

Do Schools with Adequate Tier I SWPBIS Implementation Have Stronger Implementation at Tiers II and III?

Jerin Kim, Kent McIntosh, Rob Hoselton
University of Oregon

Problem behavior continues to be a serious concern for educators, and to address the need for effective solutions, over 20,000 schools have adopted school-wide positive behavioral interventions and supports (SWPBIS; Horner, 2014, July). SWPBIS is a preventive and systematic approach that emphasizes high quality of implementation of evidence-based practices, use of data for decision making, and organization of support within a three-tiered public health model (Sugai & Horner, 2006).

To illustrate the three-tiered model, Tier I (universal) supports are delivered similarly to all students in all settings, and at least 80% of students are expected to respond to these supports. Beyond universal supports, Tier II (targeted) supports serve 10-15% of students whose behavior does not respond to Tier I supports. A small group of students with chronic and severe problem behaviors may require Tier III (intensive individual) supports, interventions that are tailored to students' specific needs (Sugai & Horner, 2006).

Tier I supports, when delivered with fidelity, can be effective in preventing problem behavior and enhancing social and emotional skills for the vast majority of students in a school (Bradshaw, Waasdorp, & Leaf, 2012). In keeping

with the public health model logic, it is often recommended to implement Tier I systems to criterion (e.g., 80% or above on the School-wide Evaluation Tool or the Team Implementation Checklist; 70% or above on the Benchmark of Quality) before implementing Tier II and III systems (Everett, Sugai, Fallon, Simonsen, & O'Keeffe, 2011; Haggans & Powers, 2014). Because support at Tiers II and III is intended to build upon—rather than replace—Tier I support (Baker, Fien, & Baker, 2010), a solid Tier I system is considered a pre-requisite for additional tiers (Fairbanks, Simonsen, & Sugai, 2008; George, Kincaid, & Pollard-Sage, 2009). Moreover, the core team activities that take place at Tier I (e.g., assessing fidelity, data-based decision making) can serve as stepping stones for the same activities—but

continued on next page

with greater complexity—at Tiers II and III (McIntosh & Goodman, in press).

However, the needs of students with chronic and serious behavior problems sometimes motivates school staff and administrators to move quickly on to implementing Tier II and III systems as soon as possible, before Tier I systems are fully in place. There is little empirical guidance regarding whether this approach or waiting until Tier I is fully in place is more effective in building a comprehensive three-tiered SWPBIS system.

The purpose of this evaluation brief is to answer the following questions:

1. To what extent do schools with adequate Tier I SWPBIS implementation have stronger implementation at Tiers II and III?
2. Which components of Tier I systems are most strongly related to implementation of Tier II and III systems?

Method

The sample for this evaluation brief came from the PBIS Assessment database for schools reporting fidelity of implementation during the 2012-2013 school year. Specifically, data came from all 1482 schools reporting fidelity of implementation both at Tier I through the School-wide Benchmarks of Quality (BoQ; Kincaid, Childs, & George, 2010) and at Tiers II and III through the Benchmarks of Advanced Tiers (BAT; Anderson, Childs, Kincaid, Horner, George, Todd, Sampson, & Spaulding, 2009). Of these schools, 85.83% of schools were implementing Tier I at

criterion. According to the most recent National Center for Education Statistics (NCES) school data, the average enrollment was 531. The schools were 62.21% elementary, 15.79% middle, 9.11% high, 9.18% K-8, and 3.71% other. The mean percent of non-White students was 52.80%. The mean percent of students receiving free reduced price lunch was 57.10%. The descriptive statistics of fidelity measures and the school demographics by Tier I fidelity group (below vs. at or above criterion) are summarized in Table 1.

Measures

Tier I implementation: School-wide Benchmarks of Quality (BoQ; Kincaid et al., 2010). The BoQ assesses the fidelity of Tier I SWPBIS implementation. It includes 53 items within 10 subscales: PBS team, faculty commitment, effective discipline procedures, data entry, expectations and rules, reward system, lesson plans, implementation plans, classroom system, and evaluation. The criterion for adequate fidelity of implementation is 70%. A total of 1272 (of 1482) met this criterion.

Tier II/III implementation: Benchmarks of Advanced Tiers (BAT; Anderson et al., 2011). The BAT assesses the fidelity of Tier II and III behavior support systems within SWPBIS. It includes 56 items, and 14 items can be repeated for additional Tier II interventions. BAT results are summarized as a percent implementation of 3 systems: Foundations (assessing commitment, student identification, and monitoring and evaluation for Tiers II and III), Tier II, and Tier III. In this sample, each higher tier had a lower percent implementation.

continued on next page

Table 1
School Demographic Characteristics

School Characteristics	BoQ < 70%			BoQ ≥ 70%			Total		
	M	SD	n	M	SD	n	M	SD	n
Enrollment	456.60	292.16	65	437.48	271.57	662	439.19	273.32	727
Free/Reduced Priced Lunch	66%	25%	190	56%	25%	1209	57%	25%	1399
% Non-White	66%	33%	190	51%	35%	1212	53%	35%	1402
Grade Level			210			1272			1482
PreK-K			0			11			11
Elementary			72			850			922
Middle			34			200			234
High			46			89			135
PreK-8			45			91			136
PreK-12			2			10			12

continued on next page

Table 2
Descriptive Statistics of Fidelity Measures

Fidelity Measure	BoQ < 70% (n = 210)	BoQ ≥ 70% (n = 1272)
	Mean %	Mean %
Total BoQ	55%	88%
PBS team	65%	92%
Faculty commitment	42%	82%
Effective procedures for dealing with discipline	70%	95%
Data entry and analysis established	48%	88%
Expectations and rules developed	77%	96%
Reward/recognition program established	51%	85%
Lesson plans for teaching expectations /rules	45%	84%
Implementation plan	41%	83%
Classroom	57%	90%
Evaluation	54%	89%
BAT Total	44%	66%
Foundation	53%	81%
Tier II	55%	79%
Tier III	31%	46%

continued on next page

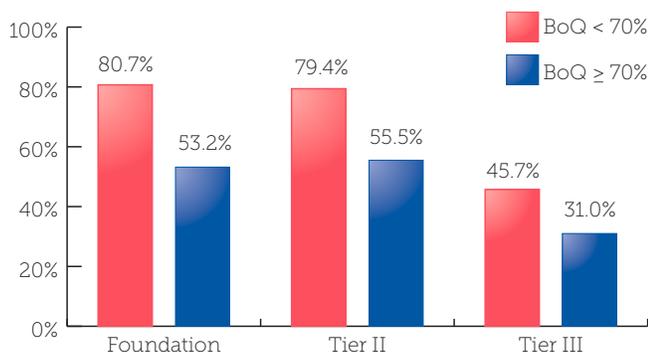
Results

To what extent do schools with adequate Tier I SWPBIS implementation have stronger implementation at Tiers II and III?

Independent-samples t-tests were conducted to test whether schools with BoQ scores at or above 70% had significantly higher BAT scores (see Table 2). The schools with adequate Tier I implementation had statistically significantly higher scores for all BAT systems, including Foundations, $t(257.98) = 16.72, p < .001$, Tier II systems, $t(250.84) = 11.10, p < .001$, and Tier III systems, $t(364.72) = 6.84, p < .001$. These results indicate that strong implementation of Tier I systems is related to more complete implementation at Tiers II and III.

As can be seen in Figure 1, a particular pattern appeared. The largest differences were seen in Foundations, with smaller differences for Tier II and the smallest (but still statistically significant) differences at Tier III. These results show that schools with Tier I SWPBIS systems in place have a strong base for systematic implementation of advanced tier supports in general, and this effect was more pronounced at Tier II than at Tier III.

Figure 1
Differences in BAT Scores Based on Tier I SWPBIS Implementation



Which components of Tier I systems are most strongly related to implementation of Tier II and III systems?

To examine which aspects of Tier I implementation were related to Tier II and III systems, bivariate correlations between the ten BoQ subscale scores and BAT scores were calculated. As shown in Table 3, each of the BoQ subscales were shown to be significantly positively correlated with each of BAT scores. However, as tiers became more intensive, the correlation became weaker.

The BAT Foundations score was most strongly related to the Implementation Plan subscale of the BoQ, $r(1480) = .47, p < .001$. This correlation indicates that schools strong in planning for implementing universal interventions tend to establish systems for implementing intensive tiers more strongly. The BAT Tier II score was most strongly related to the BoQ Data Entry and Analysis Plan subscale, $r(1480) = .38, p < .001$. Strong school-wide data systems were associated with strong implementation of Tier II. The BAT Tier III score was most strongly related to the BoQ Evaluation subscale, $r(1480) = .38, p < .001$. Schools obtaining higher scores in evaluating the effects of universal SWPBIS were likely to show strong implementation in Tier III. Overall, the BoQ Implementation Plan and Evaluation subscales were consistently strongly related to all of the BAT scores. However, these correlations were moderate in terms of magnitude.

Conclusion

The three-tiered SWPBIS approach benefits students across the range of behavioral needs, and each tier operates cumulatively as opposed to exclusively, as additional tiers of support are layered on to Tier I (Hagans, & Powers, 2014). This aspect of the model indicates that schools that lack fidelity in Tier I systems are less likely to have effective systems at Tiers II and III. The results of this evaluation brief provide some support for this idea.

continued on next page

Table 3
Bivariate Correlations between BoQ Subscales and BAT Scores

Fidelity Measure	BAT		
	Foundation	Tier II	Tier III
PBS team	.358	.274	.135
Faculty commitment	.405	.306	.163
Effective procedures for dealing with discipline	.376	.272	.119
Data entry and analysis established	.466	.378	.125
Expectations and rules developed	.333	.233	.103
Reward/recognition program established	.383	.293	.146
Lesson plans for teaching expectations /rules	.436	.368	.137
Implementation plan	.473	.371	.162
Classroom	.413	.313	.150
Evaluation	.457	.369	.165

Note. All correlation p-values < .001

Overall, this evaluation study supported the notion that schools with adequate Tier I SWPBIS implementation systems have stronger implementation of additional tiers. When schools had a foundation of adequate Tier I systems, they were more likely to implement well at Tiers II and III. This effect was strongest in the foundations needed for implementing advanced tiers. In addition, some especially useful components of Tier I systems appear to be implementation planning, data systems, and evaluation. Effects were strongest for Foundations and Tier II, but weaker for Tier III.

These results seem to suggest that it may be a more effective approach for schools to implement Tier I SWPBIS adequately (i.e., meeting criteria on a Tier I fidelity measure) in order to build the infrastructure (e.g. student identification, data system) needed for implementing systems at Tiers II and III. However, because the study is correlational and cross-sectional, it is entirely possible that other factors are related to quality of implementation at both Tier I and the advanced tiers. For example, perhaps the schools implementing Tier I well had strong administrator leadership or access to effective coaching that enhanced implementation at all tiers. In addition, it is possible (although perhaps not as likely) that strong implementation at Tiers II and III somehow enhanced their implementation of Tier I systems. Future studies may address this issue by tracking schools' implementation at all three tiers over time. In addition, the correlations between the BoQ subscales and BAT scores were moderate to low. Even with strong implementation at Tier I, implementation at Tier III was not consistently strong. More research is needed to identify strategies and systems for enhancing Tier III support.

Despite some limitations, the results of this evaluation appears promising as an initial study to demonstrate the relation between the implementation of Tier I systems and those in advanced tiers. As a growing number of schools continue to implement systems at Tiers II and III, more research is needed to understand how best to support schools in implementing a complete three-tiered SWPBIS model.

references on next page

References

- Anderson, C., Childs, K. E., Kincaid, D., Horner, R., George, H. P., Todd, A. W., Sampson, N., & Spaulding, S. (2009). *Benchmarks for Advanced Tiers (BAT)*. Eugene, OR: Educational and Community Supports, University of Oregon & University of South Florida.
- Baker, S. K., Fien, H., & Baker, D. L. (2010). Robust reading instruction in the early grades: Conceptual and practical issues in the integration and evaluation of tier 1 and tier 2 instructional supports. *Focus on Exceptional Children, 42*(9), 1-20.
- Debnam, K. J., Pas, E. T., & Bradshaw, C. P. (2012). Secondary and tertiary support systems in schools implementing school-wide positive behavioral interventions and supports a preliminary descriptive analysis. *Journal of Positive Behavior Interventions, 14*, 142-152.
- Everett, S., Sugai, G., Fallon, L., Simonsen, B., & O'Keeffe, B. (2011). *School-wide tier II interventions: Check in-check out getting started workbook*. Center on Positive Behavioral Interventions and Supports, Center for Behavioral Education and Research, University of Connecticut.
- Fairbanks, S., Simonsen, B., & Sugai, G. (2008). Classwide secondary and tertiary tier practices and systems. *Teaching Exceptional Children, 40*(6), 44-52.
- George, H. P., Kincaid, D., & Pollard-Sage, J. (2009). Primary-tier interventions and supports. In W. Sailor, G. Dunlap, G. Sugai & R. H. Horner (Eds.), *Handbook of positive behavior support* (pp. 375-394). New York: Springer.
- Hagans, K., & Powers, K. (2014). Multi-tiered Systems of Support (MTSS): recommendations for Elimination of Barriers to Implementation with Fidelity in California. The Napa County Office of Education's CalSTAT Project, Retrieved from [http://www.cde.ca.gov/sp/se/cc/documents/mtss.pdf#search=-Multi-tiered%20Systems%20of%20Support%20\(MTSS\):%20recommendations%20for%20Elimination%20of%20Barriers%20to%20Implementation&view=FitH&pagemode=none](http://www.cde.ca.gov/sp/se/cc/documents/mtss.pdf#search=-Multi-tiered%20Systems%20of%20Support%20(MTSS):%20recommendations%20for%20Elimination%20of%20Barriers%20to%20Implementation&view=FitH&pagemode=none).
- Horner, R. H. (July, 2014). *Using PBIS to make schools more effective and equitable*. Paper presented at the Southern Region Student Wellness Conference, Indian Wells, CA.
- Kincaid, D., Childs, K., & George, H. (2010). *School-wide Benchmarks of Quality (Revised)*. Unpublished instrument. University of South Florida, Tampa, FL.
- McIntosh, K., & Goodman, S. (in press). *Multi-tiered systems of support: Integrating academic RTI and school-wide PBIS*. New York: Guilford Press.
- Sugai, G., & Horner, R. H. (2006). A promising approach for expanding and sustaining school-wide positive behavior support. *School Psychology Review, 35*, 245-259.

This project is supported by the U.S. Department of Education, Office of Special Education Programs (OSEP). Opinions expressed herein are those of the authors and do not necessarily represent the position of the U.S. Department of Education