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Sustained Implementation of School-wide Positive Behavior Interventions and Supports through Continuous Regeneration

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Sustained Implementation of School-wide Positive Behavior Interventions and Supports through

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Abstract

School-wide Positive Behavior Supports (SWPBIS) aim to create safe and civil school environments through proactive teaching, consistent reinforcing, and appropriate response to student behavior. The literature pertaining to the implementation of SWPBIS is limited, having few longitudinal studies of school-based changes to sustain the initiative. The present case study examined the data-based adaptations in terms of effectiveness, efficiency, priority, and continuous regeneration during a five-year implementation of SWPBIS at a high needs middle school. Findings demonstrated marked improvement in fidelity of implementation, student, parent, and staff perceptions, and student behavior outcomes. Recommendations related to continual improvement that engages more staff are provided for school teams wishing to sustain their SWPBIS implementation.

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Sustained Implementation of SWPBIS through Continuous Regeneration

The implementation of academic Multi-Tiered System of Supports (MTSS), formerly referred to as Response to Intervention (RTI), is well established in the literature. John Hattie (2012) synthesized over 800 meta-analyses measuring the impact of educational practices on student achievement and found RTI to have the third highest positive effect (1.07). Less well established is the literature pertaining to the implementation of School-Wide Positive Behavior Interventions and Supports (SWPBIS). School-Wide PBIS focuses on creating a safe and civil school climate through prevention and reduced negative student outcomes, such as exclusionary school consequences (Bradshaw, Mitchell, & Leaf, 2010; Horner, Sugai, Todd, & Lewis-Palmer, 2005; Nocera, Whitbread, & Nocera, 2014; Taylor-Greene, Brown, Nelson, Longton, Gassman, & Cohen, 1997). School-wide PBIS consists of *universal* supports for all students (Tier 1); *strategic* support for small groups of students (Tier 2); and *intensive* supports for individual students (Tier 3). Tier 1 provides primary prevention for behavior including, but not be limited to, systematic and explicit behavior instruction, systems of reinforcement/recognition, and corrective responses to behavior. Tier 2 includes strategies for students in the early phases of school discipline or otherwise identified as in need of more behavior support than is offered in Tier 1. Students with more intensive behavioral needs require individualized intervention based on Tier 3 functional analysis of the problem behavior.

School-Wide Positive Behavior Interventions and Supports

A three-Tiered model, SWPBIS provides a framework for both preventing student misbehavior and creating safe and civil school climates that maximize instructional time and student well-being. The model is based on three principles: (a) providing all students with

universal interventions, (b) screening students to determine needed services, and (c) delivering a

continuum of services matched to the level of support indicated by screening and assessment

(McIntosh, Chard, Boland, & Horner, 2006). These three principles are interdependent and

reliant upon data-informed decision making to achieve desired outcomes.

The use of SWPBIS continues to grow in importance across the country. In amendments

to the Individuals with Disabilities Education Act (IDEA) in 1997 and in 2004, Congress

explicitly recognized the potential of SWPBIS to prevent exclusion from school and improve

educational outcomes for students with disabilities (Public Law 108-446 108th Congress, 2004).

As a result, the US Department of Education has long promoted SWPBIS, initially funding

the Office of Special Education Programs (OSEP) Technical Assistance Center on PBIS in

1998. In October of 2013 a new five-year funding cycle was launched with the intent to help

educational entities "establish, scale-up, and sustain the PBIS framework" (PBIS OSEP

Technical Assistance Center, 2015). School-wide PBIS has been implemented in over 20,000

schools across the fifty states and Washington, DC, as well as some US territories (PBIS OSEP

Technical Assistance Center, 2015).

Key Components of School-Wide Positive Behavior Interventions and Supports

School-wide PBIS begins with three to five essential rules or common expectations for

all students, across all areas of campus, referred to by Sprick (2013) as "Guidelines for Success".

Schools commonly adopt guidelines related to, but not limited to, safety, responsibility, and

respect. These guidelines are shared across all common areas of the school and explicitly taught

to students in all settings. For example, students are taught what respectful behavior looks and

sounds like in the classroom, cafeteria, bathroom, hallways, and other common areas. Teachers

make behavioral expectations clear, consistently teach, frequently positively reinforce, and

correct behaviors as needed. However, emphasis is placed on positive interactions, with staff

intentionally seeking out and recognizing desired behaviors to foster students' emotional self-

regulation (Birch & Ladd, 1998) and improve overall behavior (Ialongo, Poduska, Werthamer, &

Kellam, 2001). The goal is to meet or exceed a ratio of four positive interactions for every

corrective interaction (Kalis, Vannest, & Parker, 2007) to "increase the amount of attention (time

and intensity) a student receives when not engaged in misbehavior" (Sprick, 2013, p. 236).

Additionally, students are intentionally recognized for meeting behavioral expectations utilizing

a variety of reinforcement systems.

The use and analysis of data on a cycle of improvement is vital to full implementation of

SWPBIS. A representative, school-based team should meet frequently to review key data points

and make data-based decisions to improve SWPBIS systems (McIntosh, Kim, Mercer, Stickland-

Cohen, & Horner, 2015). Team meetings consist of analyzing behavior data on both school-

wide and individual student levels to identify areas of improvement across the school (e.g.,

common areas) and students with greater behavioral needs to facilitate early, targeted

interventions for students across Tiers 1, 2, and 3. Many schools rely on office discipline

referrals (ODRs) for this purpose. School staff submit ODRs to document student behavior

concerns and data systems such as the School-Wide Information System (SWIS: PBIS Apps,

2015) are used to monitor PBIS effectiveness in reducing problem behaviors (e.g., ODRs by

teacher, by location, by time).

The most common measure of SWPBIS implementation fidelity is the School-Wide

Evaluation Tool (SET; Horner, Todd, Lewis-Palmer, Irvin, Sugai, & Boland, 2004). This tool is

typically used to collect data on structural implementation (e.g., posted expectations, student

familiarity with common expectations). The SET is to be conducted and results reviewed on an

annual basis to provide feedback on the implementation process. Schools that sustain SWPBIS with fidelity have a minimum SET score of 80% for the last two years on record, or two years above 80% and a consecutive year with a score of 75% or above (Coffey & Horner, 2012).

When considering whether to implement a practice in schools, a key concern is the evidence base of that practice. Researchers propose using five criteria to determine evidence base: (a) number of studies documenting an experimental effect, (b) methodological quality of those studies, (c) replicability of the findings, (d) size of the documented effect, and (e) durability and generalizability of the observed effect (Chitiyo, May, & Chitiyo, 2012; Horner, Sugai, & Anderson, 2010). Many features of SWPBIS have the evidence to support their adoption, such as Teacher-Student Relationships, Classroom Cohesion and Classroom Management (Hattie, 2012).   However, researchers disagree on the robustness of the evidence base for SWPBIS, either labeling SWPBIS a "promising approach which, requires more inquiry with enhanced methodological rigor" (Chitiyo et al., 2012, p. 20), or certifying that "the overall approach carries sufficient experimental documentation to be classified as evidence based and to warrant large-scale implementation" (Horner et al., 2010, p. 11). This notwithstanding, SWPBIS is widely implemented in diverse school settings across the United States and the literature suggests implementation features hypothesized to support its *sustainability* (Coffey & Horner, 2012; McIntosh, Filter, Bennett, Ryan, & Sugai, 2010; McIntosh et al., 2015; McIntosh & Turri, 2014; Sugai & Horner, 2006). However, there is a dearth of longitudinal, holistic analyses of change efforts featuring sequential, multi-faceted data-based decisions leading to *sustained implementation*. The purpose of the present investigation is to examine one school's implementation using a model for sustained implementation of SWPBIS.

Review of the Literature

Model of Sustainability for School-based Practices

Change in the form of any educational initiative warrants careful consideration; sustained

implementation of educational initiatives is a "rare phenomenon" (Fixsen, Naoom, Blase,

Friedman, & Wallace, 2005). For initiatives to endure over time, withstand staff turnover and

continually evolve to better support students and staff, the practice must have sustainability, "a

practice's potential for durable implementation with high fidelity, when considering features of

the practice, its implementation, and the context of implementation" (McIntosh & Turri, 2014, p.

2062). McIntosh et al. (2015) provided an important distinction between *sustained*

implementation (the desired outcome for any initiative) and *sustainability* (the presence of

variables that predict an initiative's sustained implementation). McIntosh, Horner, and Sugai

(2009) reviewed the literature base and proposed a model of sustainable implementation for any

school-based systems-level practice. The model consists of four variables: effectiveness,

efficiency, priority and continuous regeneration. With attention to these variables, leadership

teams can guide the process of implementation toward a sustained effort that accomplishes the

initiative's goals. Thus, this framework was selected to guide the present case study's

examination of the variables (effectiveness, efficiency, priority, and continuous regeneration)

that impacted one middle school's five-year implementation effort.

Effectiveness. Two components in support of effective implementation are building a

network of experts to train school teams (Freeman, Lohrmann, Irvin, Kincaid, Vossler, & Ferro,

2009) and creating leadership teams to steer ongoing training and implementation (Sugai &

Horner, 2006). In this way, SWPBIS is implemented to a criterion of fidelity and school

personnel experience positive outcomes for a large proportion of students (McIntosh, Horner, et

al., 2009). Outcomes such as improved student performance and school climate, reduction in workload, or reduction in problem behaviors serve as reinforcement for the implementation effort and increase the motivation to continue the practice. Intentional and well-designed training including modeling, performance feedback, and explaining the theory and rationale for the practice is useful in promoting fidelity of implementation (Fixsen et al., 2005), as is continual follow up with feedback and support to teachers after training (McIntosh, Filter, et al., 2010).

Efficiency. Efficiency consists of the relationship between the effectiveness of the practice and the effort required to produce results. Implementers of the systems-level practice must perceive it to be efficient in terms of their own dedicated effort and cost-effective in relation to other initiatives. Therefore, staff perception is a key variable associated with efficiency. In addition, to sustain the implementation, the practice must become more efficient over time in terms of personnel and monetary resources allocated to sustain it (Han & Weiss, 2005). McIntosh, Filter, et al. (2010) suggest archiving permanent components of the practice and generating durable products that can be reused over time to "maximize the likelihood that training and information about the practice is delivered efficiently, but with high fidelity" (p. 13).

Priority. McIntosh, Horner, et al. (2009) define priority as the relative visibility and importance of a practice in comparison to others and suggest connecting practices to the vision, mission, and core values of the organization. Because schools are busy places with competing priorities, intentional promotion of the practice's importance and outcomes can enhance sustainability, as can writing the practice into policy (e.g., the school and/or district improvement plan) (Han & Weiss, 2005). Also important, Greenberg (2004) advocates for the integration of practices into existing initiatives to promote visibility and encourage the coordination of services

across structures, so the collective implementation is viewed as a high priority by staff and seen as more viable than other tasks competing for attention.

  Continuous regeneration. Once a practice is seen as a priority due to its effectiveness and efficiency, the implementation efforts must continue to adapt to changes in the school environment (e.g., staff turnover, changing student demographics, funding limitations) to be sustainable. This is continuous regeneration, the process of (a) iterative monitoring of both fidelity and outcomes, (b) adaptation and re-adaptation of a practice over time while keeping its critical features intact, and (c) ongoing investment in implementation and reimplementation (Han & Weiss, 2005; McLaughlin & Mitra, 2001). McIntosh, Horner, et al. (2009) identify data-based decision making as the foundation of continuous regeneration. Measurement of various data sources such as *context* (staff readiness for change and student needs), *implementation* (fidelity criteria), and *outcomes* (student performance) allows the practice to be responsive to change (McIntosh, Filter, et al., 2010). Continuous regeneration can also occur through application to new settings (Coburn, 2003) or different, more intensive levels of behavior support (McIntosh, Horner, et al., 2009).

  Continuous regeneration is closely related to the principle of generalization. "A practice becomes more valuable when used in a variety of contexts rather than limited to the original area of implementation" (McIntosh, Horner, et al., 2009, p. 337). Continuous regeneration has three components necessary to realize generalizability: capacity building, continuous measurement, and data-based problem solving.

  Capacity building. Fullan and Quinn (2016) define collective capacity building as "the increased ability of educators at all levels of the system to make the instructional changes required to raise the bar and close the gap for all students" (p. 57). Increasing this ability

requires a systematic process of ongoing professional learning over a number of years. Hattie

(2015) grew his 2012 study by 400 meta-analyses and found that capacity building, or what he

terms "collective expertise," had the largest positive effect on student achievement. Hattie's

collective expertise is a system in which teacher expertise is identified and recognized, and

where collaborative processes work to "raise the overall level of expertise and effectiveness"

amongst all teachers (p. 25). In this way, an experienced core group of staff take on important

roles in sustaining the practice.

   Continuous measurement. Hattie (2015) also advocates developing a "culture of

evidence" that "increases the likelihood that programs will achieve results by increasing the

capacity of stakeholders to plan, implement and evaluate their own programs" (p. 15). McIntosh,

Horner, et al. (2009) refer to this as regular cycles of measurement. The authors maintain that

continuous measurement sends two important messages: (a) the practice and its outcomes are

valued, and (b) the personnel will hold themselves accountable for its implementation. In doing

so, measuring fidelity of implementation becomes as important as measuring outcomes

(McIntosh, Horner et al., 2009).

   Data-based problem solving. Data-based problem solving is the process of

systematically and regularly assessing the measurement data to detect reductions in fidelity and

spur action planning. The implementation team responds with data-based decisions to alter

components of the practice to improve its effectiveness, efficiency, and relevance to counter

threats to sustainability (e.g., staff turnover, changing student demographics, funding limitations)

(McIntosh, Horner et al., 2009). This process improves the fidelity of implementation through

what Bertram, Blasé, and Fixsen (2015) refer to as decision support data systems, where

comprehensible data is provided in a timely manner enabling the team to make necessary

decisions guiding implementation.

The principles of ensuring outcomes through team-oriented *effectiveness*, perceptions of

utility and general *efficiency*, visibility and comparative *priority*, and use of data for *continuous*

regeneration increase the likelihood of sustained implementation. These four principles form the

framework for the current study. One school's implementation of SWPBIS was examined to

determine the level of sustained implementation as defined by each of the four principles.

For the purposes of this study, the literature pertaining to the implementation of each of

the three Tiers of SWPBIS will be reviewed with respect to the model of sustainability of school-

based systems-level practices, McIntosh, Horner, et al.'s (2009) four variables of sustained

implementation: effectiveness, efficiency, priority and continuous regeneration. Tier 1, the

universal supports of SWPBIS, has the most presence in the literature, followed by Tiers 2 and 3.

Effectiveness

Tier 1. Positive findings from a number of studies point to the effectiveness of primary

prevention (Tier 1) supports of SWPBIS when implemented with fidelity. Whereas earlier

research into the effectiveness of SWPBIS involved mostly middle class suburban schools

(Colvin, Kameenui, & Sugai, 1993; Lewis, Sugai, & Colvin, 1998), additional studies began

looking into urban school settings (Freeman, Simonsen, McCoach, Sugai, Lombardi, & Horner,

2016; Warren, Bohanon-Edmonson, Turnbull, Sailor, Wickham, Griggs, & Beech, 2006) and

found resulting reductions in problem behavior. In their meta-analysis of 20 single-case studies

focused on the effects of SWPBS across different school environments, time frames, and

outcome variables, Solomon, Klein, Hintze, Cressey and Peller (2012) found the effect size of

SWPBIS in reducing problem behavior to be substantial and very similar between suburban (.46)

and rural (.45) settings. Indeed, Tier 1 supports can be implemented with fidelity across a variety of demographic landscapes as well as school contexts, from elementary to high school, and prove effective (Horner et al., 2010; Solomon et al., 2012).

The effectiveness of Tier 1 SWPBIS is also demonstrated in a number of longitudinal studies. In a 5-year study on the effects of SWPBIS on student outcomes in 37 elementary schools, Bradshaw, Mitchell, et al. (2010) found significant reductions in both ODRs and suspensions. Freeman et al.'s (2016) large-scale study of 883 high schools across 37 states examined seven years of implementation and behavior data. They found that high schools approaching or at fidelity of implementation had significantly lower ODR rates than those high schools not implementing over the period of the study. Again, in one of the few meta-analyses on SWPBIS, Solomon et al. (2012) found SWPBIS to have a mean effect size of .44 in reducing problem behaviors in schools, an indicator of moderate effectiveness.

Improvements in school climate, as measured by student and staff perceptions, are an additional indicator of effectiveness for SWPBIS. In their 3-year randomized trial of 30 treatment and 30 control elementary schools from Illinois and Hawaii, Horner, Sugai, Smolkowski, Eber, Nakasato, Todd, and Esperanza (2009) investigated the relationship between fidelity of implementation and perceived school safety among staff. The researchers demonstrated an increased positive perception of school safety as measured by staff responses to the School Safety Survey (Sprague, Colvin, & Irvin, 1995). When implemented with fidelity, PBIS training led to a significant decrease in perceived risk among students, with responses indicating increases in both caring of staff and levels of adult supervision. Ward and Gersten (2013) examined staff perceptions between schools trained in and implementing Safe and Civil Schools' primary prevention components, and control schools. They found similar effects on

staff perceptions of student behavior, evidenced by a 67% decline in staff reporting that

"Widespread disorder in the classroom is frequently a problem," and student perceptions of

school safety, with 22% of students in implementing schools more likely to report never being

hit or pushed at school in comparison to the control group. Finally, Nocera et al. (2014)

investigated the implementation of Tier 1 SWPBIS as part of a comprehensive school

improvement process. In their 2-year mixed methods case study of a low-performing middle

school, they found significant improvement across 12 of 16 student school climate survey items

related to SWPBIS (e.g., I understand the rules, Teachers treat me with respect), with effect sizes

higher for SWPBIS survey items than all other items in the survey. Additionally, staff

interviews identified climate themes including:

> The power of rewarding positive behavior, the importance of staff investment and
>
> commitment to a Positive Behavior Supports approach, the critical nature of
>
> administrative leadership, the importance of consistency in responding to student
>
> behavior, and the value of the school data team in making data-driven decisions that
>
> promote school improvement (p. 9).

Another measure of effectiveness is fidelity of implementation. In their study of 261

schools across the US, Mathews, McIntosh, Frank, and May (2014) analyzed the perceptions of

staff implementing SWPBIS using the Effective Behavior Support Self-Assessment Survey

(Sugai, Horner, & Todd, 2000) to assess whether certain survey items predicted the fidelity of

SWPBIS implementation, as measured three years later by the School-wide Benchmarks of

Quality (Kincaid, Childs, & George, 2005). Mathews et al. found that self-reported fidelity of

implementation of "Classroom Systems" significantly predicted sustained implementation and

student outcomes, as measured by ODR levels. Within Classroom Systems, the strongest

predictors of sustained implementation were regular positive reinforcement, matching instruction to student ability, and access to additional support. These findings led the researchers to advocate for simultaneously implementing PBIS in the classroom and non-classroom settings for increased fidelity, resulting in effectiveness and sustained implementation.

Tier 2. Often, the effectiveness of Tier 2 supports in SWPBIS is dependent upon how well-established Tier 1 supports were before implementing secondary intervention(s). In their meta-analysis of Tier 2 interventions in schools, Mitchell, Stormont, and Gage (2011) reviewed 13 studies, 10 conducted in elementary schools and three in middle schools, to answer a number of questions around Tier 2 implementation: to what extent was Tier 1 implementation assessed prior to addition of Tier 2 interventions; what outcomes were most often targeted; which types of group interventions were implemented; and what effects did they show within a tiered framework? The studies fell across three intervention categories: (a) Check-In/Check-Out (CICO: Cheney, Stage, Hawken, Lynass, Mielenz, & Waugh, 2009), (b) social skill instruction, and (c) academic instruction groups. Mitchell et al.'s (2011) review of Tier 2 studies found CICO to be the only intervention both to be effectively implemented with fidelity among typical school personnel and to achieve strong social validity. Only one-third of the studies showed fidelity of implementation in Tier 1 before implementing Tier 2. Due to the lack of Tier 1 fidelity, Mitchell and colleagues concluded there was insufficient evidence in the literature in 2011 to indicate effectiveness of Tier 2 interventions over time.

Bruhn, Lane, and Hirsch (2014) also examined the level of Tier 1 implementation prior to intervening with Tier 2 supports. They investigated how students were identified as needing Tier 2 services and the associated intervention components and outcomes. In their literature review of research featuring case or group methodology, the researchers found only 12 of the 28 studies

demonstrated Tier 1 plan treatment integrity (10 of 12 studies utilized the SET, others used

teacher observation or self-reporting) before implementation of Tier 2 interventions. Given the

lack of attention to Tier 1 fidelity, Bruhn et al. recommend verifying fidelity of classroom level

Tier 1 supports before determining if Tier 2 intervention is warranted, as a means of checking for

effectiveness.

　　　　Hoyle, Marshall, and Yell's (2011) work produced questions as to whether middle school

staff are using data effectively to identify students in need of Tier 2 supports. They found an

overreliance on the use of ODRs as data to identify students. As behavior referrals do not

typically identify the function of a student's behavior and many outside factors (home life, etc.)

may impact ODR validity, their use as sole screener for Tier 2 supports is problematic. Hoyle et

al.'s findings identified a need for increased training in the processes for identifying students in

need of Tier 2 interventions.

　　　　A review of the literature demonstrates that CICO is the most widely implemented and

effective Tier 2 behavior intervention in SWPBIS (Bruhn et al., 2014; Debnam, Pas, &

Bradshaw, 2012; Hawken, Bundock, Barrett, Eber, Breen, & Phillips, 2015; Hoyle et al., 2011;

Mitchell et al., 2011; Miller, Defrene, Sterling, Olmi, & Bachmeyer, 2015; Myers, Briere, &

Simonsen, 2010). Maggin, Zurheide, Pickett, and Baillie (2015) examined the research

underlying CICO to determine the strengths and limitations of accumulated research. They

reviewed 22 studies on CICO, 11 of which met the inclusion criteria. Maggin et al. found that

the student's behavioral function moderated the effectiveness of CICO, with attention-seeking

students more likely to respond to the intervention than those students with the escape-motivated

function. This relationship was also identified by Myers et al. (2010) in their study of the

implementation of CICO in an urban New England middle school of 1000 students, grades 5-8.

In their exploration of the logistics involved in implementing CICO, they found the intervention to be particularly effective in reducing problem behaviors for students who act out to get or obtain attention. The evidence suggesting CICO's effectiveness is well established.

Tier 3. Tier 3 effectiveness focuses on the connection between intervention and the FBA process. Burns, Peters, and Noell (2008) hypothesized that providing performance feedback to staff would enhance the procedural integrity (fidelity of implementation) of the Problem Solving Team (PST) process. The researchers observed PST meetings in three elementary schools using a 20-item implementation checklist. With the provision of performance feedback, they found that teams improved their use of data to develop interventions and used a consistent form to request the PST meeting and document the process. However, results also indicated that despite receiving performance feedback, teams failed to monitor student progress, assess the effectiveness of the intervention, and measure the integrity with which the intervention was implemented. The lack of follow through limited the effectiveness of the Tier 3 individualized intervention.

Scott, McIntyre, Liaupsin, Nelson, Conroy, and Payne (2005) found similar results. Their study followed five elementary certificated staff members trained for six hours to act as facilitators in the FBA process for school-based intervention teams. Over the time of the study the six staff members facilitated the creation of 31 behavior plans. The researchers sought to determine whether there would be differences between FBA experts and teams in (a) the selection of intervention strategies and in (b) the selection of exclusionary strategies during intervention planning. Scott et al. (2005) compared plans created by experts to those created by school teams and found that experts selected more instructional strategies and fewer negative consequences than did the school teams. Similarly, the experts selected no exclusionary

strategies compared to the school teams who selected exclusionary strategies in 70% of the cases. Scott and colleagues (2005) advocated for increased professional development (i.e., capacity building) in the FBA process for school staff, especially general education teachers, to improve its effectiveness.

Efficiency

    Tier 1. While the evidence base demonstrates the effectiveness of Tier 1 SWPBIS, the practice's efficiency is demonstrated via staff perceptions. In their investigation of the impact of the implementation of SWPBIS on the organizational health of 37 elementary schools over three years, Bradshaw, Koth, Bevans, Ialongo, and Leaf (2008) found improved teacher perceptions of clarity of purpose, predictable coordination, and perceived positive impact on student outcomes as measured by The Organizational Health Inventory for Elementary Schools (Hoy, Tarter, & Kottkamp, 1991). Ward and Gersten's (2013) aforementioned study of 32 elementary schools implementing Safe and Civil Schools in an urban district found that the staff in the 17 implementing elementary schools in their study were twice as likely as staff in the 15 control schools to perceive that a school-wide behavior system was in place with rules and expectations clearly defined, reflecting efficient implementation.

    While the previous studies indicated efficiency in implementation, other studies point specifically to teachers' perceptions of efficacy. In their analysis of the relationship between teacher well-being and the implementation of SWPBIS, Ross, Romer, and Horner (2012) surveyed 184 teachers across 40 elementary schools and found that respondents from schools with higher SET scores indicating higher levels of PBIS implementation also had significantly higher teacher efficacy scores. Similarly, Feuerborn, Wallace, and Tyre (2016) surveyed 19 middle and high schools and found teachers from low implementing schools reported higher

levels of concern regarding climate and stress (22%) than those from implementing schools (13%).

The studies of Reinke, Herman, and Stormont (2013) and Andreou, McIntosh, Ross, and Kahn (2015) both identified another indicator of sustained implementation, increased efficiency over time. Reinke et al. studied 33 elementary schools utilizing direct observation to examine teachers' use of classroom-level practices that align with SWPBIS. They found that teachers with higher rates of general praise (positive reinforcement) rated themselves as more efficacious regarding classroom management. Andreou et al. interviewed 17 participants from a single district implementing SWPBIS using the Critical Incident Technique (Flanagan, 1954) to analyze responses to the item, "What events affected PBIS' long term implementation?" Positive reinforcement was reiterated by the majority of these participants, yet they also cited the need to refresh reinforcement systems on a regular basis to maintain student and staff appeal in the practice and ensure efficiency.

Staff perceptions of cost effectiveness and access to adequate resources to sustain implementation is the final element of efficiency. Feuerborn, Wallace, et al. (2016) found that teachers from schools not yet fully implementing SWPBIS reported more need regarding resources (35%) than those from fully implementing schools (19%). These results are similar to those of Feuerborn and Tyre's (2015) study of 14 schools' Staff Perceptions of Behavior and Discipline survey results (SPBD; Feuerborn & Tyre, 2015). They investigated the difference in staff perception of SWPBIS between seven schools in the planning (to implement) stage and seven schools in initial implementation (first three years). Staff in planning schools reported less time to teach behavior expectations (i.e., resource of time) compared to staff in implementing schools. The research points to a relationship between length of implementation and teacher

perception of the efficiency of SWPBIS. That is, the longer the implementation effort, the more efficient the practice may be viewed by its implementers.

      Tier 2. Moving from efficient Tier 1 services to Tier 2 is largely incumbent upon properly identifying students in need of secondary targeted supports such as CICO. Bruhn et al.'s (2014) findings add to our understanding of the efficiency of Tier 2 supports. One-third of the studies reviewed by Bruhn and colleagues used ODRs to identify students for Tier 2 supports and almost one-half used systematic screeners, while the rest relied upon other combinations of data and teacher nomination. The authors noted the "benefit of data triangulation in identifying and supporting students for Tier 2 interventions" (p. 184). This finding is also related to other research (Hoyle et al., 2011). The efficiency of implementation of SWPBIS is increased when the system of supports utilizes multiple data points to identify student needs.

      While related to staff perception, efficiency is also related to increased fidelity over time. Hawken et al. (2015) examined a large-scale implementation of CICO across 54 schools (41 elementary and 13 middle schools) in the Illinois PBIS Network. The researchers collected data over four years to describe and evaluate the process of scaling up CICO across multiple schools and districts and documented the fidelity of implementation with a small subset of schools. They found that 78% of schools implemented CICO with greater than 70% fidelity as measured by the Individual Student Systems Evaluation Tool (Anderson, Lewis-Palmer, Todd, Horner, Sugai, & Sampson, 2011), demonstrating CICO's ability to be implemented across a range of typical school settings. Further, schools with greater than 70% fidelity on Individual Student Systems Evaluation Tool had a mean of 11.71% of students on the CICO intervention, closer to the aspirational goal of 15% of students, whereas schools under 70% fidelity served a mean of only 6.57% of the student population. Hawken and colleagues' findings suggest that intervening with

"a higher percentage of the student population is not only feasible but can also be done with fidelity" (Hawken et al., 2015, p. 315). Thus, increased fidelity over time increases the practice's efficiency and durability.

Tier 3. Literature on the fidelity of Tier 3 supports is relegated to research on staff perceptions of the PST process. Williamson and McLeskey (2011) uncovered staff insight into the efficiency (or lack thereof) of the PST process. They observed and transcribed eight PST meetings at an urban elementary school addressing the concerns of general education teachers in inclusion classrooms to discern (a) what topics and interventions were discussed, (b) teacher perceptions of the benefits and challenges of PST meetings, and (c) how the PST meeting dialogue shaped the team's problem construction and response. Teachers cited a number of improvements to the efficiency of their work with student behavior: social collegial support, learning new things, gaining practical help, and promoting reflection on their classroom practices. However, respondents also noted drawbacks that limited their efficiency including (a) lack of focus in PST meetings, mostly due to tangential dialogue, (b) inappropriate intervention selection likely due to insufficient time and poor facilitation, and (c) some PST meetings focused on blaming the teacher, bordering on evaluative conversations. While the researchers found teacher perceptions identifying benefits, the concerns regarding lack of time and focus of the PST meetings and staff skill levels in identifying appropriate interventions led to overall findings of lack of efficiency of the PST process.

Priority

Tier 1. Likewise important to perceptions of efficiency, the relative priority of SWPBIS alongside competing initiatives impacts sustainability. The visibility of SWPBIS, both as a prominent school improvement initiative and as a producer of desired outcomes increases the

likelihood of staff backing sought by school leaders to sustain the practice. When a practice is seen as effective and efficient, it becomes a priority. In their study of 860 schools across 14 states, McIntosh, Kim, et al. (2015) analyzed the results of school staff responses to the School-Wide Universal Behavior Sustainability Index: School Teams (SUBSIST; McIntosh, Doolittle, Vincent, Horner, & Ervin, 2009). They found that the frequency with which teams share data with school personnel significantly increased the relative priority of the practice. "By sharing data frequently with school staff, the school team may enhance not just data-based decision making but also the priority of the practice for staff and administrators and strengthen perceptions that implementation leads to valued outcomes" (p. 188).

McIntosh, Mercer, Humer, Frank, Turri, and Mathews (2013) sought to analyze the influence of variables identified in the literature as affecting sustainability of SWPBIS. The researchers studied both school and district level factors associated with sustainability, again through analysis of the SUBSIST assessment completed by 217 schools across 14 states. Their factor analysis found two school level factors (school priority and team use of data), and two district level factors (district priority and capacity building), to be significantly related to sustained implementation. However, of the four, two factors were identified as independent predictors of sustainability. First, school team functioning, especially the use of data, had the strongest association with sustained implementation, but the authors suggest that more attention to research and practice is needed to better understand team functioning due to its lack of literature base. The second independent predictor of sustained implementation was capacity building, with examples provided by the researchers such as district coaching, professional development, and connection to a community of practice. Importantly, McIntosh, Mercer, et al. (2013) concluded that collection of data, use of data, and capacity building all related to

continuous regeneration, the idea that "iterative changes in the practice based on changing contexts" is what comprises "true sustainability" (p. 307). The researchers noted that these findings are cause for optimism, in that schools without administrative support can still sustain SWPBIS with effective team collection, use, and response to data. However, it is important to note that schools with both effective teams and supportive administrators were most likely to see sustained implementation.

      Tier 2. Little exists in the literature pertaining to the priority of Tier 2 interventions. In one of the few studies touching on priority, Hoyle et al. (2011) surveyed SWPBIS contacts for 47 of the 50 states and the District of Columbia to discern how middle schools intervened with students in need of Tier 2 supports and how, if at all, the success of interventions were measured. They found that only 68% of respondents reported implementing Tier 2 interventions with students with recurring behavior problems. This is an indicator that Tier 2 supports should have increased priority.

      In the school setting, the importance of a practice impacts its priority relative to other initiatives. Therefore, staff perception of administrator support of a practice can influence the relative importance of the practice and thus its priority. Debnam, Pas, and Bradshaw (2011) investigated perceived administrator support for Tier 2 and 3 interventions by school staff. Their study of 45 public elementary schools across six Maryland districts included survey results from 2,717 staff members. They found that general educators perceived less administrator support for Tier 2 and 3 interventions than did support staff. The authors posit that this finding may be due to the relative proximity of support staff to Tier 2 and 3 interventions on a daily basis compared to general educators. Debnam and colleagues advocate for training of general educators in Tier 2 and 3 interventions to engender their support and thus, enhance the priority of the practice.

Tier 3. Tier 3 services involve individualized student supports implemented with fewer staff so the school-wide visibility is, by nature, lessened. This makes identifying evidence of Tier 3 priority challenging, in contrast to school-wide efforts. Therefore, analysis of the relative value of the Tier 3 process, in increasing teacher skill level and sense of efficacy, are the indicators of priority that should be investigated. Gregory (2010) examined teacher self-reported professional development gains from a PST process. The study observed 34 teachers from 14 elementary schools who were trained in a PST process, from the student referral stage through implementation of intervention(s), and subsequent intervention follow-up. Similar to other research into teacher expectations (Hattie, 2009), Gregory's (2010) data correlations exposed an interesting trend; teachers' expectation of success (of the PST process) was related to student progress. In other words, if a teacher held positive expectations of the PST process, there was a higher likelihood of improvement in student outcomes. However, only 60% of teachers reported a positive view of the process (e.g., gaining new intervention skills). Forty percent of teachers reported concerns that impeded their benefitting from the process (e.g., rushed team members, no novel intervention ideas, and lack of staffing to support intervention implementation). These results indicate the need to address teacher expectations and the value they place on Tier 3 support in staff development planning. Overall, the literature on Tier 3 interventions from FBAs through the PST process indicates a widespread need for enhanced capacity building for school personnel to better support students with intensive behavioral needs.

Continuous Regeneration

Tier 1. Longevity of a practice is directly related to its ability to adapt to changing circumstances, both anticipated and unforeseen. A practice is able to adapt to changes and be sustained over time if it is able to continuously regenerate via capacity building, continuous

measurement, and data-based problem solving. Bradshaw et al. (2010) analyzed School-wide

Evaluation Tool (SET), Self-Assessment Survey, ODR, suspension rate, and Maryland School

Assessment (MSA) data collected from 37 elementary schools over five years to examine the

impact of training (capacity building) on implementation fidelity of SWPBIS. The study

included 21 schools trained in SWPBIS and 16 non-trained schools in the control group. The

trained schools experienced significant reductions in ODRs and suspension rates over the five

years, while these rates remained relatively unchanged for non-trained schools. The

improvements of trained schools on the MSA for reading and math tended to outpace the non-

trained schools on three of the four tests, although schools in both conditions experienced

positive shifts. The researchers found that schools that received SWPBIS training evidenced

significantly higher levels of implementation fidelity. Although the SET subscale scores

increased for non-trained schools after the first year of administration, they declined after the 2nd

or 3rd year. By comparison, the trained schools remained consistently high after year 1, another

indication in the literature of the relationship between ongoing capacity building and sustained

implementation (Bradshaw et al., 2008; Horner et al., 2004; Vincent, Spaulding and Tobin,

2010).

While capacity building is evident in the literature, continuous measurement is less so. In

their article review undertaken to assess the evidence base for SWPBIS, Chitiyo et al. (2012)

reviewed ten experimental studies reporting student outcomes between 1990 and 2011. Each

study measured implementation fidelity, but the authors found only 2 of the 10 studies (i.e.,

Bradshaw et al., 2010; Horner et al, 2009) met all five criteria for SWPBIS evidence base and

demonstrated high fidelity. Eighty percent of the studies reviewed lacked the continuous

measurement required to reach fidelity of implementation. Continuous measurement of the

fidelity of implementation of SWPBIS guarantees accurate application of the intervention (McIntyre, Gresham, DiGennaro, & Reed, 2007) and higher levels of fidelity should lead to higher probability of sustained implementation.

Finally, data-based problem solving exists across the literature as an indicator of continuous regeneration and resulting sustainability. Coffey and Horner's (2012) research analyzed the results of sustainability surveys submitted by 111 schools, 79 *sustainers*, and 38 *non-sustainers*. They wished to identify and validate the components that increase the ability of schools to sustain SWPBIS. The authors defined sustaining as "a minimum of 3 years of implementation with the last 2 years demonstrating criterion levels of implementation fidelity" (i.e., ≥80% on SET; p. 411). Respondents from schools with five or greater years of implementation expressed higher levels of (a) administrative support, (b) data-based decision making, and (c) technical assistance, in comparison to schools with lower levels of implementation, all indicators of data-based problem solving.

This review of the literature revealed three indicators of sustained implementation of Tier 1 SWPBIS practices: (a) use of data, such as data sharing and data-based decision making, (b) capacity building via staff development training and coaching, and (c) administrative leadership practices. Implementation efforts grounded in these three practices are more likely to be sustained. The three practices also support McIntosh, Horner, et al.'s (2009) four variables of sustained implementation: effectiveness, efficiency, priority and continuous regeneration. While components of continuous regeneration are evident in the literature (Coffey & Horner, 2012; McIntosh et al., 2013), the sub-component generalizability (capacity building, continuous measurement, and data-based problem solving) is less addressed and in need of further exploration.

Tier 2. The ability to adapt Tier 2 practices to changes in the school environment via ongoing training (capacity building), data collection (continuous measurement) and refinement (data-based problem solving) determines the level to which these practices will be sustained. It is important to understand which Tier 2 interventions are implemented in schools and how the interventions are measured within the context of SWPBIS. Rodriguez, Loman, and Borgmeier (2015) surveyed school staff members from 180 elementary, middle and high schools across eight states. Of the responding schools, 172 were currently implementing SWPBIS. Three out of four respondents reported implementation of Tier 2 practices, with the following as the most reported practices: CICO (80%), behavioral contracts (69%), mentoring (50%), social skills training (45%), and academic skills training (26%). When asked if student outcomes were evaluated to continuously measure the effect of the intervention, the most common interventions measured in schools were: academic (96%); CICO (83%); behavioral contracts (79%); and social skills (74%). Rodriguez et al. found CICO to be implemented at higher rates in schools with greater years' experience implementing SWPBIS.

Debnam et al. (2012) sought to describe the types and features of Tier 1, 2, and 3 support systems in place at elementary schools already trained in and implementing SWPBIS Tier 1 but not yet trained in Tier 2 or 3 supports. This study focused on the same 45 Maryland public elementary schools as their 2011 study, but examined the variation in the level of existing Tier 2 and 3 services in relation to the implementation fidelity of SWPBIS. The researchers found that the most implemented Tier 2 intervention was CICO (51%), followed by behavior charts/contracts (44%), and social skills groups (27%). In their investigation of the intervention attributes, Debnam and colleagues found no comprehensive process for identifying students in need, for referring students to Tier 2 interventions, nor for prescribing appropriate interventions.

The authors suggest that schools may need more training in Tier 2 and 3 interventions generally, and specific professional development in data collection on student behaviors (i.e., capacity building) and in identifying evidence-based interventions for students through a referral process (i.e., data-based problem solving).

        Tier 3. The similar needs for capacity building, along with continuous measurement and data-based problem-solving are the components of continuous regeneration of Tier 3. Borgmeier, Loman, Hara, and Rodriguez (2015) sought to build capacity for school staff by developing a 60-minute training entitled "Function-Based Intervention" (FBI) Training. Using a pre-test/post-test model, Borgmeier et al. studied the pre-test/post-test results of 291 educators trained in FBI, either at conference sessions, in college classrooms, or professional development workshops to determine (a) if FBI training led to significant gains in participants' ability to select function-based interventions, (b) whether the results would differ between staff roles, and (c) what categories of intervention (e.g., identifying alternative behavior, antecedent or consequence interventions) school personnel were strongest or weakest in prior to the training and which categories showed the most improvement after the training. They found that, on average, participants' ability to select appropriate function-based interventions increased by 30%. Notably, general education teachers had the biggest gains (31.14%), yet they scored the lowest on both the pre-test (51.57%) and post-test (82.71%). Additionally, results showed teachers to struggle with identifying alternative behaviors and extinction of attention strategies (e.g., participants chose interventions that reinforced, rather than extinguished the attention-motivated behavior). Borgmeier and colleagues' work reiterates the overall theme resulting from the review of Tier 3 implementation literature: there is much work to be done building the capacity

of educators to effectively and efficiently conduct the FBA process, then continuously measure

the resulting intervention plan in a data-based problem solving manner.

Purpose

The purpose of this study is to examine the use of multiple data sources to sustain a 5-

year implementation of SWPBIS. The measures used in this investigation are common practice

in evaluation of SWPBIS, yet there is a lack of understanding of how they are used to inform

decisions in the cycle of improvement. In this study, the data are presented via McIntosh,

Horner, et al.'s (2009) model of continuous regeneration with analysis focusing on how each

data set influenced decision-making and subsequent implementation adaptations. It is hoped that

this study's analysis will provide to other implementation sites useful guidance that is currently

absent in the literature.

Research Site

The setting for this study was chosen due to the school's intentional focus on the

variables associated with sustained implementation of SWPBIS, most notably continuous

regeneration and its three components, capacity building, continuous measurement, and data-

based problem-solving (McIntosh, Horner et al., 2009). Three to five years is seen as an

indication of sustained program implementation (Coffey & Horner, 2012; Mihalic, Irwin, Fagan,

Ballard, & Elliott, 2004; Schräg, 1996). The study site is a middle school in year five of

implementation of SWPBIS with consistent principal leadership over the five years (i.e., 2011-

2016). The school implemented SWPBIS from the ground up, effectively uprooting a previous

"citizenship program" and replacing it with SWPBIS. Currently, the school has a fully

implemented Tier 1, a variety of Tier 2 supports, and increasing supports for Tier 3. Lastly, the

same quantitative data were collected and utilized each year in a process of continuous

regeneration to inform the school's sustained implementation of SWPBIS.

History

Townsend Middle School (pseudonym) adopted Make Your Day (MYD) in 1998, a

citizenship program that instructed staff to place students on progressive "steps" for correcting

unwanted behavior. Students "choose" Step 1 for an unwanted behavior, which consisted of the

student facing away from the class. Step 2 required the student to stand away from the class. In

Step 3 the student stood facing the posted school rule, "No one has the right to interfere with the

learning or safety of others." Finally, Step 4 resulted from a student progressing through steps

one through three, or for more severe behavior offenses. On Step 4 a student was sent to the

office and a parent or guardian was called to school for a conference. After twelve years of

MYD implementation, out of school suspension (OSS) numbers remained high (305 OSS in

2010-11 from 700 total students). Concurrently, Townsend was rated a "Persistently Low

Achieving Middle School" under No Child Left Behind, scoring in the bottom 5% of all middle

schools in the state of Washington on standardized testing.

While perception data does not exist for Townsend before the 2010-11 school year, the

results of the MYD implementation were not dissimilar to the Northwest Regional Education

Lab's research analyzing the program across five schools in 2006. They found "less than ideal

outcomes for students and teachers" across the studied schools (Vale & Coe, 2006, p. 2). For

example, only 57.6% of survey respondents agreed that their school had been very effective in

implementing common area expectations and only 51.4% agreed that MYD had increased

student time on task significantly. Due to the school's academic standing and the problematic

student outcomes such as high OSS totals, the implementation of MYD at Townsend could be

characterized as unsuccessful.

Setting

The setting for this case study, Townsend Middle School, is a semi-urban school, grades

6-8 of approximately 730 students, located in the Pacific Northwest. Townsend's student

population can be categorized as 'high needs,' averaging 80% poverty and 30% mobility. In the

fall of 2015, Townsend's demographic make-up was as follows: 32% White, 30%

Hispanic/Latino, 14% Multiracial, 13% African American, 7% Native Hawaiian/Pacific Islander,

4% Asian and less than 1% Native American. Townsend's staffing through the five years of the

study is seen in Table 1.

Table 1.

Townsend Middle School staffing.

	2011-12	2012-13	2013-14	2014-15	2015-16
Administrators	3	3	3	3	3
Guidance Counselors	2	2	2	2	2
Certificated Support	1	1	1	2	2
Teachers	44.5	44.5	44.5	44.5	42.5
Clerical	5	5	5	5	5
PBIS Paraeducator	1	1	1	1	1
Intervention Case Manager	1	1	1	1	1
Instructional Paraeducators	7	7	7	8	9
Security Officer	1	1	1	1	1
School Resource Officer	0.08	0.08	0.14	0.14	0.14
TOTAL:	65.58	65.58	65.64	67.64	66.64

Method

Case study methodology, with an emphasis on secondary data analysis, was used to

explore one middle school's implementation of SWPBIS over a 5 year period. This single-case,

holistic approach is preferred when examining unique programs and attempting to discern

program effectiveness as reflective case study methodology relies on multiple data points and

other points of interest in a real world context (Yin, 2003). The unit of analysis was the

implementation of SWPBIS at Townsend Middle School, examined holistically using a variety

of data sources.

Measures

      School-wide Evaluation Tool. The School-wide Evaluation Tool (SET: Horner et al.,

2004) is a measure of PBIS implementation fidelity and consists of a compliance audit of key

SWPBIS components creating seven subscale scores (ranging from 0-100%), including clear and

communicated behavioral expectations, teaching expectations to students, systems of recognition

and reinforcement, systems for responding to behavior offenses, monitoring and decision-

making, management, and district support. The evaluation process includes an initial interview

with school administration, observations of visual displays of the school's rules and interviews

with a randomly selected sample of students and staff to evaluate the knowledge of the rules.

The SET also serves as a checklist for implementation compliance (e.g., identifying that

emergency procedures are posted and available in each classroom). Schools employing SWPBIS

are encouraged to utilize the SET annually (PBIS OSEP Technical Assistance Center, 2015) to

assess the level of ongoing implementation. Vincent et al. (2010) reported good internal

consistency and reliability (Cronbach's alpha .80) for the SET when used at the middle school

level.

      Staff Perceptions of Behavior and Discipline. The Staff Perceptions of Behavior and

Discipline (SPBD; Feuerborn, Tyre, & King, 2015) survey is used to assess staff perceptions

related to SWPBIS in five domains: (a) philosophical views of behavior and discipline; (b)

teaching and acknowledging expectations; (c) systemic resources, supports and climate; (d)

fidelity and integrity; and (e) systemic cohesiveness and openness to change. The SPBD

includes 24 statements using a 5-point Likert scale with ratings from strongly agree to strongly

disagree. Representative items include "I don't have time to teach the school-wide behavioral

expectations" (Domain 3: Systemic resources, supports and climate) and "I have trust in my

administrator's ability to lead us through change" (Domain 5: Systemic cohesiveness and

openness to change). The measure includes five supplementary questions and three open-ended

comment questions to inform planning teams with specific staff feedback on the school's PBIS

implementation. The core items were found to have strong internal reliability, an overall

Cronbach's alpha coefficient of .80 (Feuerborn et al., 2015). The SPBD is typically administered

in the spring, with results presented in a summary report that characterizes the *facilitators* and

barriers to implementation that should be celebrated and analyzed for improvement,

respectively. Townsend staff response rate for the SPBD was 91.5% in year one, 88.4% in year

two, 45.7% in year three, 53.2% in year four, and 99% in year five of implementation.

Student and Parent Climate Survey. The Student and Parent Climate Survey is an

online climate survey created using SurveyMonkey and was individualized for Townsend

Middle School. The vast majority of the survey items stem from Safe and Civil Schools climate

surveys (Sprick, 2002), asking students on a 2-point scale to agree or disagree with safety related

statements such as "I feel safe in…" across all common areas, and other more climate-focused

statements such as "I am proud to come to this school most of the time" and "If students at

Townsend Middle School knew another student was involved in something illegal or dangerous,

they would let a staff member know." There are a total of 18 items on the student survey. The

parent survey asks respondents to select all the statements they believe to be true, with 12 items

on parent/guardian perceptions of the school (e.g., "Inappropriate language is a problem at this school") and 7 items targeting parent perceptions of staff (e.g., "Staff are friendly and helpful to students"). Both surveys take approximately ten minutes to complete. It should be noted that while the survey items remained consistent for the student survey, most items of import to this study on the parent survey were only in use in years one and four due to changes in the district's parent survey format in years two and three. The response rate for the Student Climate Survey was 43.4% in year one, 47.7% in year two, 44.7% in year three, and 53.2% in year four. The response rate for the Parent Climate Survey was 42.7% in year one, 47% in year two, 51% in year three, and 44.8% in year four.

Office Discipline Referrals. Office Discipline Referrals (ODRs) are the means by which school staff members document a violation of the school rules that result in a student being sent to the office for administrative intervention, and are usually violations of a serious nature. Paper or electronic ODR forms were completed by the referring teacher. The forms allowed staff to enter offense fields for student(s) involved, type of behavioral offense, location, and time. ODRs are often used as a measure of effectiveness of Tier 1 implementation.

Suspensions. Another discipline related data indicator closely monitored in PBIS implementation is suspension numbers. Students may be excluded from school for behavior offenses one of three ways: in-school suspension (ISS; students remain on campus but are usually limited to one classroom setting), out of school suspension (OSS; students are excluded from campus for partial or entire days), or expulsion (student enrollment is terminated and they must reapply for admission). After administrators levy one such exclusionary consequence, the suspension is entered into the student information data system at Townsend. The OSS and expulsion data are uploaded to the state's educational database on a weekly basis. Expulsion

data was not included in the present study as no students were expelled in the five years under

investigation.

Procedure

This reflective case study includes a presentation of five years of existing trend data from

each of the context, implementation, and outcome measures defined above. Findings from the

SET (annual, conducted in the spring; results from the first four years of implementation), the

SPBD (annual, conducted in the spring), and the Parent and Student Climate Survey (PCS, SCS;

bi-annual, conducted in October and May; spring results from the first four years of

implementation for the student survey, years one, three and four of the parent survey), alongside

annual ODR and OSS outcome data, informed the implementation efforts at Townsend Middle

School (TMS). The data were examined via McIntosh, Horner, et al.'s (2009) framework for

sustained implementation of school-based practices. Practices at each tier are presented as they

relate to the effectiveness, efficiency, priority, and continuous regeneration of implementation of

SWPBIS.

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Findings

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Effectiveness

McIntosh, Horner, et al. (2009) maintain that the effectiveness of any implementation

effort is directly related to its associated outcomes. The authors describe the principle of

reinforcement, through improved outcomes related to fidelity of implementation (e.g., reduction

in problem behaviors, improved work climate, reduction in work effort, or reduction in aversive

teaching situations), those within and outside the system will come to view the practice as

effective. The effectiveness of SWPBIS Tier 1 at TMS was evaluated via measures of the

fidelity of implementation and organizational health (school climate and workload). However,

due to lack of school climate or workload perception data pertaining to Tiers 2 or 3 at TMS, problem behavior data was the only indicator of effectiveness at these levels.

Tier 1: Fidelity. The primary measure of SWPBIS implementation fidelity at TMS was the SET, conducted each spring. As can be seen in Appendix A, four years of SET data indicate that each component of SWPBIS was implemented to fidelity (i.e., ≥80%; Coffey & Horner, 2012) at TMS by year four, with the exception of Expectations Defined. This component was implemented to only 75% (score of 3 out of 4) in years three and four. Specifically, the criteria, Are the agreed upon rules & expectations publicly posted in 8 of 10 locations was not met in each of these years. Overall, the mean SET score (see Figure 1) grew with each year of implementation, from 74% in year one, to 88% in year two, to 88.6% in year three, and finally 91.8% in year four.
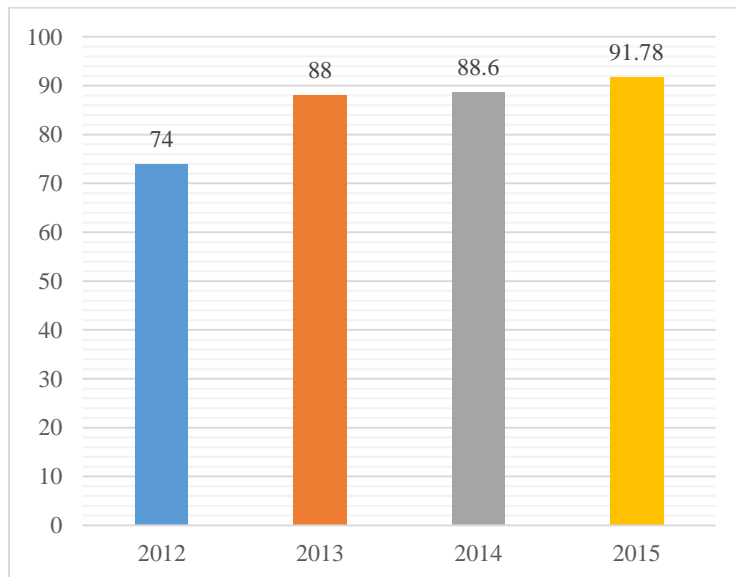

Figure 1. Schoolwide Evaluation Tool mean scores at Townsend Middle School over the first four years of SWPBIS implementation.

Another measure of fidelity of implementation was staff perceptions of the basic tenets of SWPBIS. On the Staff Perceptions of Behavior and Discipline survey (SPBD; see Figure 2),

certificated and classified staff reported perceptions related to fidelity of implementation of

schoolwide components each spring. Staff consistently reported agreement with "Currently, I

teach the agreed upon schoolwide behavior expectations to students" across all five years of

implementation with the results ranging from 86% to 97% of reported staff agreement (year

five). Similar positive results were seen with "Currently, I acknowledge/reward students for

meeting the agreed upon schoolwide behavior expectations." The results ranged from 86% (year

four) to 96% of reported staff agreement (year five).

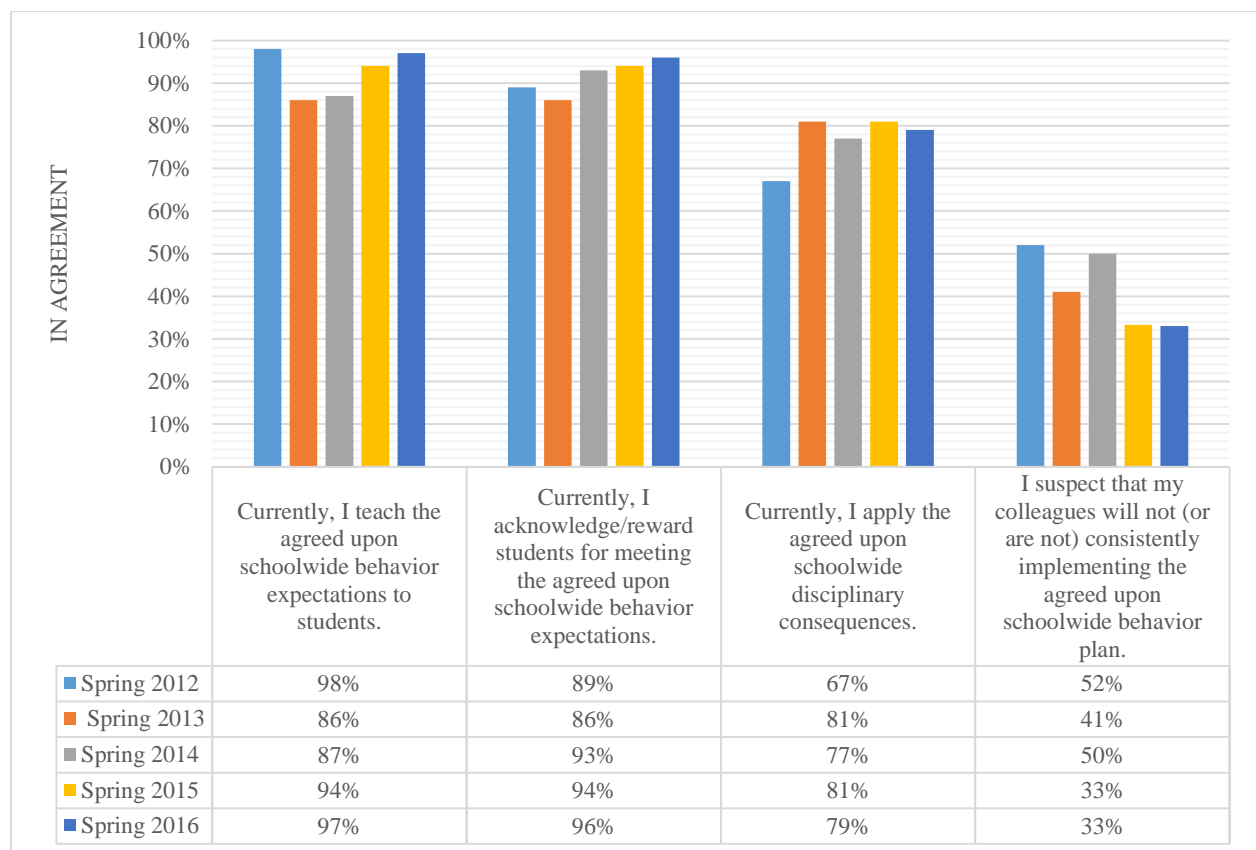|	Currently, I teach the agreed upon schoolwide behavior expectations to students.	Currently, I acknowledge/reward students for meeting the agreed upon schoolwide behavior expectations.	Currently, I apply the agreed upon schoolwide disciplinary consequences.	I suspect that my colleagues will not (or are not) consistently implementing the agreed upon schoolwide behavior plan.
Spring 2012	98%	89%	67%	52%
Spring 2013	86%	86%	81%	41%
Spring 2014	87%	93%	77%	50%
Spring 2015	94%	94%	81%	33%
Spring 2016	97%	96%	79%	33%

Figure 2. Townsend MS staff perceptions of fidelity of SWPBIS implementation as evidenced

by the SPBD.

"Currently, I apply the agreed upon schoolwide disciplinary consequences" began with

lower rates of reported agreement, but changed over time. After year one of implementation,

only 67% of staff reported agreement, but by year five, 79% reported agreement with the statement. Similarly, staff perceptions of trust in colleagues' fidelity of implementation improved over time. After year one, 52% of staff reported agreement with "I suspect that my colleagues will not (or are not) consistently implementing the agreed upon schoolwide behavior plan." By year five, only 33% reported suspicion regarding their colleagues' implementation of SWPBIS.

      Tier 1: School Climate. Staff Perceptions of Behavior and Discipline survey data in the area of school climate at TMS showed clear positive growth over time (see Figure 3). At the end of year one of SWPBIS implementation only 20% of staff reported agreement with the SPBD item "The climate at this school is positive." After the fifth year of implementation, 88% of staff reported TMS had a positive school climate. Students' perceptions changed in the same manner. While only 65% of students reported agreement with the student climate survey item "I am proud to be part of this school" after year one, 82% reported pride in the school after year four. As indicated in Figure 3, the only stakeholder whose feelings of pride in the school experienced a downward trend were parents, with a decrease from 90% in reported agreement with the parent climate survey item "I am proud my student attends Townsend" after year one, to 83% at the end of year four.
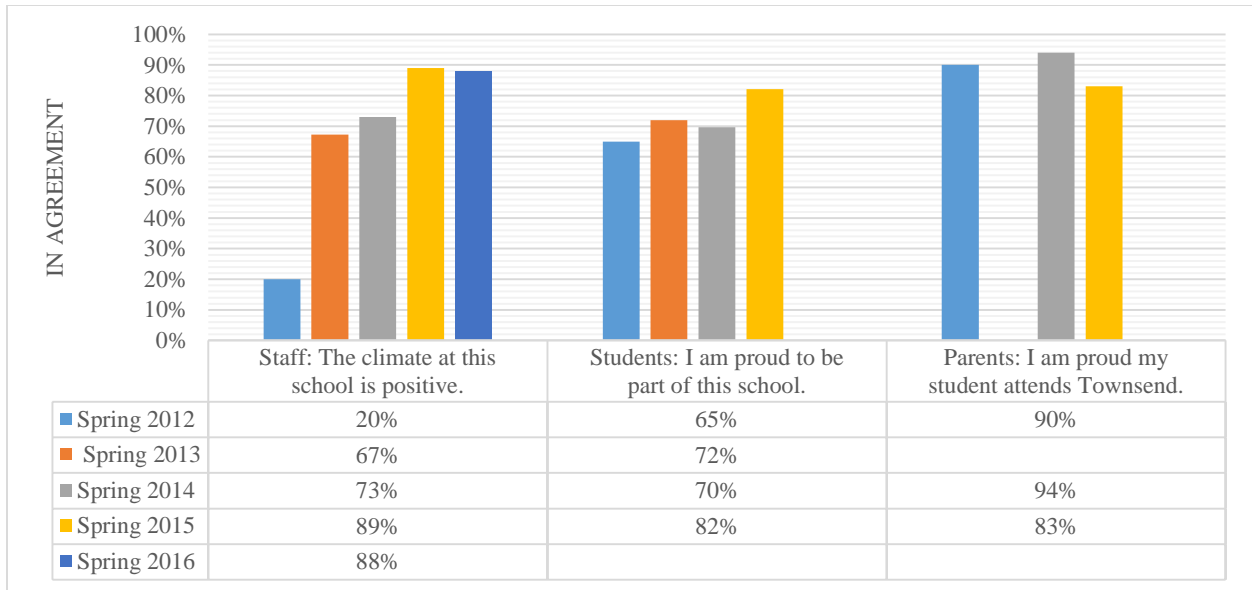
	Staff: The climate at this school is positive.	Students: I am proud to be part of this school.	Parents: I am proud my student attends Townsend.
Spring 2012	20%	65%	90%
Spring 2013	67%	72%	
Spring 2014	73%	70%	94%
Spring 2015	89%	82%	83%
Spring 2016	88%		

Figure 3. Perceptions of Townsend school pride as evidenced by the SPBD, student climate survey, and parent climate survey.

In addition to feelings of school pride, other indicators of organization health such as trust and student perceptions of staff also trended positively over time. Staff reported trust in school leadership increased over the five years of implementation. Reported agreement with the SPBD item "I have trust in my administrators' ability to lead us through change" increased from 55% in year one, to 88% in year five (see Figure 4).
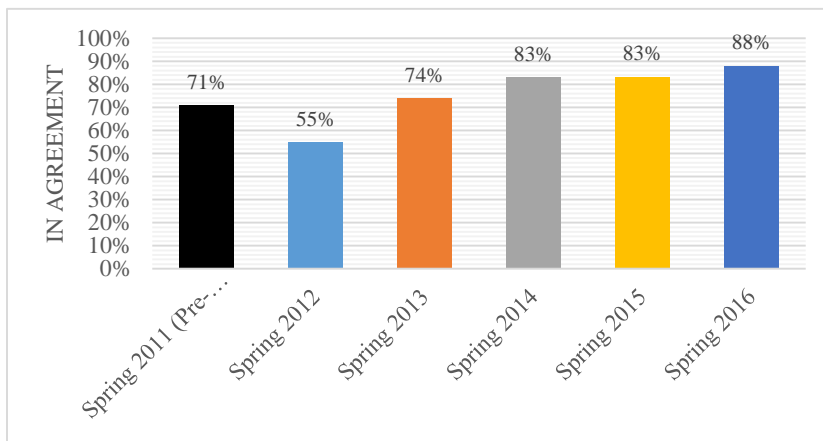

Figure 4. Organizational health as evidenced by Townsend staff agreement with the SPBD item, "I have trust in my administrator's ability to lead us through change."

Student perceptions of staff improved dramatically in the first four years of implementation. "Staff members are friendly and helpful to students" improved from 79% to 93%; "Staff members are supportive of students" improved from 73% to 90%; "Staff members treat students fairly" improved from 67% to 79%; and "Staff members let students know when they do things right," improved from 65% to 83% (see Figure 5).

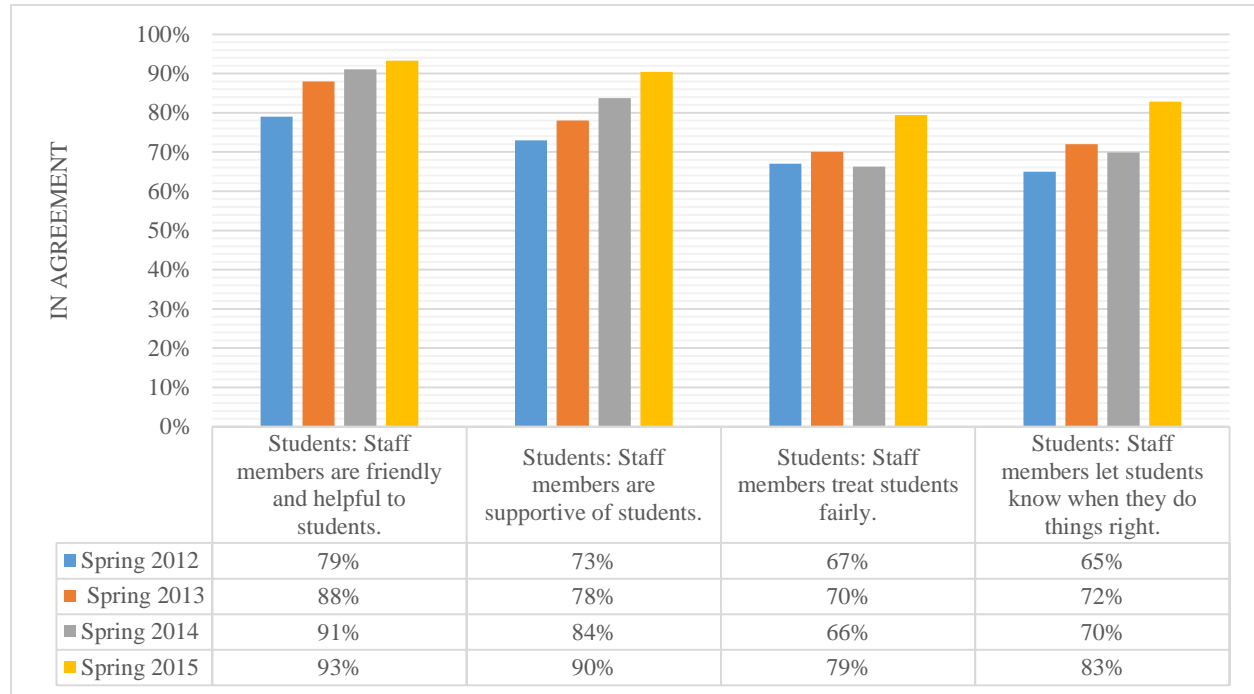|	Students: Staff members are friendly and helpful to students.	Students: Staff members are supportive of students.	Students: Staff members treat students fairly.	Students: Staff members let students know when they do things right.
Spring 2012	79%	73%	67%	65%
Spring 2013	88%	78%	70%	72%
Spring 2014	91%	84%	66%	70%
Spring 2015	93%	90%	79%	83%

Figure 5. Townsend student perceptions of staff as evidenced by student climate survey.

Conversely, parents' perception of staff declined across the same four items on the parent survey from year one to year four. While "Staff members are friendly and helpful to students" maintained high levels of reported agreement, 94% to 95%, all others dropped: "Staff members are supportive of students" decreased from 94% to 91%; "Staff members treat students fairly" decreased from 90% to 78%; and "Staff members let students know when they do things right" decreased from 95% to 81% (see Figure 6).
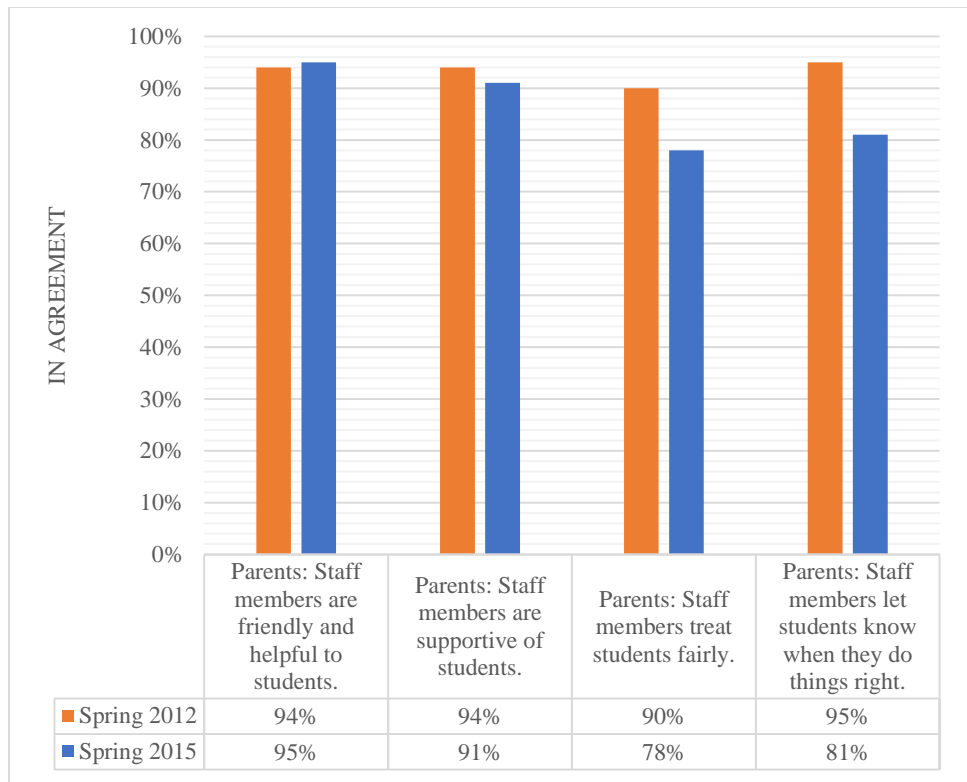
Figure 6. Parent perceptions of Townsend staff as evidenced by parent climate survey.

Tier 1: Reduction in workload. Two SPBD items associated with workload showed

mixed results after five years of implementation (see Figure 7). First, the more general item

"Overall, I am satisfied with my job" increased from 64% (year one) to 91% (year five).

However, a more specific indicator of effectiveness, "I don't have time to teach the schoolwide

behavioral expectations," which probes whether staff feel they have the time to do what is

expected of them, had a very positive trend through the first four years of implementation,

decreasing from 20% in reported agreement after year one to 0% after year four. The TMS staff

implemented a new bell schedule in year three which allowed for a daily advisory period of 22

minutes. In year four, one advisory period per week was designated for SWPBIS instruction,

which may be related to that year's staff reported agreement with sufficient time to teach

behavior. However, an increase of 15% of staff reporting that they did not have time to teach

behavior expectations was seen in year five. The schedule at TMS remained unchanged, with

one day devoted to SWPBIS instruction, yet more staff reported insufficient time to teach

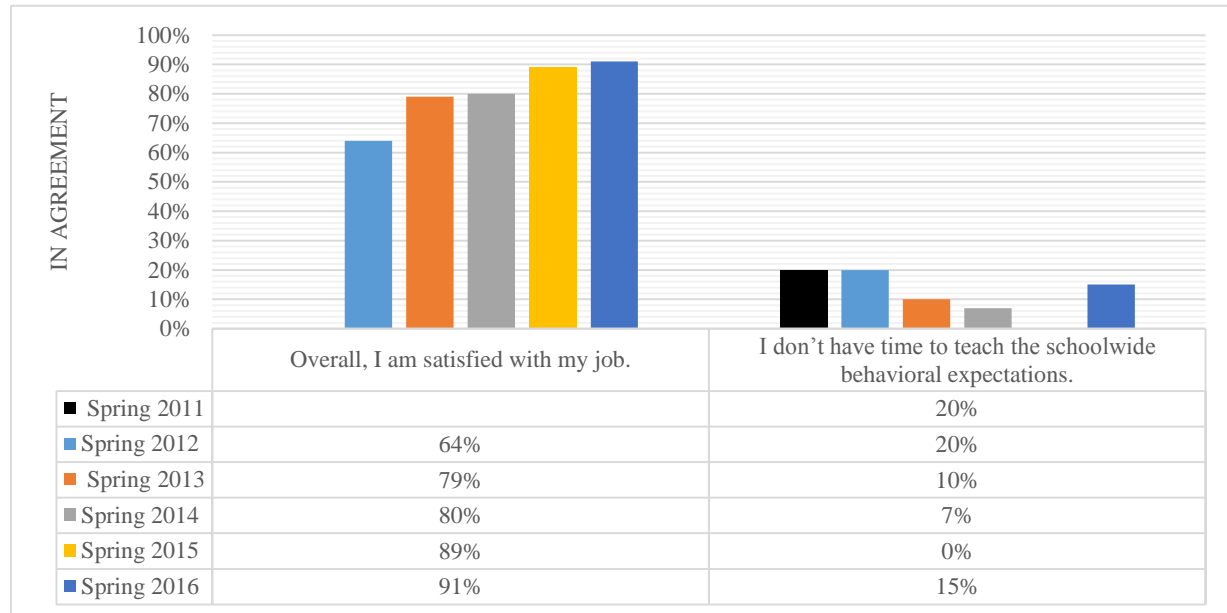behavior. The reason for this change is unknown at this time.

	Overall, I am satisfied with my job.	I don't have time to teach the schoolwide behavioral expectations.
Spring 2011		20%
Spring 2012	64%	20%
Spring 2013	79%	10%
Spring 2014	80%	7%
Spring 2015	89%	0%
Spring 2016	91%	15%

Figure 7. Townsend staff perception of reduction in workload as evidenced by SPBD.

Tier 1: Reduction in problem behaviors. The effectiveness of Tier 1 implementation is

often measured by a reduction of ODR totals and/or rates (see Figure 8). The year before

implementing SWPBIS, TMS staff submitted a total of 2,080 ODRs. The total ODR count

decreased with each year of implementation until a slight escalation from year three to year four.

Referral totals ranged from 2,080 the year prior to implementation, to 1,107 in year four, an

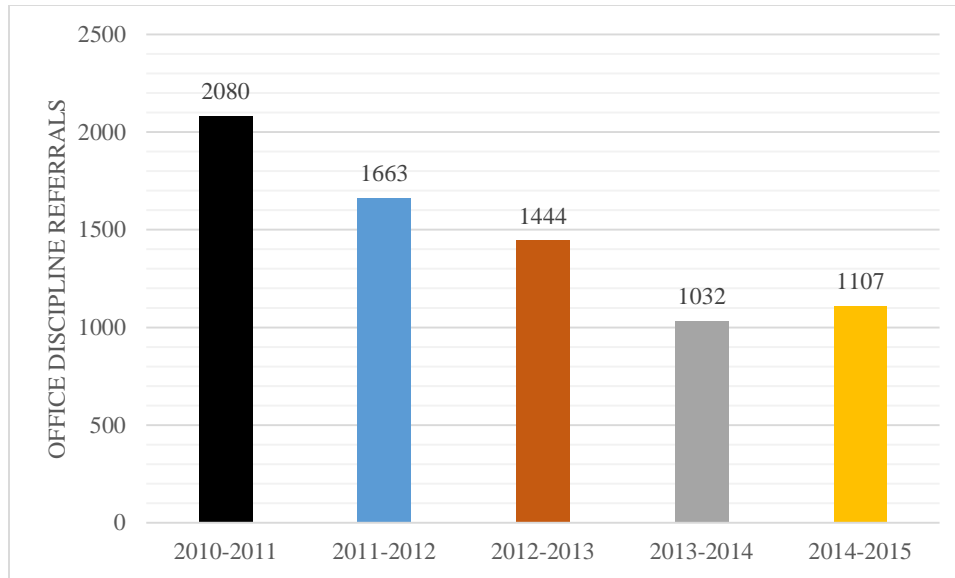overall reduction of 46.8% over the first four years of implementation.

Figure 8. Total Townsend office discipline referrals per year.

Along with a reduction in referrals for behavior offenses, student and parent perceptions

of safety improved from year one to year four of SWPBIS implementation (see Figure 9).

Student reported agreement with safety-related survey items showed gains: "Students having

weapons is a problem at my school" decreased from 57% to 17%; "Drug/alcohol/tobacco use by

students is a problem at my school" decreased from 62% to 25%; "Students physically hurting

each other is a problem at my school" decreased from 65% to 37%; and "Students threatening or

bullying other students is a problem at my school" decreased from 71% to 43%. Student

perceptions of safety improved a minimum of twenty-eight percentage points on these indicators

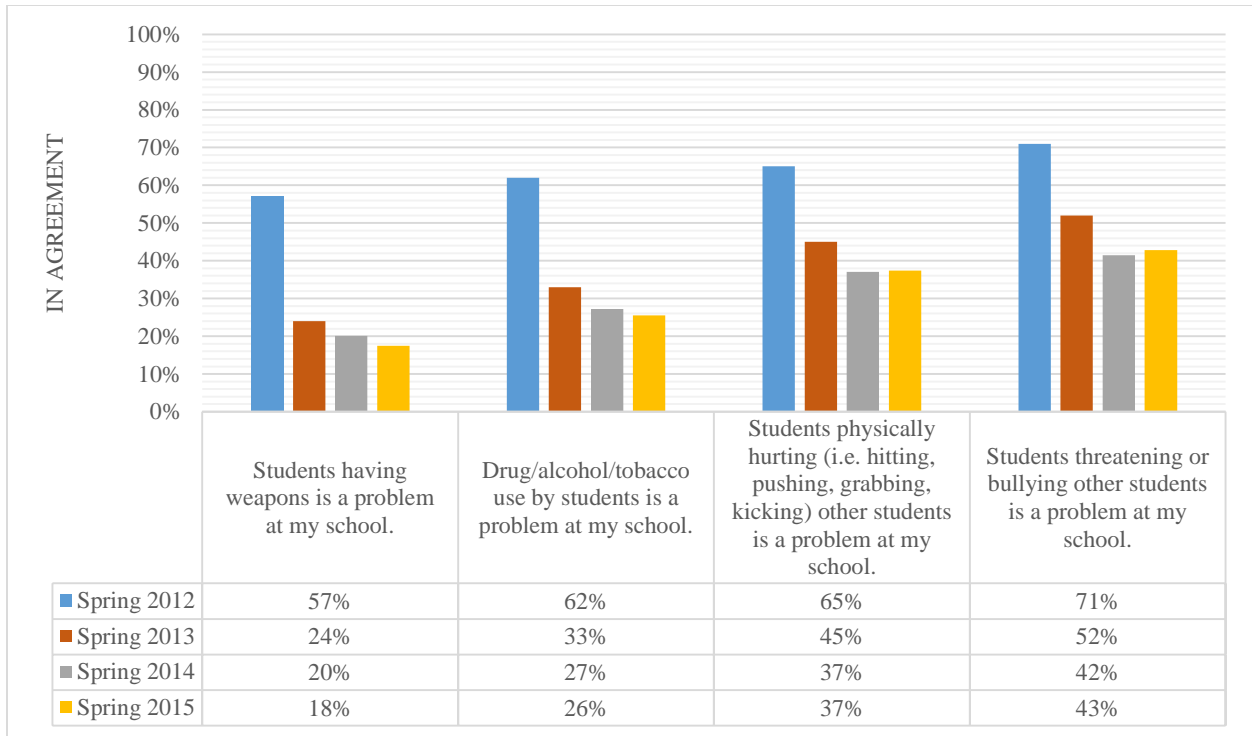over the first four years of implementation.

	Students having weapons is a problem at my school.	Drug/alcohol/tobacco use by students is a problem at my school.	Students physically hurting (i.e. hitting, pushing, grabbing, kicking) other students is a problem at my school.	Students threatening or bullying other students is a problem at my school.
Spring 2012	57%	62%	65%	71%
Spring 2013	24%	33%	45%	52%
Spring 2014	20%	27%	37%	42%
Spring 2015	18%	26%	37%	43%

Figure 9. Townsend student perception of school safety as evidence by student climate survey.

Figure 10 shows parent reported agreement to "Students having weapons is a problem at my

school" decreased from 43% (year one) to 8% (year four); "Drug/alcohol/tobacco use by

students is a problem at my school" decreased from 46% to 11%; "Students physically hurting

each other is a problem at my school" decreased from 56% to 19%; and "Students threatening or

bullying other students is a problem at my school" decreased from 68% to 21%. Parent

perceptions of safety improved a minimum of thirty-five percentage points on these indicators

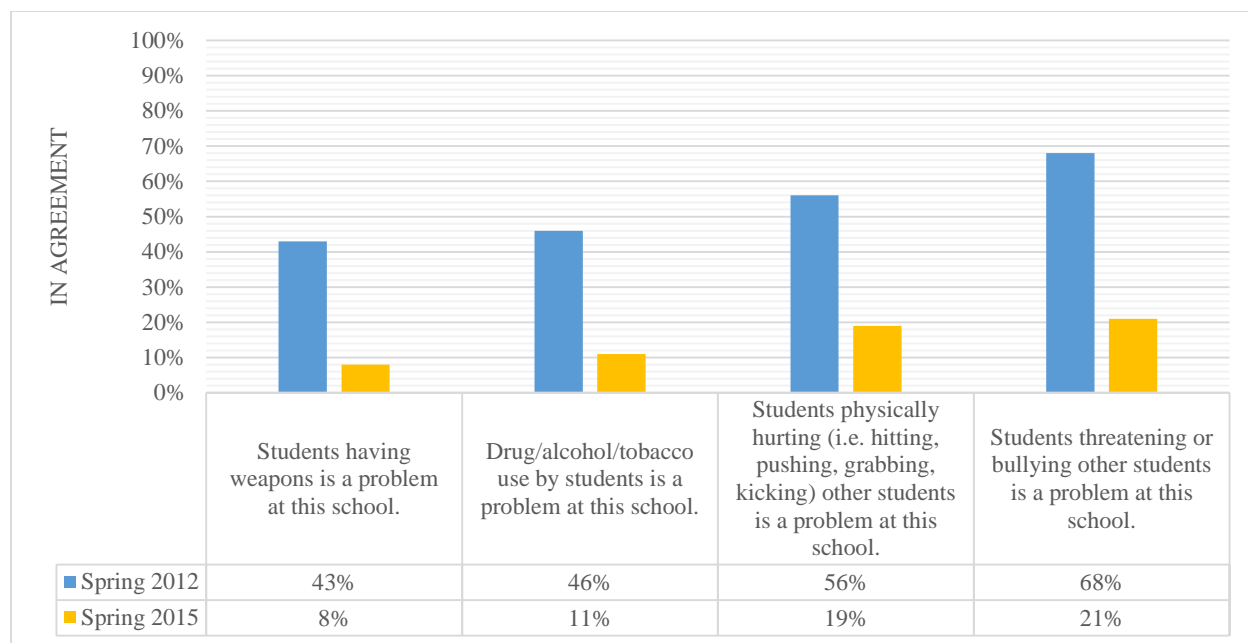over the first four years of implementation.

	Students having weapons is a problem at this school.	Drug/alcohol/tobacco use by students is a problem at this school.	Students physically hurting (i.e. hitting, pushing, grabbing, kicking) other students is a problem at this school.	Students threatening or bullying other students is a problem at this school.
■ Spring 2012	43%	46%	56%	68%
■ Spring 2015	8%	11%	19%	21%

Figure 10. Townsend parent perception of school safety as evidenced by parent climate survey.

Tier 2: Reduction in problem behaviors. The only data available to measure the effectiveness of the Tier 2 and 3 practices at TMS were disciplinary consequences associated with problem behaviors. Therefore, the results pertaining to Tier 2 are illustrated via trends in in-school suspension (ISS; see Figure 11). At TMS, in-school suspensions were levied for level two behaviors, those behaviors that were chronic in nature but not an immediate threat to school safety (level 3 behaviors). A total of 206 ISS were assigned in year one. This total increased each year to 342 in year four, a 166% surge over four years. The projected total of ISS for year five at the time of this writing is 121. This would result in an overall reduction in ISS of 41.2% in comparison to year one (Analysis of in-school suspension trends over the previous four years of implementation showed that an average of 60% of the TMS ISS totals occurred in the second half of the school year). However, the decline in ISS based on the year five estimate, resulting in the lowest number of ISS in any of the five years of implementation, was due more to a change

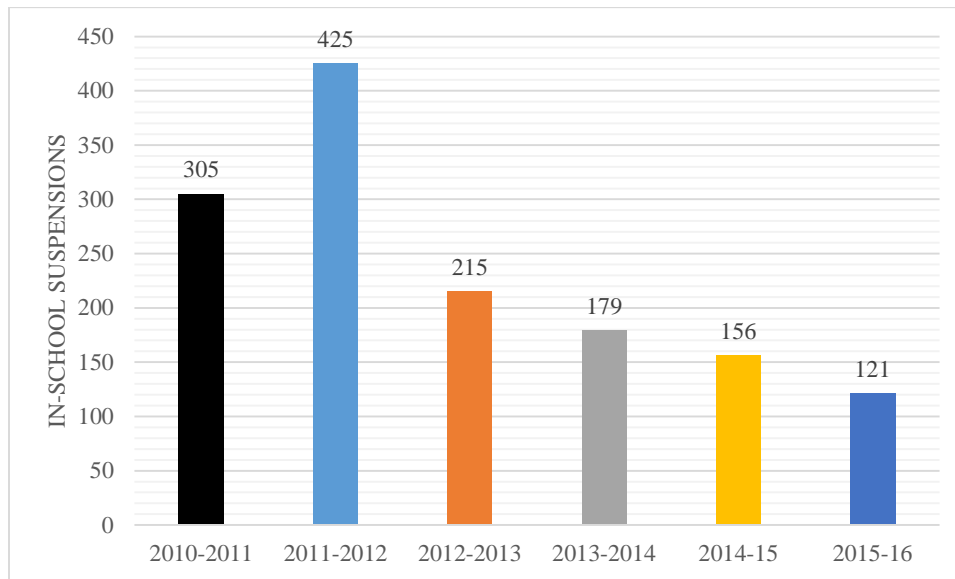in the ISS program design, which limited the number of students in the intervention to two at any one time.

Figure 11. Total Townsend in-school suspensions per year with projected total for year five (2015-16).

Tier 3: Reduction in problem behaviors. While the ISS total increased over the first four years of implementation, the consequence totals for level three behaviors, out of school suspension (OSS; see Figure 12), decreased. A total of 305 OSS were levied the year prior to implementation. There was a spike in year one to 425 OSS, proceeded by declines in subsequent years. Year four's total of 156 OSS was a 48.9% reduction in comparison to the yearly total prior to implementation. Analysis of suspension trends over the first four years of implementation showed that an average of 58.8% of the TMS OSS totals occurred in the second half of the school year. Using this calculus, the year five OSS total is projected to be 226. This would result in an overall reduction in OSS of 25.9% in comparison to year one.
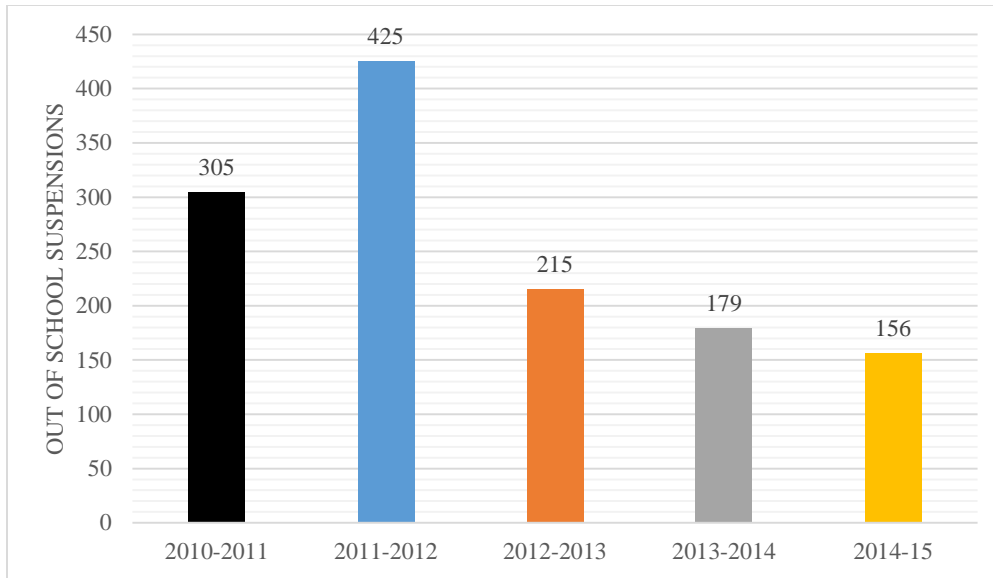
Figure 12. Townsend out of school suspension totals per year.

Efficiency

Efficiency of a school-based systems level practice is determined by: (a) the relation between the effectiveness of SWPBIS and the staff's effort required to produce the results; and (b) the ability of the practice to become more efficient over time, while maintaining fidelity. The efficiency of SWPBIS was analyzed via staff perceptions in two areas, dedicated effort and resources needed to sustain the practice.

Tier 1: Dedicated effort. The focal SPBD item related to staff perception of dedicated effort to achieve desired results was "If you are familiar with schoolwide positive behavior supports, please indicate your current level of support or commitment." The first of two response options analyzed was "I agree with this effort, but I do not plan to participate in leadership or committee work." This percentage declined over six years, from 44% (pre-implementation) to 18% (year five; see Figure 13). The response "I strongly agree with this effort; I plan to actively support it" increased over the same six years from 49% to 62%.
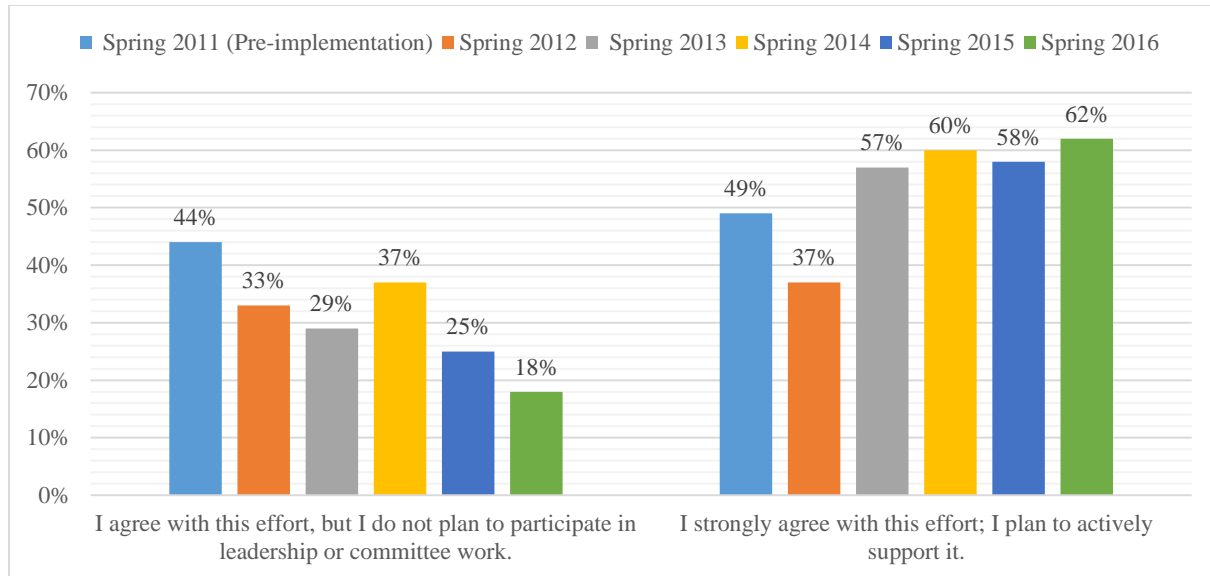
Figure 13. Townsend staff perceptions of dedicated effort to achieve desired results as evidenced by SPBD.

Combining "I agree with this effort" with "I strongly agree with this effort" generated a total of 80% of TMS staff (year five) that reported support for SWPBIS and an increasing percentage wishing to devote more effort to its implementation. The TMS leadership team implemented PBIS sub-teams in year four, a factor that may be related to the increase in staff willingness to actively support SWPBIS through leadership or committee work. The PBIS sub-teams are collaborative work groups facilitated by a member of the PBIS leadership team. All certificated staff and paraeducators participated on a sub-team of their choice. The sub-teams met five times each year to implement an action plan focused on refining a specific component of the TMS SWPBIS framework. For example, in year five, the seven sub-teams were: Common Areas, START on Time!/Attendance, Team Based Problem Solving, Inclusive Schools, Prevention and Management, Restorative Practices, and In-School Suspension.

Tier 1: Resources. Staff perception data pertaining to the availability of sufficient resources to sustain implementation of SWPBIS writ large were found in the SPBD item, "I

believe our school has (or will have) the necessary resources to support schoolwide positive

behavior supports" (see Figure 14). Staff reported agreement with this item ranged from 57%

(year one) to 83% (year four), with a decrease to 71% in year five of implementation. These

results are consistent with other research demonstrating how years of implementation lead to a

growth in staff belief that the necessary resources exist or will exist to provide efficiency, and
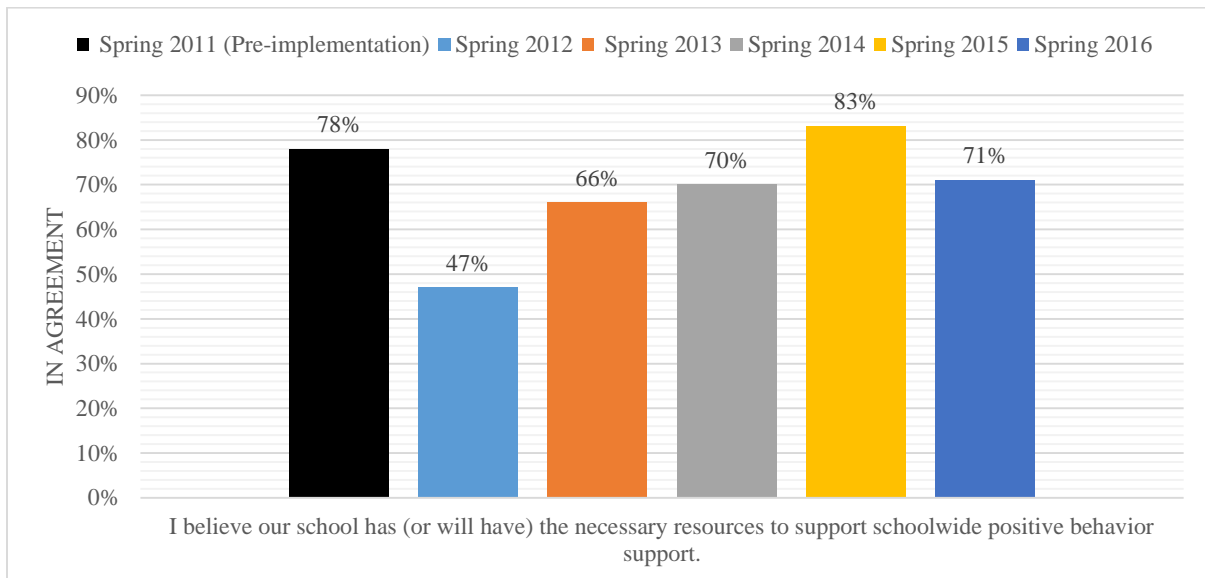
thus sustain implementation (Feuerborn & Tyre, 2015).

Figure 14. Townsend staff perception of necessary resources to support SWPBIS as evidenced
by SPBD.

The SPBD is designed to monitor Tier 1, school climate, and supports and resources.

Therefore, there are no SPBD items designed to gauge implementation of Tiers 2 and 3

specifically. However, many responses to two of the open-ended questions ["What is needed to

make it (behavior and discipline) better?" and "When you think about schoolwide positive

behavior supports, what concerns do you have?"] demonstrate that perceived lack of resources to

provide Tier 2 and 3 supports were a persistent concern amongst TMS staff across all five years

of implementation. In year one, 15% of respondents reported concerns about the lack or

inefficiency of supports for students who did not respond to Tier 1 SWPBIS. This rate ranged from 10% of the responses (year three) to 25% (year four), with 18% reporting concerns in this area for year five.

It should be noted that CICO, the most evidence-based intervention for Tier 2 (Hawken et al., 2015; Maggin et al., 2015; Miller et al., 2015; Mitchell et al., 2011; Myers et al., 2010), did not arise as a concern in the staff responses to the open-ended comments over the five years of SPBD results at TMS. However, while concerns persist about Tier 2 and 3 supports, there are indications of increased staff awareness and understanding of behavior supports at TMS. Specific interventions are named and described (e.g., planned discussion and goal setting), a phenomenon not seen in the comments in the first years of implementation. Evidence of this is provided by a representative comment from the 2016 SPBD:

> I am concerned about Tier 3 students. Positive supports are doing a nice job supporting the vast majority of our kids. Most are willing to work hard to earn incentives and teachers are happy to support students who buy in with positives. That said, the minority of students whose behavior is routinely disrespectful and disruptive do not seem to be responding to positive supports. Following planned discussions and goal setting and classroom incentives it is VERY rare to see behavior change for the toughest kids. This has the added impact of creating a negative environment for all kids. The lack of buy in and temptation of negative behavior becomes infective. Not only are positive supports ineffective for Tier 3 students in our school but their rejection of the positive supports trickles down to kids they may have worked to curb behavior. In this way the positive environment of our whole school is reduced.

Priority

Priority is the level to which a practice is connected to both the values of the organization and other, often competing, initiatives. With congruence in philosophy and daily operations, the practice grows in visibility and importance, thus increasing its sustainability. Due to the continued concerns regarding students in need of higher levels of behavior support, TMS staff wrote a school improvement goal related to enhancements in this area in year five, focused on reducing the rate of school exclusion of a subgroup of students who received an OSS the previous year. Aligned with positive findings in the research for this strategy (Nocera et al., 2014), TMS leaders wrote school improvement goals each year targeted at reducing out of school suspensions vis-à-vis action steps directly related to the implementation of SWPBIS which, in turn, directed professional development. TMS professional development centered on Explicit Instruction and the concept of warm demander, "a teacher stance that communicates both warmth and a nonnegotiable demand for student effort and mutual respect" (Bondy & Ross, 2008, p. 54), to improve core instruction and relationship building in year two.

Intentional efforts were also made to work on staff climate and morale. The year began with a staff retreat themed "Go Big" and the entire school staff spent a day working with Phil Boyte, a trainer on school culture, to establish a focus on relationships and culture to start the school year. Efforts were also made to integrate the highly visible student leadership program at TMS with SWPBIS systems. For example, student leaders performed jobs that were helpful to the logistical maintenance of SWPBIS (efficiency), such as distribution of reinforcement tickets to teachers, and also increased the overall visibility (priority) of the practice through their participation.

Additionally, the priority of SWPBIS was evidenced in responses to items related directly to its fundamental principles (See Figure 15). First, a preponderance of staff reported disagreement with the item, "We should not have to teach students how to behave at school." Reported agreement decreased from 25% (year one) to 9% (year five). Second, reported agreement with the item, "I feel that rewarding students is the same as bribing them" dropped from 33% to 18%. Third, staff reported agreement with the item, "My colleagues and I share a common philosophy for behavior and discipline" increased from 55% (pre-implementation) to 76% (year five).
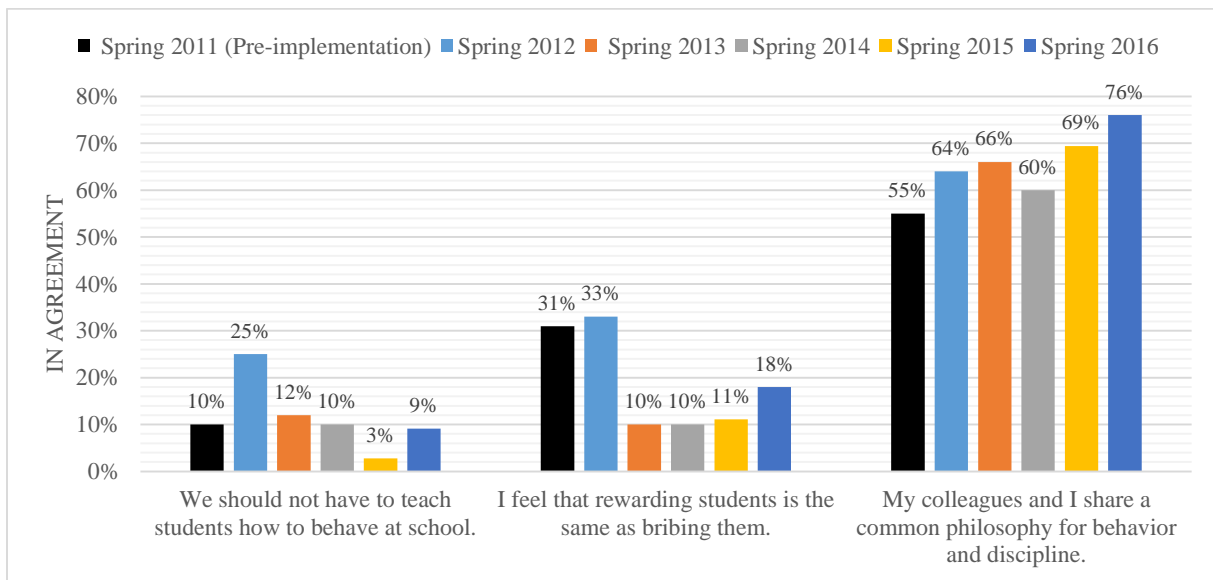

Figure 15. Townsend staff alignment with fundamental principles of SWPBIS as evidenced by SPBD.

The value of SWPBIS at TMS was also measured by staff perception of the practice in relation to its capacity for success (effectiveness) and its stability. For example, Figure 16 shows that while 13% of staff reported agreement with the item, "Schoolwide behavior supports may work in other schools, but I doubt it will work in ours" in year one, no staff (0%) reported agreement in years four and five. Staff reported agreement with the item "Schoolwide behavior support is

likely to be yet another fad that comes and goes in this school" lessened from 56% (year one) to

23% (year five). Finally, reported agreement with the SPBD item "I resent being asked to do

one more thing" declined over the five years of implementation. The percentage of reported staff

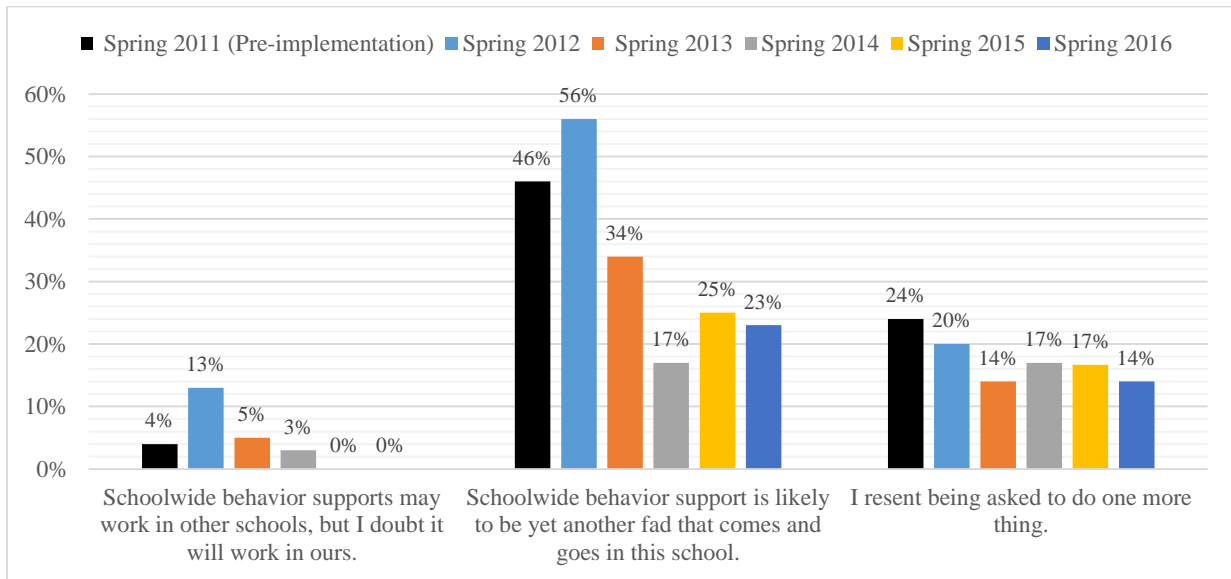agreement lessened from 24% (pre-implementation) to 14% (year five).

Figure 16. Townsend staff perception of the value of SWPBIS as evidenced by SPBD.

Continuous Regeneration

Continuous regeneration is, by nature, an iterative process and occurs in two ways,

through application of the practice to new areas and through responsiveness to change. Its engine

is data-based decision making (McIntosh, Horner, et al., 2009; McIntosh, Filter, et al., 2010).

Sprick, Booher, and Rich's (2014) *improvement cycle* consists of monitoring current fidelity and

outcome data, prioritizing areas for improvement and/or adaptation, revising the current practice,

adopting changes to the practice, and subsequent implementation. The continuous improvement

cycle is an ongoing investment in implementation and reimplementation (Han & Weiss, 2005;

McLaughlin & Mitra, 2001). At TMS, the continuous improvement cycle involved all three

components of the continuous regeneration principle of generalization: capacity building, continuous measurement, and data-based problem solving.

Capacity Building. Fullan and Quinn (2016) define collective capacity building as "the increased ability of educators at all levels of the system to make the instructional changes required to raise the bar and close the gap for all students" (p. 57). Increasing this ability requires a systematic process of ongoing professional learning over a number of years. Intentional capacity building was especially important at TMS due to the significant staff turnover after each of the first two years of implementation. Year two began with 14 new-hire teachers (31.1%), year three began with 15 new-hire teachers (33.3%); a total staff turnover of 48.9% over two years. Staff understanding of SWPBIS was measured via the SPBD item, "When it comes to the concepts and procedures of positive behavior supports, my level of understanding is…" with response options of: (a) "Unfamiliar; I don't know what it is"; (b) "Limited; I would need to learn more"; (c) "Basic; I could implement"; and (d) "High; I could teach others." Data for this item, as shown in Figure 17, is limited to years three, four, and five as the item was added to the SPBD beginning in 2014. No staff members chose the response option "Unfamiliar; I don't know what it is" in years three and four, while only one staff member reported lack of knowledge of SWPBIS in year five. Similarly, one staff member chose the option "Limited; I would need to learn more" in years three and four but increased to 10 staff members in year five. The response option "Basic; I could implement" ranged from 67% (year three) to 55% in year five. "High; I could teach others" ranged from 47% (year three) to 29% (year five).
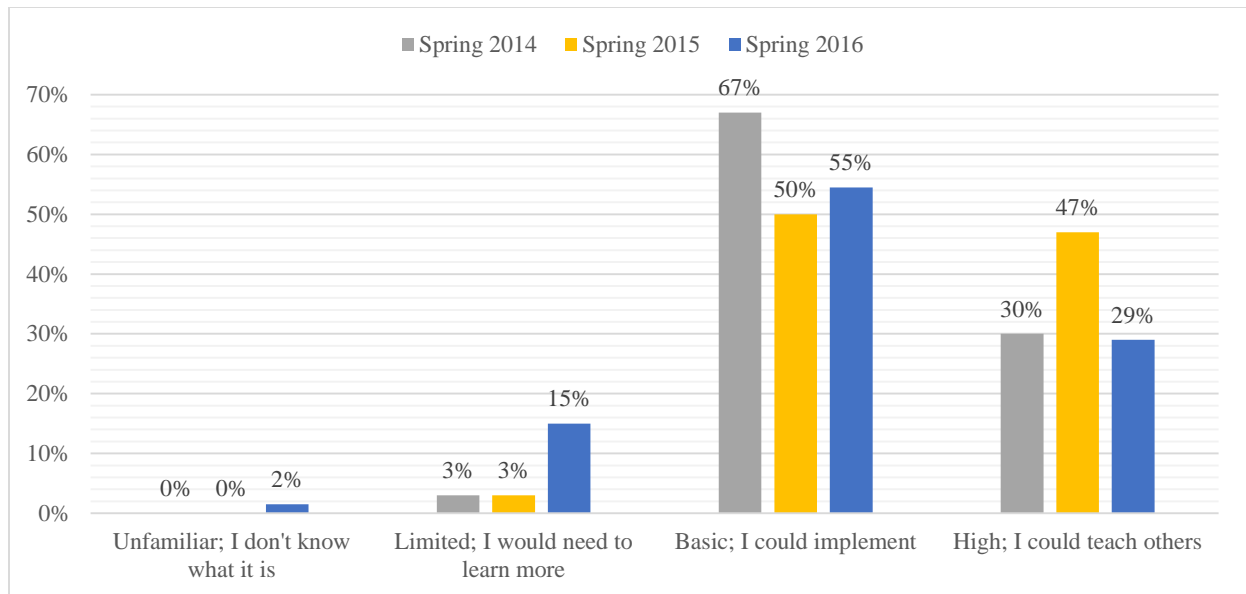
Figure 17. Townsend staff understanding of SWPBIS as evidence by SPBD.

While there was a downward SPBD trend in the percentage of staff identifying as having

a basic understanding of SWPBIS, there was not the desired corresponding upward trend in staff

self-assessing as having a high level of understanding and the ability to teach others (see Figure

17). Beginning with the 2013 edition of the SPBD, staff were asked to select the number of

hours of training in behavior supports they received in the past year. While the largest portion of

staff reported 2-3 hours of training in years three (20%) and four (33%), the majority shifted to

4-6 hours of training in year five (27%). The increase in yearly staff training in behavior

supports coincided with increases in staff perception of the training's utility via the SPBD item,

"If you have received professional development in behavior supports, did you find it to be

helpful?" The *Yes* option ranged from 51% (year one) to 78% (year four), with 76% of staff

reporting the usefulness of SWPBIS professional development in year five (see Figure 18).
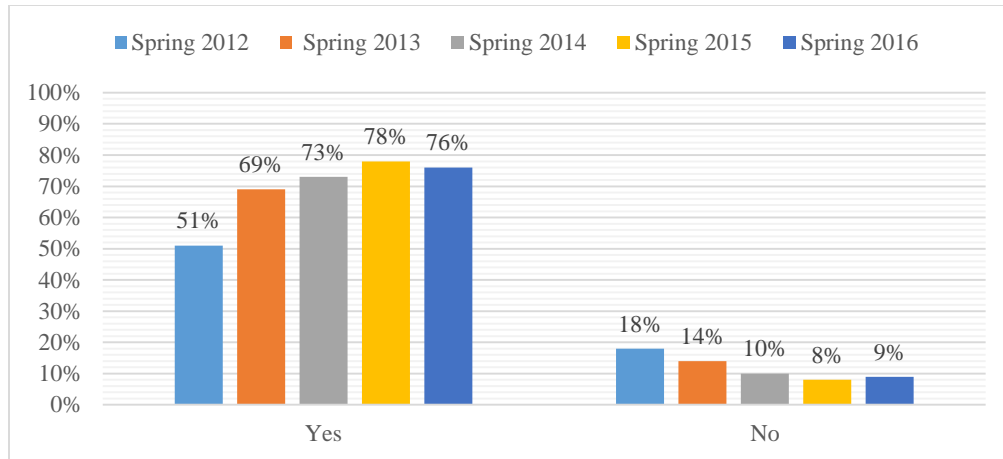
Figure 18. Townsend staff perceptions of the utility of professional development in SWPBIS as evidenced by SPBD item "If you have received professional development in behavior supports, did you find it to be helpful?"

   Cultivating local expertise. McIntosh, Horner, et al. (2009) describe capacity building as cultivating local expertise, or "the extent to which the school or district level personnel have the skills needed to continue the practice when trainers and external startup supports fade and are discontinued" (p. 338).

   Strategies and skills. TMS developed what the principal described as a "developmental training plan" that shaped each year's training as the implementation matured. To prepare for the first year of implementation, staff were trained in Safe and Civil Schools' CHAMPS (Sprick, Garrison, & Howard, 1998), a class-wide positive behavior support that provides (a) a common acronym for the behavioral expectations for each instructional activity (Conversation, Help, Activity, Movement, and Participation) and (b) intentional structures to reinforce, correct, and engage students in the classroom. Staff also received training in Think Time (Nelson & Carr, 1999), an intervention for classroom misbehavior that was intended to serve as a positive replacement for the more punitive Steps program of Make Your Day (MYD). Think Time is designed to catch disruptive behaviors early, teach children to manage themselves, prevent

nattering (arguing between the teacher and student) and break the chain of behavior problems

that can develop over time into antisocial problems, serve as a non-punitive approach, and teach

self-control (Benner, 2012). For example, when a student exhibits a problem behavior, the Think

Time strategy suggests the teacher first provide a non-verbal reminder, either proximity and/or

eye contact. Then, if the behavior continues, the teacher is to issue a "precision request"

directing the student back to the behavioral expectation. If prior attempts were not successful in

changing the behavior, the student is asked to go to Think Time, a designated area in the

classroom or a "buddy" classroom where the student is to complete a behavior reflection form,

identify the behavior of concern, how to correct the behavior, and indicate ability/willingness to

correct the behavior. Once the student completes the Think Time form, they are to debrief with

the classroom teacher to ensure positive re-engagement into the classroom. However, soon into

year one it became clear that for a number of TMS teachers, Think Time simply replaced the

MYD Steps program as a step-by-step process to remove the student from the classroom.

    Think Time had undergone what McLaughlin and Mitra (2001) describe as a "lethal

mutation," where staff preserve irrelevant features of a practice while discarding the effective

components. Year one SPBD staff comments demonstrated the lethal mutation from Think

Time's intended non-punitive stance to a consequence "given" to students: "Middle school

students do not understand the concept of Think Time. They merely see it as a way to get out of

class"; "Implementation of Think Time passes is a major disruption to teaching in the receiving

class"; "If students get more than __ Think Times per day or week there should be a

consequence"; "Concerns I have with PBIS are when to contact home when an ODR/multiple

Think Times are given in any one school day or classroom"; "With less and less effectiveness of

the program, teachers stopped using the tools, such as Think Time"; "A lot of teachers do not

feel supported when students do have behavior issues, so they have stopped writing ODRs and

giving Think Times b/c there is no change in behavior and it creates more work for the teacher";

"We need a consistent and reliable discipline system (Think Time doesn't work)."

On the same survey, only 20% of staff reported agreement with "The climate at this

school is positive." Although the TMS ODR total decreased by 20% after year one (in

comparison to the previous year), the OSS total increased by 39%, indicating an escalation in

more severe behaviors, especially defiance toward staff. TMS leadership hypothesized that the

escalation in behavior was likely due in part to the lethal mutation of Think Time. Consequently,

the strategy's implementation was discontinued. Think Time's intent to inspire student

ownership of and reflection on behavior and build student-teacher relationships was not realized

and, instead, served as a way to exclude students.

TMS leadership refocused efforts toward cultivating local expertise in teacher-student

relationships, which Hattie (2012) found to have a moderately high positive effect size on

student achievement in his extensive work on identifying evidence-based educational practices.

The collective capacity building in year two focused less on responding to behavior than on

engaging students in well-managed classroom instruction. Professional development came in the

way of intensive training over a number of days in Explicit Instruction (Archer & Hughes, 2011)

and the engagement strategies of the Big 8 (Forlini, Williams, & Brinkman, 2010): expectations

(students know what to do and when to do it); time limits (manage time); cueing (give positive

reminders); attention prompt (focus attention); proximity (use stance and movement); signals

(students signal for ready, finished or need help); voice (say it right); and tasking (engage

students in actively responding). The focus on engaging students via the Big 8 was paired with

staff development in the concept of teacher as warm demander. The collective capacity building

in year two set the stage for positive change at TMS. SPBD comments (2013) began to report

success with CHAMPS: "Everyone knows the expectations! CHAMPS is awesome"; "The

CHAMPs work in classroom well"; "I feel like all the students and staff know and understand

CHAMPS."   Increasingly positive staff perceptions of CHAMPS were accompanied by an

increase in staff reported agreement with "The climate at this school is positive" to 67%.

Additionally, year two results demonstrated a 13.1% reduction in ODRs and a 49.4% reduction

in OSS compared to year one.

   Capacity to intervene. The developmental growth of the implementation of SWPBIS at

TMS focused first on building staff capacity to engage students, manage classroom behavior, and

build teacher-student relationships. The second step in the developmental implementation

involved building capacity for staff to systematically collaborate via middle level teaming. In

the third year, TMS implemented the teaming model. Each grade cohort was divided in half,

with roughly 120 students shared by each team of four core teachers (math, science, language

arts, and social studies). In year three, teaming consisted mostly of culture building: naming the

team and developing team pride; Capelluti and Brazee (2003) suggested that "The move from

team as organization only to team as a learning community is developmental, and teams must

master the organizational aspects before they can do the latter" (p. 33). One respondent

commented on the 2014 SPBD, "Teams are supportive and support students with group

discussions and strategies." Year three concluded with another 28.5% reduction in ODRs and a

16.7% reduction in OSS compared to year two.

   Building team capacity to intervene and support student behavior commenced in year

four as part of a district initiative to refocus SWPBIS implementation efforts utilizing Safe and

Civil Schools' Foundations (Sprick et al., 2014), a resource that provides resources and

instructions on how to implement SWPBIS at the school and district level. Foundations is

comprised of six books, modules A (Foundations of Behavior Support: A continual improvement

process), B (Managing Behavior in the Common Areas and with Schoolwide Policies), C

(Conscious Construction of an Inviting School Climate), D (Responding to Misbehavior: An

instructional approach), E (Improving Safety, Managing Conflict, and Reducing Bullying), and F

(Establishing and Sustaining a Continuum of Behavior Support). SWPBIS was applied to a new

setting, one method of continuous regeneration (Coburn, 2003), targeting the team environment.

Foundations Module F contains early-stage interventions for general education classrooms, a

"standard protocol of early interventions for students who exhibit behavioral or motivational

problems" (p. 68) and includes six tasks: planned discussion, academic assistance, goal setting,

data collection and debriefing, high ratios of positive to corrective interactions, and STOIC

function-based analysis and intervention. A framework for responding to problem behavior,

STOIC includes altering the *Structure* to support the student, *Teaching* the new structure to the

student, *Observing* for changes in behavior, *Interacting* positively with the student, and

Correcting misbehaviors fluently as needed. TMS staff were trained in early-stage interventions

throughout year four. Grade level teams met with students to complete planned discussions

following a scripted protocol that reinforced positive relationships and genuine care for student

success, tracked student data, and monitored student progress toward goals. On the 2015 SPBD

respondent comments reported positivity toward early-stage interventions: "Positive behavior

support are strongly supported in individual teams"; "A team approach has been very helpful and

supportive. Consistently responding to misbehavior!!!!"; "I believe that the planned discussions

and that process work well. It allows for a meeting to focus on positive changes that need to be

made and I like the follow up process to call home with (fingers crossed) good news." While

there was a 7.3% increase in the total ODRs from year three to year four, OSS totals decreased by 12.8%.

Year five of SWPBIS implementation at TMS included building capacity and collective expertise in the problem solving team (PST) process, bringing the SWPBIS practice to different, higher levels of support (McIntosh, Horner, et al., 2009), an indicator of continuous regeneration. Staff were trained how to refer students who failed to respond to early-stage interventions (after at least three weeks of intervention and consistent data collection) to the TMS PST. The PST met with the grade level team, followed the Foundations model for the PST process and created a Student Support Team Plan in Review360, an online tool for creating behavior support plans, collecting, and analyzing progress data. The action steps taken in the professional development of year five were written into a school improvement plan goal of reducing the number of suspensions of students who received an OSS the previous year. The projected year-end total of 226 OSS is a 44.9% increase from year four, yet still an overall reduction compared to the year before implementation (305). At the time of this writing, TMS was not on track to meet the school improvement goal for suspensions.

Collective expertise.   Hattie's (2015) "collective expertise" is a system in which teacher expertise is identified and recognized, and where collaborative processes work to "raise the overall level of expertise and effectiveness" of all teachers (p. 25). One method of promoting continuous regeneration is to connect a specific implementer to a larger community of practice implementers (McIntosh, Horner, et al., 2009). Two methods of developing collective expertise were implemented at TMS to sustain SWPBIS, both in reaction to changes in the school environment. First, soon into year one, it became clear to TMS leaders through classroom observations and ODR data that, as indicated previously, much of the TMS teaching staff was in

dire need of support and skill development in building relationships with students and managing

classroom behaviors via engaging classroom instruction. A number of teachers were invited to

participate in the newly formed TMS PBIS PLC (Professional Learning Community). Launched

in January 2012, the PBIS PLC was facilitated by a local university teacher preparation professor

with expertise in SWPBIS. Every two weeks the professor met with the teacher group to provide

professional development in explicit instruction and classroom management strategies. In the

alternating two weeks, the professor visited TMS as an instructional coach, observed the PBIS

PLC teachers in the classroom and provided feedback for improvement. The PBIS PLC model

was maintained throughout each of the five years of implementation, evolving to a "problem of

practice" model centered on maximizing instructional minutes. In years four and five, the PBIS

PLC served as the primary support for new hire teachers. Along with experienced teachers

wishing to continue the PBIS PLC work, new hires identified a problem of practice (e.g., entry

task completion in third period), data to collect, and intervention(s) and reinforcement systems to

implement. On a regular PLC cycle, the teachers gathered, reviewed progress data, shared

feedback and experiences and built collective expertise.

As previously explained, PBIS sub-teams were added to the TMS SWPBIS framework in

year four. Near the end of the third year of implementation, the TMS PBIS Team leader

expressed the concern that SWPBIS was not sustainable with the limited number of staff

members in leadership positions, taking initiative to manage the practice. The TMS leadership

team agreed with the evident need to build teacher leadership capacity and ownership of the

practice, thus the creation of the sub-teams in year four. In year five, the ISS sub-team

spearheaded redesign of the in-school suspension program to include increased behavior

instruction and a case management approach. The sub-team conducted a site visit to another

school to learn more about restorative practices and conducted a redesign of the program

followed by a training for all staff in the new ISS model. This was another example of building

collective expertise at TMS; "Experienced core personnel can take on a number of important

roles in sustaining the practice, including coordinating the capacity-building and training system"

(McIntosh, Horner, et al., 2009, p. 339).

Continuous Measurement. McIntosh, Horner, et al. (2009) suggest that "scheduling

regular cycles of measurement as an integral part of the practice signals two important messages:

The practice and its outcomes are valued (priority), and personnel will hold themselves

accountable for its implementation (capacity building)" (parenthetical notes added; p. 339).

TMS monitored the same data points throughout each year of SWPBIS implementation: SET,

ODRs, ISS, OSS, student and parent perception surveys, and the SPBD. These data were

regularly shared, either via the principal's weekly memo, monthly staff meetings, or during

professional development days, a practice also directly linked to enhanced priority (McIntosh,

Kim, et al., 2015; McIntosh, Mercer, et al., 2013).

Additionally, data collection and analysis was ongoing throughout each year of

implementation. TMS administrators conducted classroom walkthroughs, tallying the positive to

corrective ratio of interactions based on 5-minute observations. These data were immediately

provided as feedback to teachers via a post-it note before leaving the classroom, then tallied and

presented in totals by grade level and elective teams to illustrate progress toward the goal of five

positive interactions to every one corrective interaction.

Data-Based Problem Solving. Data-based problem solving improves the fidelity of

implementation through what Bertram, Blasé, et al. (2015) refer to as decision support data

systems, where comprehensible data is provided in a timely manner enabling the team to detect

reductions in fidelity, spur action planning, and make necessary decisions guiding

implementation. In each of the first four years of implementation of SWPBIS, TMS SET results

indicated a score of 4/4 or 100% for Monitoring and Decision Making. After year one of

implementation, the evaluator noted "data is used to guide decisions" as a strength in the SET

report for 2012. This score is dependent upon 90% of team members reporting that discipline

data is used for making decisions in designing, implementing, and revising school-wide effective

behavior support efforts.

To maintain effectiveness of SWPBIS, the TMS PBIS Team regularly monitored

outcome data across all years of implementation. In year three, Safe and Civil School's Randy

Sprick visited TMS to conduct a staff training on responding to student behavior. During his

visit he met with the TMS PBIS Team to identify trends in ODR data. The team identified the

month of March as a problem time of year that experienced higher than average ODR totals (see

Appendix C). With Sprick's guidance, the team adopted the CARES acronym for the upcoming

month of March with a behavior focus each week: week one – careful commuting; week 2 –

awesome attitude; week 3 – ready to learn; week 4 – effort and empathy; and week 5 – service.

The TMS team entitled the month March Madness and created a reinforcement system that

encouraged staff to recognize students meeting the expectations of the weekly theme as much as

possible. The frequency of incentive drawings to reward students was increased from weekly to

daily, all in the hopes, as stated by the PBIS Team leader, that "staff pay more attention to what

they want to see rather than to what they don't want to see." The first implementation of March

Madness in year three led to a 21.1% decrease in ODRs over March of the previous year.

However, the subsequent year's ODR total for March increased by 37.4%, causing the team to

re-evaluate the implementation of March Madness. After the initial success of March Madness,

the team planned and implemented October Blitz, a similar strategy aimed at the month of October, another trouble month based on ODR trends. In year four, the first year of the October Blitz, ODRs decreased by 37% in comparison to October the previous year. However, the second year of the October Blitz resulted in a 227% increase in the ODR total from the previous year. It is important to note that this increase was likely due to a change in ODR entry procedures. Teachers were asked to submit documentation of lower level, repetitive behaviors (level one and two) via referral as well as more serious, level three offenses. This underscores the necessity of data-based problem solving as reinforcement systems similar to March Madness and October Blitz require regular innovation to maintain effect in improving student behavior (Andreou et al., 2015).

The TMS SPBD results identified the same philosophical barriers to implementation of SWPBIS in years one through five. Staff reported agreement with the item "When problem behaviors occur we need to get tougher" was consistently over 50%, with 62% in year one and 61% in year five. Similarly, staff reported agreement with "The students at this school need to be held more responsible for their own behavior" was consistently above 85%, with 92% in year one and 91% in year five. An analysis of the open-ended question responses showed a persistent staff bias toward consequences over the five years of implementation. The word "consequence" was found 134 times in the responses from years one to five, compared to 18 times for "intervention," for example. Indeed, the 2016 SPBD report suggested that the results could indicate that "staff feel a need for tougher consequences." The report recommended that "the team provide professional development to highlight the conditions under which punishment is least and most effective. We recommend the team stress the limitations of punishment, including the limitations of its long-term effectiveness and the negative impact on school climate."
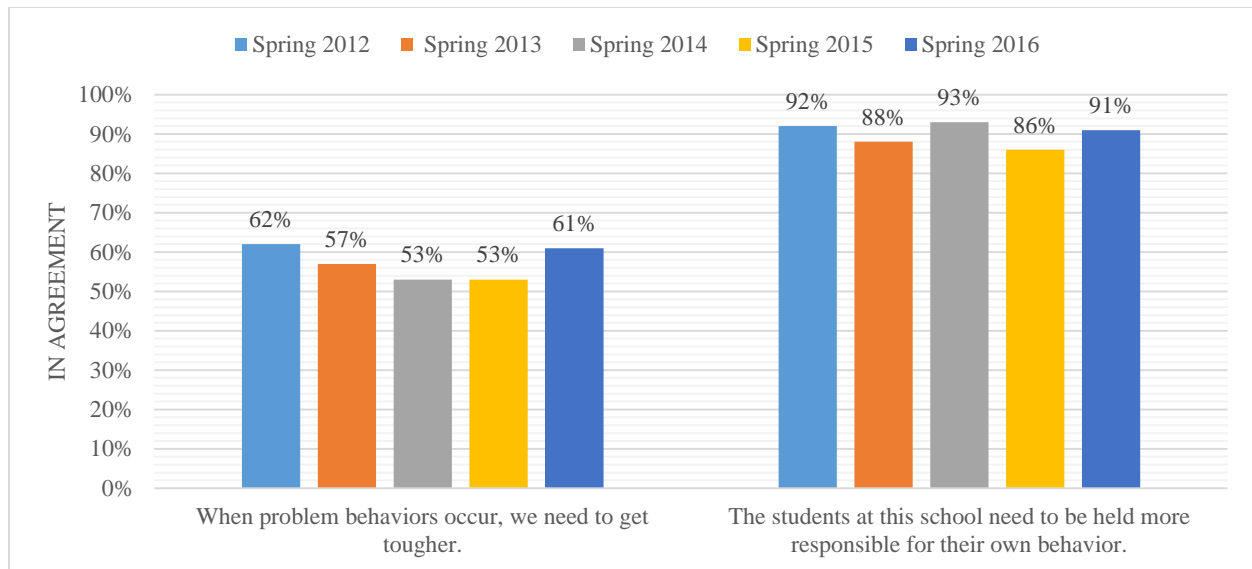
Figure 19. Townsend staff philosophical barriers to SWPBIS implementation as evidenced by SPBD.

The TMS leadership team designed a year-end staff meeting in year four, engaging colleagues in table discussions and note taking on the prompts: Explain what is meant by "get tougher"? Be specific!; What would be the responsibility of staff? What would be the responsibility of administration? Concurrently, staff members were asked to discuss and record notes on the prompts: What does it look like to hold students more responsible for their behavior?; What would be the responsibility of staff? What would be the responsibility of administration? The notes and feedback were tallied but included very few concrete or feasible suggestions, although staff members reported recognition that exclusionary consequences such as suspension were not desired. Therefore, during year five, three of the sub-teams (Team Based Problem Solving, Restorative Practices, and In-School Suspension) focused on improving the system of supports for students in need of Tier 2 and 3 behavior services. This system-level effort was undertaken to address (a) outcome data (ODR and OSS), and (b) the persistent staff concerns regarding lack of or inefficiency of Tier 2 and 3 supports and/or adequate consequences

(SPBD). Finally, in January of year five, the staff came to consensus that restorative practices, if implemented at TMS, would be the means by which students could be held more responsible for their behavior. However, the "get tougher" staff perception continues to be a barrier without a consensus resolution.

Discussion

This investigation examined the implementation of SWPBIS over five years at Townsend Middle School through the lens of McIntosh, Horner, et al.'s (2009) framework for sustained implementation of schoolwide PBIS. The findings demonstrate evidence of the state of effectiveness, efficiency, priority, and continuous regeneration, and point to durable implementation of SWPBIS. Similar to findings of other longitudinal studies, the effectiveness of the implementation of Tier 1 at TMS was evidenced in outcomes such as decreased discipline referrals and suspensions (Bradshaw et al., 2010; Freeman et al, 2016; Solomon et al., 2012) and improvements to school climate (Horner et al., 2009; Ward & Gersten, 2013). Altogether, staff perceptions of efficiency, evidence of priority, such as policy and perception, and a robust system of data-based decision making resulted in sustained implementation of SWPBIS. Most importantly, this study's findings demonstrate how continuous measurement of multifaceted data with accompanying adaptation can regenerate the SWPBIS practice for durability and continued effectiveness.

Townsend Middle School's SWPBIS Implementation: Strengths

Townsend Middle School embodied what Hattie (2015) described as a culture of evidence; "By asking educators for evidence to support their views and interpretations and to engage in continual phases of analysis, decision-making and implementation" (p. 15). The collection of data for effective decision making, including measurement of the context (staff

readiness for change and student needs), implementation (fidelity criteria), and outcomes (student performance) (McIntosh, Filter, et al., 2010) supported the sustained implementation at TMS. The equal importance placed on context measures, such as student and parent climate surveys and the Staff Perception of Behavior and Discipline survey (SPBD), alongside implementation and outcome measures, makes the decision-making process at TMS unique. This triangulation of the three forms of data, context, implementation and outcome, occurred within the framework of McIntosh, Horner, et al.'s (2009) effectiveness, efficiency, and priority. The data analysis and response guided the implementation process, fueled continuous regeneration, and can serve as a model for other implementing schools.

   Effectiveness: fidelity. Townsend Middle School SET results were consistently high and nearly all staff reported teaching behavior expectations and support for the SWPBIS effort overall; yet staff perception of the implementation of two SPBD components lacked commiserate high levels of reported confidence. Over time, staff reported improved application of agreed upon consequences and fewer doubts as to colleagues' implementation of the schoolwide behavior plan. However, in year five less than 80% of staff reported applying agreed upon consequences and a two-year trend showed 33% of staff suspected their colleagues were not implementing consistently. This was somewhat puzzling, but not uncommon (Fallon, McCarthy, & Hagermoser Sanetti, 2014; Feuerborn, Wallace, & Tyre, 2016; Pinkelman, McIntosh, Rasplica, Berg, & Strickland-Cohen, 2015). With numerous demands on staff time, SWPBIS can be seen as an extra task if not implemented strategically or to fidelity. There is strong indication, however, that most TMS staff view SWPBIS as important, as integrated into daily practice, and as a priority.

Effectiveness: organizational health. The improvements in school climate over five years of SWPBIS implementation, specifically the rate of growth in school pride by students and positive climate and job satisfaction ratings amongst staff, are a clear area for celebration at TMS. The implementation of SWPBIS coincided with a new principal and was followed by very high rates of staff turnover in the first two years. The SPBD data show that the first year of implementation was perceived as a rough transition by the majority of staff. However, the perception of SWPBIS quickly changed based on year two SPBD results. This was likely due to the level to which both the TMS PBIS and leadership teams utilized perception data to inform the implementation of SWPBIS. Staff Perception of Behavior and Discipline survey data not only reinforced the priority of the practice, they also provided necessary feedback to the implementation process, facilitating needed adaptations. Discrete implementation adaptations such as professional development in the concept of teacher as warm demander, intentional development of collegial trust and culture building with staff, as well as incorporation of student leadership were followed by immediate improvements in perception and outcome data. While school climate improvements often accompany implementation of SWPBIS (Bradshaw et al., 2008; Feuerborn, Wallace, et al., 2016; Horner et al., 2010; Ross et al., 2012), the speed with which the climate improved at TMS under the aforementioned combination of circumstances is cause for further investigation and possible replication.

Efficiency: shared leadership. Sugai and Horner (2006) advocated that schools create leadership teams at every level to guide ongoing training and implementation efforts. The staff perception of priority of SWPBIS may be attributed to the distributed leadership created via PBIS sub-teams in years four and five. This aspect of the implementation effort at TMS is unique. Each teacher and para educator who worked directly with students served on a sub-

team, effectively building staff ownership of the practice and "buy in" from the ground up. However, this specialized teaming may have resulted in the unintended consequence of staff reporting decreased level of overall understanding of SWPBIS and confidence to teach others.

The other example of "collective expertise," the PBIS PLC served as a strong professional development model for new (onboarding) and experienced staff (refinement). Similar to the findings of McIntosh, Kim, et al. (2015) and McIntosh, Mercer, et al. (2013), this study showed that increased staff awareness and involvement with implementation and outcome data preceded increased priority, increased team functioning (efficiency), and improved outcomes (effectiveness).

Continuous Regeneration: adaptation. Although a practice may be effective in achieving outcomes and perceived by implementers as efficient and a priority, without adaptation to changes in the organization and other influences, implementation can wane and be threatened by competing initiatives (McIntosh, Horner, et al., 2009). The steady collection, analysis and response to data (continuous regeneration) at TMS led to necessary and timely adaptations to the practice, resulting in increased effectiveness, efficiency and priority. For example, the March Madness initiative was adapted for the implementation of the October Blitz, based on data outcomes and staff feedback. While the TMS PBIS team focused on diverse data sources, staff capacity and requisite systems were in place at TMS to problem solve using the improvement cycle of continuous regeneration. The continual nature of the continuous regeneration at TMS cannot be overstated. The improvement cycle has indeed created a culture of evidence that recurrently sought out the next area for improvement, each month, each year. TMS has developed into a "community of practice" (Andreou et al., 2015), where presenting,

sharing, and listening to others' ideas, resources and celebrations regarding SWPBIS are commonplace and spur both innovation and sustain the implementation.

Townsend Middle School's SWPBIS Implementation: Areas for Growth

This study illustrated a number of strengths in the TMS implementation of SWPBIS that resulted in impressive outcomes. However, as noted previously, there were identified areas for growth.

Effectiveness: classroom level fidelity. It is not uncommon for classroom teachers to perceive less administrator support for Tier 2 and 3 interventions, as they are more removed from the case management of students receiving these services (Debnam et al., 2011). A number of TMS staff shared this persistent concern throughout the five years of implementation in their responses to open-ended SPBD questions ("What is working well?"; "What concerns do you have?"). The fidelity of Tier 1 classroom level supports at TMS warrants greater attention. Townsend staff members' persistent perceptions of concern regarding lack of support for intensive student behavior needs may be related to lack of classroom fidelity (Bruhn et al., 2014; Mitchell et al., 2011; Scott, Rosenberg, & Borgmeier, 2010). A better understanding of the classroom level fidelity of Tier 1 supports at TMS may not only enhance the fidelity of SWPBIS, its effectiveness, and its sustainability (Mathews et al., 2014), but may also illuminate how to address the negative staff perception regarding Tier 2 and 3 supports.

The persistent staff concerns regarding the difficulty in supporting students with intensive behavior needs echo findings in the literature (Burns et al., 2008; Williamson & McLeskey, 2011). Classroom level fidelity checks may also help to ensure that referrals to the Problem Solving Team (PST) are valid and increase staff sense of efficacy. The increase in OSS in year five was an indication that the early stage intervention and PST process at TMS were in their

infancy. Classroom level fidelity checks are recommended to reinforce the problem solving, solution-oriented focus of SWPBIS and build this capacity amongst TMS staff.

Effectiveness: parent perceptions. The improvement in student and staff perceptions of school climate was not always mirrored by parents. Parent perceptions of staff support of, fairness to, and recognition of students declined from year one to year four. One hypothesis for this change may be that parent perception shifted toward closer alignment with student perception numbers from year one to four. However, with these select parent climate survey data available for only years one and four, drawing conclusions without data from years two and three is imprudent. Regardless, these parent perception changes are cause for further investigation by the school team and may indicate the need for increased school-home communication.

Priority: philosophical differences. Year five saw an increase in staff agreement with the belief that rewarding students (for meeting expectations) is the same as bribing. Mathews et al. (2014) found positive reinforcement within classroom systems to be one of three strongest predictors of sustained implementation. Therefore, a philosophical shift away from reinforcement, which may be related to the lack of success of the most recent March Madness and October Blitz efforts, is possible cause for concern and additional justification for increased focus on classroom-level SWPBIS fidelity at TMS.

The most persistent philosophical barrier of note at TMS is the continued staff perception of favorability toward consequences and "getting tougher". For example, one respondent commented in year one, "For our tier 3 students, they are getting worse as the year goes on. Students view the consequences we have in place as rewards and are thus positively reinforced to repeat problem behaviors" (2012 SPBD). This is not surprising, as research has shown

philosophical concerns to persist over time, regardless of the school's implementation level of

SWPBIS (Feuerborn, Wallace, et al., 2016). Still, the dogged lifespan of the "get tougher"

mindset at TMS may indicate the need for continued capacity building in the area of identifying

the function of student behavior, especially extreme behaviors. There is a staff-wide need to

better understand the cause of problem behavior, to be able to identify appropriate interventions

and implement them. When school staff understand the rationale underlying the practice, they

are more likely to implement that practice with fidelity (Han & Weiss, 2005).

Capacity building: self-efficacy. While professional development in SWPBIS remained

a constant at TMS, the relative staff confidence in the practice ("I could teach others") lessened.

This is an indicator of sustainability that warrants more attention by the school team when

planning staff development, especially for those staff members in their first years in the school,

as more training time is related to higher levels of fidelity (Bradshaw et al., 2008; Horner et al.,

2009). However, nearly all staff had favorable perceptions of the utility of professional

development ("Did you find it helpful?"), indicating that SWPBIS capacity building at TMS was

ongoing and meaningful.

Limitations

There are possible limitations to this study. First, when considering the generalizability

of these findings to other school contexts, it is important to note the circumstances that preceded

the implementation of SWPBIS at TMS. At the time of implementation, TMS was an

underperforming school, hence the change in principal leadership. There was a mandate for

change and, as such, flexibilities existed with this implementation effort that may not exist in

other school contexts. For example, the typical political maneuverings required to garner staff

support for such a large scale school based systems-level implementation was not required of the

new TMS principal. The lack of time to garner such support and sufficiently train TMS staff

may well have accounted for many problematic data outcomes of year one, but the situational

leadership realities at TMS at the time of implementation should be taken into account when

contemplating the generalizability of this study's findings and implications for practice.

A second possible limitation regards the incomplete nature of the parent climate survey

data. Due to changes in the survey format, select items were only available for years one and

four, negating analysis of trends in some parent perception.

A third possible limitation is the consistency of Townsend SPBD data over the five years

of implementation. Staff turnover (31% after year one, 33% after year two) may have had an

impact on certain items more than others (e.g., "When it comes to the concepts and procedures of

positive behavior supports, my level of understanding is…"). Additionally, varied response rates

(91.5% in year one, 88.4% in year two, 45.7% in year three, 53.2% in year four, and 99% in year

five) may influence comparison of data collected in years three and four to other years' results

where response rates were markedly higher.

Finally, this study did not analyze academic data at TMS. Although TMS experienced

progressive academic growth each year of SWPBIS implementation as measured by standardized

test scores, future research into the collateral effects of improved behavior outcomes on

academic outcomes is encouraged to bolster the promising, but not definitive, findings in the

literature (Horner et al., 2010).

Implications

Implications for practice. McIntosh, Filter, et al. (2010) found little empirical guidance

regarding exactly what steps at the school level are most likely to maximize sustainability. Two

important implications for practice in sustaining the implementation of SWPBIS stem from this

study. First, the five year implementation at TMS demonstrates the importance of continuity of

data collection (context, implementation, and outcome data) and analysis. Therefore, it is

recommended that schools begin implementation with student, staff, and parent perception

survey data, in addition to the typical implementation (SET) and outcome data collected

(referrals and suspensions), and review, analyze, and respond to the data on a regular

improvement cycle.

Second, the manner in which the implementation effort at TMS was diffused across the

staff for collective ownership and capacity building via sub-teams and the PBIS PLC likely

enhanced its sustainability. Therefore, it is recommended that schools intentionally design

opportunities for wider staff involvement and leadership beyond the typical PBIS leadership

team.

Implications for school leaders. The review of the literature found administrative

leadership practices involving continuous measurement and support for SWPBIS essential to

sustained implementation. While causal claims cannot be made, attention to concrete TMS

leadership actions in response to data may serve as guideposts to school leaders wishing to

implement SWPBIS.

School culture is foundation for all else. First, when only 20% of staff reported

agreement with the SPBD item, "The climate at this school is positive" near the end of year one,

immediate planning was done to rebuild staff morale and school climate. The escalation in

school disciplinary consequences and negative personnel matters led TMS administration to ask

themselves the question posed by Boyte (2015), "How intentional are you about building

relationships amongst the adults at your school?" There was agreement that, until the adults in

the school could build positive relationships, student-teacher relationships would continue to

suffer, thus hindering the implementation of SWPBIS and impeding growth in student achievement. Rather than focusing on professional development centered more on teaching and learning, TMS administrators invested in a staff retreat entitled "Building a culture of learning and pride through relationship," where each staff member was asked to participate in a number of team-building and trust engendering activities facilitated by Phil Boyte. It was a risk TMS leaders were willing to take. The retreat laid a foundation for the development of a "Go Big!" theme that lasted the year, including staff challenges to participate in spirit days and "Do what it takes" to instruct students to standard. In just one year, the staff agreement with the item, "The climate at this school is positive" increased from 20% to 67% indicating increased effectiveness of the practice.

Use integrity rubric(s) to monitor implementation. During year three of implementation, the TMS PBIS Team completed an integrity audit of the school's implementation of SWPBIS using Safe and Civil Schools' Foundations rubrics. Analysis of the rubrics showed low scores in module A (Foundations of Behavior Support: A Continuous Improvement Process), presentations 2 (Team Processes) and 5 (Developing Staff Engagement and Unity). The results illustrated the need for greater involvement of staff in the implementation effort. When presented with this concern, the school leadership team developed the concept of the PBIS Subteam. Facilitators of the PBIS Subteams would also serve as members of the PBIS Team, thus connecting the "work groups" with the leadership/steering team. The advent of the PBIS Subteams led to shared ownership for the implementation effort and a broader consensus around SWPBIS. Following this, positive data trends were observed associated with priority related to the SPBD items, "I strongly agree with this effort; I plan to

actively support it" and, "My colleagues and I share a common philosophy for behavior and discipline."

Develop trust through regular communication. Regular reinforcement helps sustain implementation efforts (McIntosh, Horner, et al., 2009). The TMS principal instituted the Monday Memo (Knuth, 2006) in year one to reinforce the importance of key initiatives (e.g., SWPBIS). After year one SPBD results showed only 55% of staff reporting agreement with the item, "I have trust in my administrator's ability to lead us through change," the memo format was adapted in year two, to include increased data sharing (e.g., ODRs by month, by grade) and a focus on relationships. The weekly memo was used to share context, implementation, and outcome data, highlight staff exemplars (e.g., CHAMPS, teacher-student relationships, reinforcement systems), offer a platform for staff "shout outs" (i.e., recognition of colleagues for going above and beyond), or provide short reads for professional development purposes, thus building capacity for SWPBIS. The TMS principal described the Monday Memo as an essential component of the "constant churn" necessary to "keep getting better." In essence, the principal described the continuous measurement evidenced in the Monday Memo and at staff meetings and training days. The sharing of data and the explanations of responses to the data continually regenerated the implementation of SWPBIS at Townsend. At the end of year two, 74% of staff reported agreement with "I have trust in my administrator's ability to lead us through change," and the results increased each year after.

Logistical considerations. There were also logistical lessons learned through TMS's implementation of SWPBIS. First, the creation of a new schedule facilitated teaming and advisory time to instruct students with PBIS lessons. This was followed by changes in student perception data around school safety (effectiveness), staff perception data pertaining to having

time to teach behavior (effectiveness), and resources to support SWPBIS (efficiency). Second,

TMS created a SWPBIS onboarding system that invited new hire teachers into the school over

the summer to train them in the common language of SWPBIS and the fundamental components

implemented at TMS (i.e., Big 8 and CHAMPS). This summer introductory training was

followed by new hire participation in the PBIS PLC. While there are no data related to these

logistical measures, their implementation provided a clear structure for onboarding new staff

members in a proactive and supportive manner. Finally, to ensure that the SPBD response rate is

the highest possible, it is recommended that staff be provided time to complete the survey.

When the survey internet link was emailed to staff with a number of reminders (years three and

four), response rates hovered around 50%. However, when TMS staff members were granted

protected time to complete the survey at a staff meeting, response rates exceeded 90%.

Implications for future research. This study also illuminates areas for additional

research. First, an exploration is warranted into staff reported reliance on consequences for

problem behavior rather than intervention. As Feuerborn and Tyre (2015) suggested, schools

"may need to invest more time and energy in preparing the resources and supports necessary for

a shift from traditional, reactive disciplinary systems to a preventative SWPBS system" (p. 5).

Such a study could shed light on implications for professional development involving the

philosophical tenets of SWPBIS and practical matters such as identifying functions of behavior

as the basis for intervention planning. Second, there is little in the literature regarding staff sense

of efficacy involving SWPBIS. The relation between readiness to implement and efficacy to

inculcate others is a possible topic for future study. Overall, this study's findings bolster existing

research and demonstrates that the implementation of SWPBIS is indeed sustainable.

Conclusion

The findings of this study indicate that the implementation of SWPBIS can be sustained by including all instructional staff in the effort and placing equal importance on perception and outcome data. After five years of implementing SWPBIS, Townsend Middle School's school climate and behavior outcomes improved through a process of continuous regeneration. With attention to effectiveness, efficiency, and priority, the school and its teams accomplished dramatic change in a relatively short amount of time through implementation of a cycle of improvement that incorporated essential data from multiple stakeholders. Through an iterative process, TMS staff regenerated the practice of SWPBIS on a year to year, and often, month to month basis to achieve the desired results. This study's findings provide a potential implementation model for other schools seeking sustained implementation of SWPBIS.

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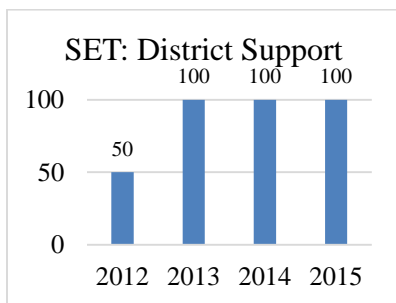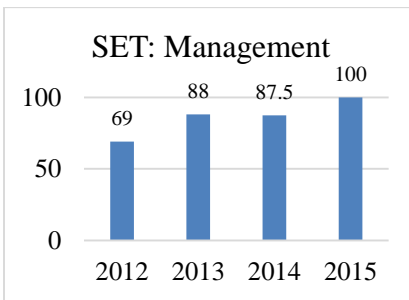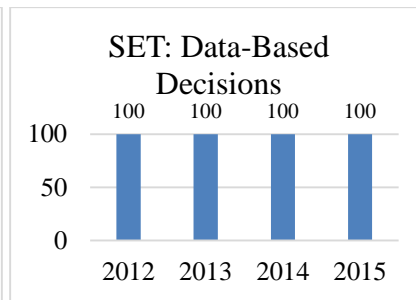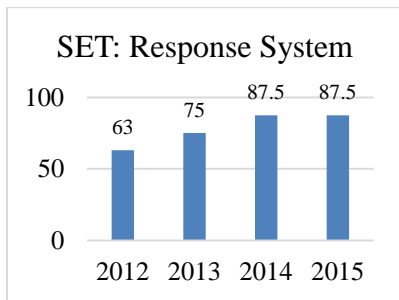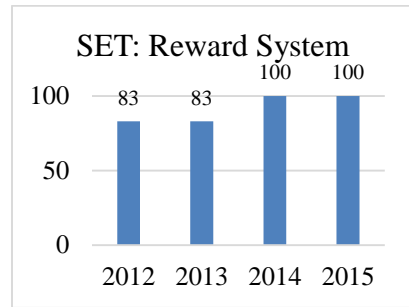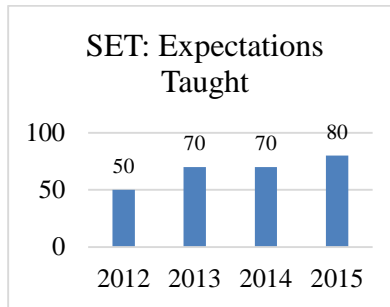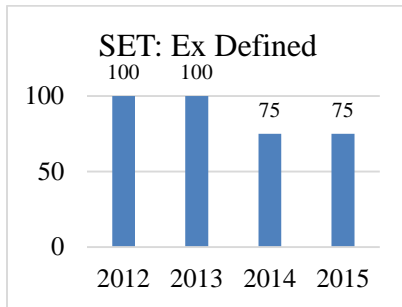
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Appendix A

TMS SET Data

SET: Ex Defined

SET: Expectations Taught

SET: Reward System

SET: Response System
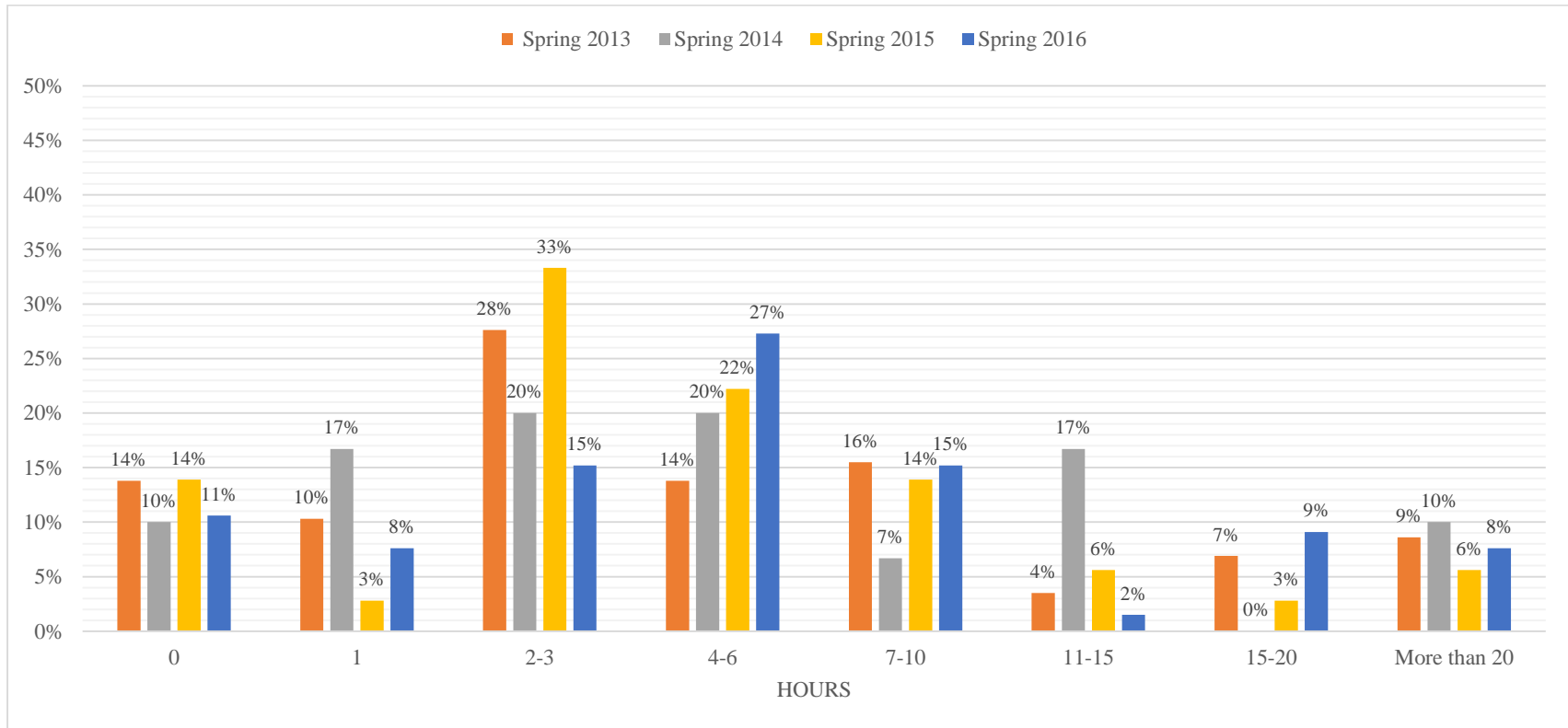

SET: Data-Based Decisions

SET: Management

SET: District Support

Appendix B

TMS SPBD: *Over the past year, about how many hours of professional development in behavior supports have you received?*

Appendix C

TMS Office Discipline Referrals by Month

	Sep	Oct	Nov	Dec	Jan	Feb	March	April	May	June
2010-2011	119	228	189	146	208	166	356	262	290	116
2011-2012	132	194	203	174	204	126	236	115	186	93
2012-2013	106	153	200	156	176	99	166	131	172	85
2013-2014	97	165	124	100	79	93	131	77	100	66
2014-2015	72	104	123	126	74	60	180	87	151	130
2015-2016	85	236	208	197	209	216	251			