

Predicting Abandonment of School-wide Behavior Support Interventions

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Abstract

This study examines predictors of abandonment of evidence-based practices through descriptive analyses of extant state-level training data, fidelity of implementation data, and nationally reported school demographic data across 915 schools in 3 states implementing school-wide positive behavioral interventions and supports (SWPBIS). Schools included in this study were tracked for a five year period after initial training, yet some elected to abandon SWPBIS at various times during implementation. Results showed that a small proportion of schools in the sample abandoned SWPBIS (7%). Logistic regression analysis identified school locale as the only statistically significant predictor of SWPBIS abandonment, with schools located in cities being more likely to abandon. Results are discussed in terms of addressing types of schools at greater risk for abandonment and the importance of state-level training and coaching support.

Keywords: school-wide positive behavioral interventions and supports, sustainability, evidence-based practices, implementation science

Predicting Abandonment of School-wide Behavior Support Interventions

The importance of adopting evidence-based practices to improve student behavioral and academic outcomes has been well documented in the literature (Domitrovich et al., 2008; Fixsen, Blase, Duda, Naoom, & Van Dyke, 2010). However, schools, districts, and states face many challenges when implementing new innovations. These challenges include resource demands, staff and administrator turnover, and pushback from personnel on new approaches to school improvement (Lohrmann, Forman, Martin, & Palmieri, 2008). As a result, abandonment of evidence-based practices is often the outcome for schools and districts that do not invest in the supports needed for sustained implementation.

Exploring Abandonment of Evidence-based Practices

Much of the knowledge base regarding why schools, districts, and states abandon evidence-based practices comes not from experimental research, but rather descriptive studies of successful initial implementation and later abandonment. For example, Fuchs and colleagues (2014) reported the perceived importance of district policies on the sustainability of an evidence-based practice in a large school district. In this study, the researchers provided extensive university-based trainings over multiple years to teams of teachers across several elementary schools interested in implementing team-based data decision making. During the course of implementation, they documented positive effect of team actions on special education referrals and favorable impressions from educators regarding the team-based data decision making model and team structure. However, the initiative was abandoned when support from the research team was faded. Consistent with the views of the teams of teachers, the researchers hypothesized that the most influential variables were at the systems level, as the school district lacked the capacity to provide training, coaching, consultation, and funding to its schools to enhance the continuation

of an evidence-based practice when the initial university partnership ended. Beyond school-level abandonment, these systems-level variables are also likely to affect individual-level abandonment (i.e., when an individual educator decides to stop using an intervention or initiative; Han & Weiss, 2005).

Sindelar and colleagues (2006) found similar systems-level concerns when they returned to a school they had initially supported during their transition from traditional special education to an inclusive model of delivery. Two years after initial adoption, inclusion was not sustained. Interviews with teachers and administrators revealed three primary factors that helped explain why: leadership change, teacher turnover, and state and district assessment policy change. The researchers also found that these factors reduced district-level support for the program, which further hastened abandonment.

Santangelo (2009) documented similar findings in a 2-year qualitative study of an elementary school's implementation of team-based data decision making. During the first year of the study, reports of social validity and contextual fit of team-based data decision making were positive. Implementation integrity was high, participants' perceptions of team-based data decision making were positive, professional collaboration was enhanced, students' academic and behavioral concerns were effectively addressed, and special education rates were reduced. However, when the district support was reduced after the first year, school-level implementation was not sustained. Santangelo reported that the withdrawal of support had a cascading effect on procedures, perceptions, and student outcomes.

Research in SWPBIS Implementation

One example of an evidence-based practice that has become a focus for sustainability and abandonment research, due in part to its widespread use across the United States, is school-wide

positive behavioral interventions and supports (SWPBIS; Sugai & Horner, 2009). SWPBIS is a framework for evidence-based implementation based on the three-tiered public health prevention model that aims to promote a positive school climate and prevent disruptive student behaviors. Extensive empirical research over the last two decades have found implementation of SWPBIS to be associated with improvements in student, teacher, and school outcomes, such as increases in academic achievement, positive student-teacher interactions, and classroom instructional time, and decreases in exclusionary discipline actions (e.g., Barrett, Bradshaw, & Lewis-Palmer, 2008; Bradshaw, Mitchell, & Leaf, 2010; Horner et al., 2009; Nelson, 1996; Scott & Barrett, 2004). Of great importance to both educators and researchers is the use of SWPBIS for supporting students with and at-risk for emotional and behavioral disorders through its focus on prosocial skill development, consistency of student expectations across educators, and the predictability of school-wide routines. In recent studies, significant impacts have been found on student behavior, including reductions in bullying, peer rejection, suspensions, office referrals, and improvements in school climate across two randomized controlled trials of SWPBIS in elementary schools (Bradshaw, Waasdorp, & Leaf, 2012; Waasdorp, Bradshaw, & Leaf, 2012).

Prior research on SWPBIS implementation has focused less on abandonment and more on sustained fidelity of SWPBIS implementation, using fidelity scores as the primary indicator of implementation. Such studies have pointed to a few potential predictors including external supports at the state level (Coffey & Horner, 2012; Horner et al., 2014; McIntosh, Mercer, Nese, Strickland-Cohen, & Hoselton, in press), school demographic characteristics (McIntosh, Kim, Mercer, Strickland-Cohen, & Horner, 2015), and reaching fidelity criterion early in implementation (Andreou, McIntosh, Ross, & Kahn, in press; Kincaid, Childs, Blase, & Wallace, 2007).

State support. In 2014, Horner and colleagues surveyed state-level PBIS coordinators and policy makers from seven states with at least 500 schools implementing SWPBIS to identify variables perceived as critical to the sustained scaling-up of SWPBIS from school-level to state-level implementation. Survey results suggested that for all seven states, implementation efforts were seen as more likely to be sustained and lead to larger-scale implementation when implementers combined initial pilot demonstrations at the school level with efforts to build both district and state capacity in the areas of training, coaching, evaluation, and technical expertise. Consistently, McIntosh and colleagues (in press) found that the strongest predictor of fidelity of implementation was at the state level, indicating the importance of state-level systems of support for sustaining SWPBIS at the school level.

School demographic characteristics. In an analysis of the predictive relations of various school characteristics with sustained fidelity of SWPBIS across more than 3,000 schools at various points of implementation (1, 3, and 5 years), McIntosh et al. (in press) found that elementary schools and schools with lower rates of students receiving free and reduced price meals were more likely to sustain SWPBIS, but these school-level variables explained little variance in sustained implementation. In a separate sample, (McIntosh et al., 2015) examined data from over 800 schools to assess the extent to which school demographic characteristics and frequencies of school team actions were associated with an increased likelihood of sustained implementation of SWPBIS. The researchers found grade levels significantly predicted sustainability, with elementary schools faring better than middle and high schools. One interesting additional finding was that the frequency of data sharing with staff was also found to be a significant predictor of sustained implementation, indicating the importance of visibility of

school-wide initiatives and the accountability that comes with regularly informing stakeholders of initiative status and progress.

Early fidelity. Researchers have also identified reaching fidelity criterion early in implementation as another potential predictor of sustainability of SWPBIS. In a qualitative study across 17 educators that examined both barriers and enablers to sustaining SWPBIS at the universal level, Andreou and colleagues (in press) found that, among other factors, educators perceived access to positive reinforcement (i.e., witnessing improved student outcomes) for their implementation efforts as necessary to sustainability. However, without implementing to criteria, implementers may not yet see effects in terms of improved student outcomes and therefore may not experience the reinforcement that comes with such improvements. McIntosh and colleagues (in press) also found that schools that met adequate criterion for implementation in Year 1 were somewhat more likely to sustain SWPBIS. Similar to the findings by Andreou and colleagues, McIntosh and colleagues hypothesized that teams in these schools may have put enough components in place to see a rapid change in student outcomes early on, which may have reinforced their implementation behaviors.

Research Gaps

Taken together, it can be hypothesized from previous research that secondary schools, schools serving larger proportions of students from lower socioeconomic communities, schools that do not achieve fidelity after their initial year of implementation, and districts with little to no implementation support experience higher rates of SWPBIS abandonment. However, there is little empirical research examining the specific behavior of initiative abandonment, such as when the decision is made. In previous research (e.g. McIntosh et al., 2013), a lack of sustainability was measured by failure to meet fidelity of implementation criteria. As such, schools identified

as nonsustainers in these studies may have included those that were still implementing but were below the fidelity criterion or had neglected to submit fidelity of implementation data for a given year. Such studies can identify important factors regarding sustained fidelity of implementation but reveal less about the abandonment decision specifically.

Purpose

The purpose of this study was to gain a better understanding of abandonment of SWPBIS through the examination of state-level training data, fidelity of implementation data, and school demographic characteristics. We assessed abandonment specifically through records from state SWPBIS initiatives by identifying the year during which schools elected to stop implementing SWPBIS. Specifically, we explored the following two research questions:

1. What proportion of schools abandoned SWPBIS, and in what year of implementation were they most likely to abandon?
2. What school characteristics, including school demographics and fidelity of implementation at Year 1, predicted abandonment within the first 5 years of implementation?

Method

Participants and Settings

A total of 915 public elementary, middle, and high schools across three states located in the Midwest and East Coast of the U.S. were included in the study. These three states represent a convenience sample, as they each have a state network that has been responsible for collecting and maintaining detailed data in regards to SWPBIS trainings and coaching supports provided to their public schools since 2006. Through an ongoing research partnership between the three state networks and the National Technical Assistance Center on PBIS, the authors of this study

obtained lists of schools trained, their initial training year, and implementation status for each school year from 2006-2007 to 2012-2013 from each state SWPBIS network using a sequential cohort design. These data were then merged with data from the National Center for Education Statistics (NCES; Spira, Bracken, & Fischel, 2005). The sample schools were all trained as part of their existing state SWPBIS initiatives beginning between 2006-2007 and 2008-2009, and remained in operation throughout 2012-2013. We excluded schools not classified as elementary, middle, or high schools (e.g., special education, or combined elementary and secondary schools; $n = 20$), and schools with incomplete covariate data available from NCES ($n = 165$). The majority of schools in the sample were elementary (67%), located in the suburbs (46%), qualified for Title I services (95%), with the mean percentage of children receiving free or reduced price meals at 45%, mean enrollment at 531 students, and student bodies that were predominantly White (56%). Complete demographic data are summarized in Table 1.

The three participating states had been actively engaged in implementation of state-wide SWPBIS initiatives for up to 20 years. All three initiatives were the only official SWPBIS initiatives endorsed by the state and received funding and coordination by their respective state departments of education (Horner et al., in press). Additionally, ongoing technical assistance was provided to these states by the Office of Special Education Programs (OSEP) National Technical Assistance Center on PBIS. With these supports, state leadership teams were developed and charged with the task of coordinating and supporting training, implementation, and sustainability of SWPBIS at both the district and school levels. The state-wide leadership teams oversaw several aspects of the statewide PBIS initiative, including training, coaching, data collection, evaluation, dissemination activities, and event planning. Each state used their own databases for tracking school training and implementation status by year.

Measures

SWPBIS implementation status. A school was considered actively implementing SWPBIS beginning in the first year that they received initial team training on Tier I SWPBIS from their respective state networks. Each school had created a SWPBIS team with administrator support, met SWPBIS readiness criteria, and sent their team for a centralized 2-day training on Tier I implementation at their respective state departments of education. Schools were considered active in SWPBIS in each subsequent year following the initial team training if they submitted program data to, and remained in active communication with, their state network, regardless of their level of SWPBIS fidelity of implementation.

A school was considered to have abandoned SWPBIS if they were no longer implementing SWPBIS in accordance with the state initiative's requirements. Specifically, abandonment was recorded after one of the following events: (a) a school actively contacted the state network to report that they were no longer implementing SWPBIS, or (b) a school did not reply to repeated communications requesting updates and program data. It is unlikely that any of these schools remained active in SWPBIS implementation despite these events because their continued involvement with the state network entitled them to additional funding, training, and technical assistance.

Fidelity status. Four research-validated measures were used to assess Year 1 fidelity status across all schools. The School-wide Evaluation Tool (SET; Sugai, Lewis-Palmer, Todd, & Horner, 2001) is a 28-item external evaluation resource of a school's SWPBIS system, with criteria for adequate implementation at both 80% overall and 80% on the Expectations Taught subscale. The SET assesses 7 constructs: (1) behavioral expectations defined, (2) behavioral expectations taught, (3) ongoing system for rewarding behavioral expectations, (4) system for

responding to behavioral violation, (5) monitoring and decision-making, (6) management, and (7) district-level support. Initial psychometric evaluation of the SET was conducted by Horner et al. (2004) and indicated that internal consistency was strong for the entire instrument ($\alpha = .96$) and that α -values for individual subscales ranged from .71 (district-level support) to .91 (management). The Schoolwide Benchmarks of Quality (BoQ; Kincaid, Childs, & George, 2005) is a similar measure of SWPBIS fidelity, with 53 items and a criterion for adequate implementation at 70%. The BoQ measures 10 constructs: (1) PBIS team, (2) faculty commitment, (3) effective procedures for dealing with discipline, (4) data entry and analysis plan established, (5) expectations and rules developed, (6) reward/recognition program established, (7) lesson plans for teaching expectations/rules, (8) implementation plan, (9) classroom systems, and (10) evaluation. The first psychometric evaluation of the BoQ indicated an overall α of .96, with α -values for individual subscales ranging from .43 (PBIS team) to .87 (lesson plans for teaching expectations/rules) (Cohen, Kincaid, & Childs, 2007). The Self-Assessment Survey (SAS; Sugai, Horner, & Todd, 2000) is a 43-item self-assessment measure of SWPBIS practices, with the criterion for adequate implementation at 80%. The SAS measures fidelity of implementation across 4 constructs: (1) school-wide systems, (2) nonclassroom setting systems, (3) classroom systems, and (4) individual student systems. Safran (2006) found an overall α of .85 with subscales ranging from .60 (nonclassroom setting systems) to .92 (classroom systems). Lastly, the Team Implementation Checklist (TIC; Sugai, Horner, & Lewis-Palmer, 2001) is 22-item a progress monitoring tool for teams to regularly assess critical features of SWPBIS implementation, with a criterion of 80% for adequate implementation. The TIC assesses 7 constructs: (1) commitment, (2) team, (3) self-assessment, (4) prevention systems, (5) classroom, (6) information systems, and (7) function-based support. A psychometric evaluation of the TIC

indicated an overall α of .91, with α -values for individual subscales ranging from .56 (commitment) to .87 (information system) (Tobin, Vincent, Horner, Dickey, & May, 2012).

Across all three participating states, schools receiving support from the state network were required to submit fidelity data annually as part of their participation agreement. Fidelity measures were completed by an external assessor with staff and student interviews (SET), an external assessor from the district or state along with the SWPBIS team (BoQ), the entire school staff via self-assessment (SAS), or the SWPBIS team (TIC). At least one internal member of the schools' SWPBIS team and at least one external assessor were trained by the state network on the fidelity measures used.

Schools were identified dichotomously, as either "at fidelity" or "below fidelity," using these fidelity of implementation measures. If schools reported multiple measures per year, we used the measure with the strongest psychometrics, as per previous published research (McIntosh et al., 2013). This technique is referred to as a cascading logic model, whereby the fidelity tools were selected in order of most to least rigorous. Across these four tools, the order of rigor is the SET, BoQ, SAS, and finally the TIC. Therefore, if schools reported SET data, the SET scores and criterion were used (26%, $n = 488$). If schools did not have SET data but had BoQ data, the BoQ scores and criterion were used (44%, $n = 823$). If schools did not have SET or BoQ data but had SAS data, the SAS scores and criterion were used (25%, $n = 466$). If schools did not have SET, BoQ, or SAS data but had TIC data, the TIC scores and criterion were used (5%, $n = 84$).

School Characteristics. School demographic data were collected from NCES for grade levels served (i.e., elementary, middle, high), Title I classification, and school locale (i.e., city, suburb, town, rural). These variables were used as predictors for the second research question.

Analyses

To explore the first research question regarding the proportion of schools in the sample that had abandoned PBIS, and to gain a better understanding of the year in which abandonment most often occurred, the percent of abandonment by implementation year was calculated. To answer the second research question, a binomial logistic regression analysis was applied to predict SWPBIS implementation status at Year 5 (binary variable: 0 = sustaining, 1 = abandoning; $n = 915$). The following predictors were used: school locale, with four categories (rural, town, suburb, and city); grade levels served, with three categories (elementary, middle, and high school); Title I classification, with two categories (non-Title I, Title I); fidelity status at Year 1 of implementation, with two categories (at fidelity, and below fidelity). Dummy vectors were created to represent the multiple categories such that the reference group for the logistic regression was rural, elementary schools that did not receive Title I supports and had met criteria for SWPBIS fidelity of implementation during their first year of implementation.

Results

Abandonment of SWPBIS

Overall, abandonment of SWPBIS in the sample was extremely low. Of the 915 schools, 93% ($n = 855$) were actively implementing as of Year 5. Thus, just 7% of schools ($n = 60$ of 915) abandoned within 5 years of SWPBIS implementation. Further analyses revealed that the majority of these schools (89%) abandoned in the first 3 years of implementation, with approximately 27% of the 60 schools abandoning in Year 1, 35% in Year 2, 27% in Year 3, and 11% in Year 4 (see Figure 1). No school in the sample abandoned SWPBIS beyond Year 4 of implementation.

School-level Predictors of Abandonment

Table 2 shows results from the logistic regression analysis, used to determine the predictive value of school locale, grade levels served, Title I classification, and Year 1 fidelity on abandonment within the first 5 years of implementation ($n = 915$). The model explained approximately 27% of the variance in Year 5 SWPBIS implementation status. In this analysis, school locale was the only statistically significant predictor of abandonment ($B = 2.55$, $SE = .47$, $p < .001$). Holding the other variables constant, city schools were approximately thirteen times more likely than rural schools to abandon SWPBIS within the first five years of implementation. Controlling for other predictors, fidelity at Year 1 was not a significant predictor of abandonment; approximately 35% of sustaining schools and 35% of abandoning schools had met fidelity in their first year of implementation.

Discussion

Abandonment of school initiatives is an important area of study because of its negative effects on student educational outcomes, staff morale, and funding (Klingner, Boardman, & McMaster, 2013; Tyack & Cuban, 1995). However, research related to abandonment has been limited to descriptive studies or analyses of sustained fidelity of implementation as the dependent variable, as opposed to abandonment itself. This study represents an opportunity to assess the prevalence and predictors of abandonment of a widely-used school behavior practice, SWPBIS. Results showed extremely low rates of abandonment, with most schools abandoning in the first 3 years of implementation. All else constant, schools in cities were at the greatest risk for abandonment.

Low Rates of Abandonment

Perhaps the most surprising finding of the study was the extremely low rate of abandonment seen in the sample. These results run counter to much of the existing literature,

which has noted abandonment as more likely than sustainability (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005; Gersten, Chard, & Baker, 2000; Santangelo, 2009). It is possible that the specific elements of SWPBIS itself make abandonment less likely. For example, SWPBIS is considered to be efficient, visibly effective, and adaptable to local contexts and changes in those contexts over time, which may reduce abandonment (McIntosh, Filter, Bennett, Ryan, & Sugai, 2010). However, sustained implementation was higher in this study than in a similar longitudinal study of SWPBIS with a different sample (McIntosh et al., in press). Comparing the samples from these studies provides some possible reasons. The schools in this study came from states with strong state-wide SWPBIS initiatives, which included centralized training, local coaching capacity, and coordination of activities and data collection. As such, starting with an efficient, flexible evidence-based practice and supporting it with extensive technical assistance appears to be a best-case scenario for minimizing abandonment. Although it may not be possible for all initiatives to achieve this level of success, these findings serve as a demonstration that scaled-up systems change in schools is possible.

Collectively, the results suggest that the support provided by state networks may aid in lower rates of abandonment (Horner et al., 2014; McIntosh et al., in press; Sugai et al., 2010). In absence of state networks, it may be possible to build a strong district network that replicates some of the features of a strong state network, such as ongoing training, access to coaching, and data collection and evaluation. Future research is needed to examine which of these features of support are most effective in reducing abandonment and enhancing sustainability.

Rates of Implementation

In contrast to other studies (Andreou et al., in press; McIntosh et al., in press), we did not find that rapid implementation of SWPBIS was a strong predictor of sustained implementation.

There were no differences in the percentages of schools meeting criteria in their first year of implementation. Nearly two-thirds of abandoning and sustaining schools were not adequately implementing SWPBIS by the end of Year 1. Although research indicates that seeing improved outcomes is an important factor in sustainability (Andreou et al., in press; Baker, Gersten, Dimino, & Griffiths, 2004; Han & Weiss, 2005), it is possible that access to a strong state network mitigated the risk of abandonment during the fragile period of initial implementation without seeing improved outcomes (Rogers, 2003). Future research is needed to examine this hypothesis.

Challenges with Urban Implementation

The only statistically significant predictor of abandonment was being located in a city. Major cities include complex organizational structures, including multiple layers of administration and influences of city politics (e.g., mayor's office), which can add complexity to systems change (Payne, 2009). Moreover, the constant turnover of superintendents can hamper the sustainability of any initiative. It seems that these challenges are not particular to SWPBIS, but rather a reflection of the difficulty of systems change in large cities, even with strong state networks.

Given that abandonment was strongest in cities, it is important to consider strategies that can assist urban schools in sustaining evidence-based practices, in the face of barriers that are likely to persist. Some demonstrations from the field indicate a number of specific training and technical assistance strategies used in large cities (Lorhmann & Davis, 2014, May). For example, extended time in coalition building at the start of the initiative may build a wider base of stakeholder support and allow for more stable implementation in the face of shifting priorities. In addition, increasing the dosage (in terms of both intensity and frequency) of training may help to

and counter the challenge of high rates of turnover and build the skills of novice educators, who are more likely to work in large city districts (Goldhaber, Lavery, & Theobald, 2015).

Although school poverty (as indicated by Title I status) was not a significant predictor of SWPBIS abandonment, Title I schools were three times more likely to abandon SWPBIS than non-Title I schools. The sample included a very small proportion of non-Title I schools ($n = 43$), and of the 60 schools that abandoned, only one was a non-Title I school, perhaps limiting the power to detect a significant result. Nonetheless, this finding is consequentially meaningful and remains to be explored in future research.

Limitations

The analysis of extant data across a convenient sample of three states introduces several limitations to this study. First, the three states in this sample had strong, active state networks, which both limits generalizability and provides no information regarding which state factors (e.g., training capacity, coaching, political visibility, readiness criteria) most strongly protect schools against abandonment. Additionally, the extant nature of the data prevents analysis of other variables, such as staff buy-in, that may be key predictors of abandonment. Research that includes these and other variables may greatly enhance the field's understanding of abandonment and how to prevent it.

The use of multiple measures to assess implementation fidelity, including self-report measures, and the limited information we have regarding who completed the fidelity assessments and whether or not they were administered reliably also limits our confidence in these findings. While the intention of this study was to examine abandonment from the perspective of reporting by schools themselves rather than solely judging their implementation based on whether they met fidelity criteria, future research is needed that examines the combination of both longitudinal

fidelity data along with reports from schools on implementation. Additionally, educational stakeholders may benefit greatly from research that takes a closer look at reported reasons for abandonment through qualitative interviews with SWPBIS team members.

Conclusion

Sustained implementation of evidence-based practices in schools is necessary for providing the academic and behavioral supports students need to be successful. Research has shown that all students, and specifically students with or at-risk of emotional and behavioral concerns, benefit from learning environments that are consistent, predictable, positive, and safe, and SWPBIS has demonstrated its effectiveness for providing schools with the framework to create such environments for their students. Despite the long standing challenges associated with sustainability of SWPBIS in schools (Latham, 1988), this study shows that durable, scaled-up implementation is possible for the benefit of all members of the learning community. The two major findings drawn from this study are that districts located within large cities have a greater likelihood of abandoning SWPBIS, while states with strong state-level training networks appear to have lower rates of schools abandoning SWPBIS. Although we may hypothesize other reasons for the very low rates of abandonment observed (e.g., qualities of the practice, elements of state-level support), further empirical research that examines the role of these and other variables in abandonment of SWPBIS would be a promising avenue for supporting school personnel in sustaining effective school practices.

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Table 1

School Demographics

Variable	Frequency (%)
Level	
Elementary Schools	617 (67%)
Middle Schools	179 (22%)
High Schools	101 (11%)
Locale	
Schools in Rural Area	192 (21%)
Schools in Town	147 (16%)
Schools in Suburb	416 (46%)
Schools in City	160 (18%)
Title I Status	872 (95%)
	Mean (<i>SD</i>)
Enrollment	530.50 (352.74)
	% (<i>SD</i>)
Ethnicity^a	
African American/Black	24% (30)
American Indian/Alaskan Native	00% (1)
Asian/Pacific Islander	04% (6)
Hispanic/Latino	14% (21)
White	56% (34)
Students Eligible for Free/Reduced Lunch ^b	45% (26)

Note. $N = 915$.

^a 4 schools were missing ethnicity data.

^b 18 schools were missing FRL data.

Table 2

Logistic Regression Analysis for Predicting Abandonment of SWPBIS (n = 915)

Variables	<i>B</i>	<i>SE</i>	<i>Exp(B)</i>
Constant	-4.61*	1.23	0.01
City	2.55*	0.47	12.81
Suburb	-0.52	0.57	0.60
Town	-0.11	0.66	0.90
High	0.52	0.51	1.69
Middle	-0.14	0.43	0.87
Title I	1.19	1.10	3.28
Y1 Below Fidelity	-0.16	0.31	0.85

Note. *B* = regression coefficient; *SE* = standard error; *Exp(B)* = e^B (i.e., odds ratio). $-2 \text{ Log Likelihood} = 344.861$; $df = 7$; Nagelkerke $R^2 = .27$.

* $p < .001$.

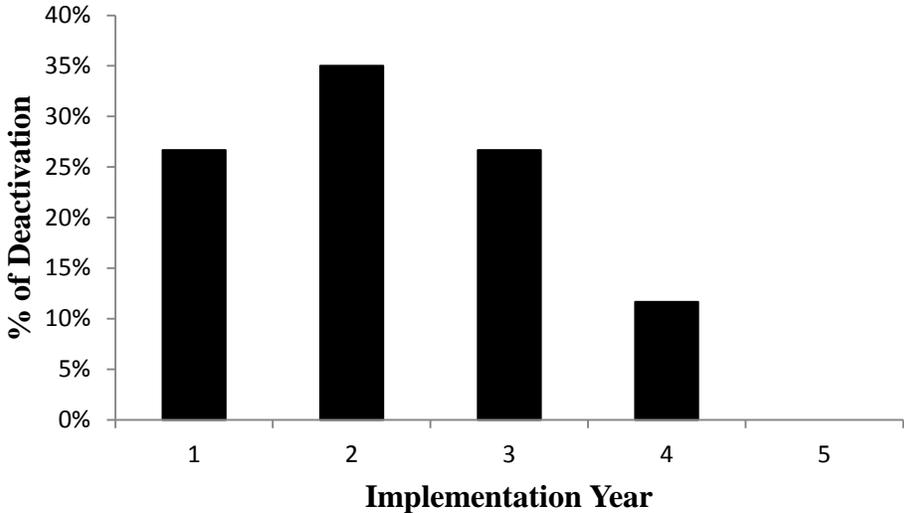


Figure 1. Percentages of abandoning schools ($n = 60$) by implementation year.