricotta, A., & Fischer, S. (April, 2021). *PBIS Academy Model Demo Brief: Impact of Statewide Support Model on High-Needs Schools*. Center on PBIS, University of Oregon. www.pbis.org
Eugene, OR: Center on PBIS, University of Oregon. www.pbis.org.