

Sustainability of a Targeted Intervention Package: First Step to Success in Oregon

Sheldon L. Loman¹, Billie Jo Rodriguez¹, and Robert H. Horner¹

Abstract

Variables affecting the sustained implementation of evidence-based practices are receiving increased attention. A descriptive analysis of the variables associated with sustained implementation of First Step to Success (FSS), a targeted intervention for young students at risk for behavior disorders, is provided. Measures based on a conceptual model of sustainability were used with personnel from 29 schools from 13 Oregon school districts to describe variables that promote the sustainability of FSS. Results indicate that 28% of the school districts continued to implement FSS up to 10 years after initial implementation. Six critical features were perceived by school personnel to promote sustainability: (a) dedicated resources, (b) training and orientation activities, (c) district-level coordination, (d) selection of students who are a good fit for the intervention, (e) highly qualified coaches, and (f) administrative support. Clinical relevance and future directions for research addressing sustainability are presented.

Keywords

sustainability, targeted intervention, First Step to Success

Schools devote time, effort, and resources to implementing evidence-based practices designed to improve outcomes for students “at risk” for social and academic failure (Merrell, Ervin, & Gimpel, 2006; Walker, 2004). The incentive for investing in educational improvement is matched by a need to sustain hard-won gains. Despite recent efforts to define sustainability and the factors that predict this phenomenon (Elias, Zins, Graczyk, & Weissburg, 2003; Evashwick & Ory, 2003; Gustafson et al., 2003; Krahn & Levkoff, 2006; Shediach-Rizkallah & Bone, 1998), there is little consensus as to why schools sustain or fail to sustain the effective implementation of evidence-based practices. The focus of the present analysis was on the variables that affect the sustained implementation of First Step to Success (FSS), a well-documented intervention for supporting students at risk for problem behavior (Walker et al., 1998; Walker et al., 2008). First, the factors predictive of sustained implementation were explored. Then, the application of these variables to the sustainability of FSS in Oregon was examined.

Program maintenance, institutionalization, ownership, routinization, integration, and capacity building are all terms that have been used in the literature to describe the phenomenon of sustainability. Shediach-Rizkallah and Bone (1998) conducted an extensive literature synthesis on the sustainability of community-based health programs. They ultimately defined sustainability as “the general phenomenon of program continuation” (p. 92). Common themes that have emerged from the literature suggest that the

sustainability of a practice may be influenced by (a) the design of the practice or program being implemented to fit the target population and skills of staff (Gustafson et al., 2003; Shediach-Rizkallah & Bone, 1998), (b) financial support and funding (Evashwick & Ory, 2003), (c) organizational characteristics (i.e., organizational framework that allows new programs to become embedded in the larger organization; Evashwick & Ory, 2003), (d) vision and energy of a strong leader (powerful champion within the organization for the program; Evashwick & Ory, 2003; Shediach-Rizkallah & Bone, 1998), (e) evidence of effectiveness (Gustafson et al., 2003), (f) use of data for monitoring and feedback to ensure continuous program improvement and effective progress of the implementation (Evashwick & Ory, 2003; Gustafson et al., 2003), (g) training and maintenance of the program (Krahn & Levkoff, 2006), (h) an organization’s ability to continue to implement a program without external assistance (i.e., financial, managerial, and technical assistance; Evashwick & Ory, 2003; Shediach-Rizkallah & Bone, 1998), and (i) recognizing and utilizing behavioral change principles (Evashwick

¹University of Oregon, Eugene, OR

Corresponding Author:

Sheldon L. Loman, University of Oregon, 1571 Alder Street, 1235, Eugene, OR 97403-1235

Email: sloman@uoregon.edu

& Ory, 2003). For the purposes of the present analysis, we view sustainability as *the continued implementation of a practice at a level of fidelity that continues to produce intended benefits* (McIntosh, Horner, & Sugai, 2009; Shediac-Rizkallah & Bone, 1998; Steckler & Goodman, 1989).

FSS: A Targeted Intervention

FSS has been adopted by schools to address the behavior of students at risk for chronic behavior patterns within the targeted (or secondary) prevention tier of the schoolwide positive behavior support (SWPBS) continuum (Sugai et al., 2005; Walker et al., 2008). SWPBS is an empirically validated approach designed to improve the adoption, accurate implementation, and sustained use of evidence-based behavior support systems throughout the whole school (Horner et al., 2009; Sugai, Horner, & McIntosh, 2008). SWPBS has been commonly conceptualized as a three-tiered, whole-school behavior prevention approach for implementing positive behavior support (Walker et al., 1996). This approach consists of a primary, or universal, support tier that emphasizes the prevention of behavioral problems through establishing a universal system of school discipline. The universal system is focused on teaching and acknowledging positive behavior while effectively and efficiently dealing with problem behaviors. The second, or targeted, tier of this model focuses on support systems for students at risk of developing chronic behavior problems. The third (tertiary or individualized) tier of the model outlines supports for students with intensive behavior support needs. Schools implementing SWPBS at all three tiers commonly adopt and implement a continuum of interventions that address the needs of the students within their school (Eber & Breen, 2008). FSS is one intervention that may be adopted by a school to support students within the targeted tier of the SWPBS continuum that are at risk for chronic behavior problems.

FSS is a collaborative home and school early intervention (K–3) program that has been correlated with improved behavioral and academic outcomes for children who begin school exhibiting signs of antisocial behavior (Golly, Stiller, & Walker, 1998; Walker et al., 1997; Walker et al., 1998; Walker et al., 2001). In addition, FSS has also been considered an appealing intervention by teachers (Golly et al., 1998). FSS incorporates universal screening; consultant-based school intervention with the teacher or teachers, the child, and the classroom peers; and parent or caregiver training to support school adjustment.

Walker and his colleagues (1998) describe four assumptions underlying the FSS program: (a) FSS is an early intervention program designed to target students who experience behavior problems early in their school careers, (b) the consultant (“coach”) plays a key role in the program’s success,

(c) all three modules (screening, school intervention, and parent intervention) are designed to be used together, and (d) the program is a packaged kit implemented in a similar manner across students. The primary outcomes of the FSS program are to divert problem behavior patterns by supporting improvement in the child’s ability to get along with teachers and peers and increasing the child’s successful engagement in academic activities. More detailed information describing the implementation procedures for FSS can be found in a commercially available implementation guide (see Walker et al., 1997) and other sources (see Epstein & Walker, 2002; Rodriguez, Loman, & Horner, 2009).

FSS was developed in Eugene, Oregon, and has been implemented throughout the United States for more than a decade. In 1999, the Oregon state legislature invested nearly \$500,000 over a 2-year period in an initiative (the First Step Initiative) to make FSS available to Oregon school districts and individual schools that wished to implement FSS (Epstein & Walker, 2002). Walker, Golly, McLane, and Kimmich (2005) evaluated the FSS program in which schools from 11 of Oregon’s 36 counties adopted and implemented the program over a period of 18 months. In their report, Walker et al. found that consumer satisfaction results tended to be positive. However, some teachers did find the program to be “too demanding” and considered the program to be very costly, as it required nearly \$500 per child to pay for materials and behavioral coach time.

Although a number of studies have reported on the positive effects FSS has on individual student outcomes, there has not yet been an analysis of whether the program can be consistently implemented by schools over a number of years. The present study sought to identify schools and districts in Oregon that had implemented First Step and describe the differences between those that continued and those that discontinued implementation. Thus, this present study was designed to analyze the factors involved in the sustainability of an empirically supported program.

The conceptual basis for the analysis was built from the logic model for sustainability presented by McIntosh et al. (2009). Their model of sustainability suggests that the continued implementation of a practice within a school or organization can be explained by documented behavioral principles such as *observable behavior*, *reinforcement*, *maintenance*, *competing schedules of reinforcement*, and *generalization*. They describe the tasks and skills involved in implementing a practice as the primary *behaviors* of interest in their model of sustainability. In addition, the principle of *reinforcement* may be actualized by schools when the achievement of valued outcomes is experienced by implementing a practice. The behavioral principle of *maintenance* is used in the model to describe the “conditions in which personnel continue to implement the practice because they have the needed skills and regular opportunities

to use them, and perceive that this use leads to beneficial outcomes” (p. 333). Furthermore, they utilize the principle of *competing schedules of reinforcement* to explain the process that personnel use to make decisions concerning the fate of a practice (i.e., continue or discontinue a practice). Finally, the principle of *generalization* is used in their model to explain how schools may adapt a practice or extend its use in other contexts.

The McIntosh et al. (2009) sustainability model outlines a continuous cycle, or feedback loop, that addresses the barriers to sustainability. In this cycle an alteration in one may change the relation among the identified valued outcomes, adopted practices that produce those outcomes, and fidelity of practice implementation in the school context. The variables described in their model for sustainability are (a) effectiveness of a practice to the extent that implementation results in desired outcomes, (b) efficiency of a practice, which describes the relationship between effectiveness and the effort required to produce effects, and (c) priority of a practice, which describes the relative visibility and importance of a practice in comparison to other practices.

The conceptual model of sustainability proposed by McIntosh and his colleagues (2009) guided the methods and tools used in this study to further define the phenomenon of sustainability. The framework guided the procedures used to describe how schools continued the implementation of FSS and document the factors that contributed to the sustained implementation of the program. This present study applied the conceptual logic from the sustainability model presented to determine the difference between schools that have sustained implementation of FSS and those that have not. The methods and measures in this study were designed to describe how schools that continued to sustain FSS addressed the barriers (i.e., changes in context, capacity, and contingencies) of sustainability. In addition, the sustainability model guided the measures utilized to determine what systems and processes schools and their corresponding districts had established to identify, adopt, and implement FSS. Based on the model for sustainability, it was hypothesized that schools and districts sustained implementation of FSS if they (a) valued the outcomes achieved from FSS, (b) implemented a schoolwide preventative model to address social and academic behaviors (e.g., SWPBS), (c) established the capacity (i.e., personnel, funding sources) to support implementation, (d) instituted systematic procedures for identifying and selecting students to receive the intervention, (e) delineated implementation processes, and (f) utilized systems for making data-based decisions.

The purposes of this study were to provide a definition of sustained implementation of FSS (a targeted intervention package) and document factors that are contributing to successful sustained implementation. Specific research questions that guided the study were the following: (a) What

percentage of schools in Oregon that have previously used FSS are continuing to implement the intervention with fidelity? (b) Does successful implementation of the foundation “systems” that are encouraged for any targeted intervention predict sustained implementation of FSS? (c) What are the factors of the FSS intervention or implementation process that were perceived by users to increase the likelihood of sustainability? and (d) Does successful implementation of SWPBS predict sustained implementation of FSS?

Method

Participants

School selection. School participants within the state of Oregon were recruited for participation in this study based on documentation provided by the University of Oregon Center on Human Development (UOCHD). In 1999, UOCHD received a contract from the Oregon state legislature to provide training and technical assistance in FSS to school districts that wished to adopt FSS in Oregon. The database from UOCHD was selected for use in recruiting participants as the information from this database provided documentation of schools in Oregon that had (a) received valid training to implement FSS and (b) legitimately adopted FSS as a practice in their school. Several school districts not listed on the UOCHD database were also contacted for participation in this study; however, these districts had very limited knowledge of FSS, and no documentation was available to confirm that they had ever adopted FSS.

According to the list provided by UOCHD, 29 school districts from 19 of Oregon’s 36 (53%) counties were identified as having received formal FSS training and technical assistance from UOCHD some time from 1999 to 2004. A special education administrator from each of these districts was contacted via phone and email. Of the 29 districts, 16 (55%) were not continuing to use FSS and were not able to identify a current employee who could provide information about FSS initiation or implementation. Unfortunately, data could not be obtained from these districts, given that they did not have an employee to provide information about the past implementation of FSS. The remaining 13 districts were able to identify current staff within schools who were knowledgeable about past and current FSS implementation.

District administrators from the 13 districts nominated a total of 29 elementary schools (with personnel who had been trained to implement FSS) for participation in the study. Table 1 presents demographic information of each of the schools based on public school and district data for the 2006–2007 school year (Department of Education, National Center for Education Statistics [NCES], 2009). Of the 29 participating schools, 20 (69%) were K–5 schools, 6 (21%)

Table 1. Demographic Information of Participating Schools

School	Grades	Student Population	Locale	District	Total District Schools	County	Sustained FSS Implementation
1	K–8	557	Rural	A	2	Clatsop	No
2	K–6	582	Rural	B	3	Columbia	No
3	K–5	146	Rural	C	4	Jackson	No
4	K–6	400	Midsized city	D	11	Lane	No
5	K–5	110	Rural	E	12	Lane	No
6	K–6	364	Town	E	12	Lane	No
7	K–5	112	Rural	E	12	Lane	No
8	K–5	524	Town	F	13	Deschutes	No
9	K–5	400	Town	F	13	Deschutes	Yes
10	K–5	485	Town	F	13	Deschutes	Yes
11	K–8	477	Rural	F	13	Deschutes	Yes
12	K–5	429	Rural	G	3	Deschutes	Yes
13	K–5	478	Rural	H	27	Deschutes	Yes
14	K–5	270	Midsized city	J	45	Lane	Yes
15	K–5	291	Midsized city	J	45	Lane	Yes
16	K–5	312	Midsized city	J	45	Lane	Yes
17	K–5	332	Midsized city	J	45	Lane	Yes
18	K–5	505	Small city	K	25	Lane	Yes
19	K–5	391	Small city	K	25	Lane	Yes
20	K–6	439	Small city	L	32	Washington	Yes
21	K–6	462	Large suburb	L	32	Washington	Yes
22	K–6	385	Rural	L	32	Washington	Yes
23	K–5	609	Large suburb	M	16	Washington	Yes
24	K–5	539	Large suburb	M	16	Washington	Yes
25	K–5	557	Large suburb	M	16	Washington	Yes
26	K–5	614	Large suburb	M	16	Washington	Yes
27	K–8	955	Large suburb	N	51	Washington	Yes
28	K–5	403	Large suburb	N	51	Washington	Yes
29	K–5	571	Large suburb	N	51	Washington	Yes

Source: Common Core of Data public school and district data for the 2006–2007 school year.

Note: FSS = First Step to Success. Locale codes: *rural* = territory with a population of 2,500 or less; *midsized city* = territory inside an urbanized area and inside a principal city with a population less than 250,000 and greater than 100,000; *town* = territory with a population of 2,500 to 25,000; *small city* = city with a population less than 100,000; *large suburb* = territory outside a principal city and inside an urbanized area with a population of 250,000 or more.

were K–6 schools, and 3 (10%) were K–8 schools. The schools ranged in student population size from a low of 110 students to a high of 955 students ($M = 438$). The average district size of the participating schools was 23 schools (district sizes ranged from 2 to 51 schools). Based on locale codes from NCES (2009), 9 (31%) of the participating schools were in rural areas (i.e., territory with a population of 2,500 or less), 4 (14%) were in towns (i.e., area with a population between 2,500 and 25,000), 3 (10%) were in small cities (i.e., city with a population between 25,000 and 100,000), 5 (17%) were in midsized cities (i.e., territory inside a principal city with a population less than 250,000 and greater than 100,000), and 8 (28%) were in large suburbs (i.e., territory outside a principal city and inside an urbanized area with a population of 250,000 or more). Of the participating schools, 10 (35%) resided in the same

county as UOCHD, whereas the remaining 65% of the participating schools resided in counties at least 124 miles from UOCHD.

Each of the participating schools was represented by one school-level respondent (i.e., personnel formally trained on FSS). Schools were considered for inclusion in the study based on the criteria of (a) being an elementary school (as defined as having at least K–3) in the state of Oregon, (b) having personnel who received formal training on FSS, (c) having personnel who at one time implemented FSS within their school, and (d) having school personnel with past and present knowledge of FSS implementation in their school. School personnel were considered to have received formal training on FSS if they had attended training sessions provided by the developers of FSS or if they received training from an individual who was trained by the developers of FSS (e.g.,

district or school personnel trained to be a trainer of FSS). In addition, school personnel were considered to have implemented FSS within their school if they participated in the implementation of a complete FSS student case. A FSS student case was considered complete if a student received all components of the intervention package (the school intervention module [CLASS] and the parent component [HomeBase]) for the recommended duration as prescribed by the FSS implementation manual (cf. Walker et al., 1997). Finally, personnel were considered to have had past and present knowledge of FSS implementation within their school if they could provide information pertaining to the initial and current implementation of FSS at their school.

School-level respondents. One individual from each of the 29 schools provided responses regarding the sustained implementation of FSS at that his or her school. School-level participants included principals ($n = 11$, 38%), classroom teachers ($n = 10$, 34%), school counselors ($n = 5$, 17%), a school psychologist ($n = 1$, 3%), a speech-language therapist ($n = 1$, 3%), and an FSS coach ($n = 1$, 3%). School-level respondents averaged almost 7 years of employment within their current schools ($M = 6.8$ years, range = 3–15 years).

Measurement of Dependent Variables

Sustained implementation. Sustained implementation of FSS was defined by the fact that a school had adopted FSS as a targeted intervention and continued to implement all components of the intervention. A school was considered to have adopted FSS if it had at least one staff member who was trained in FSS and completed at least one FSS case using all components of the intervention. This was determined through interviews with school-level respondents and a review of permanent products (e.g., completed data forms or spreadsheets when available). A sustained implementer was defined as a school fully implementing at least one student case with all components of the intervention at least once every 2 years. Information about sustained FSS implementation was obtained through interviews with school personnel who listed the number of complete FSS cases in the (a) initial year, (b) 2nd year, (c) 3rd year, and (d) successive years of implementation.

Implementation of FSS. The *First Step Evaluation Tool* (FSET; Loman, Rodriguez, & Horner, 2008) was used to measure the foundation systems related to continued implementation of FSS based on the sustainability logic described by McIntosh et al. (2009). The FSET (available from the first author) is designed for use with school-level personnel. The FSET consists of 13 items organized into the four key sustainability foundation areas of (a) capacity (5 items), (b) procedures for identification and selection of students to receive the intervention (2 items), (c) implementation procedures (3 items), and (d) systems for making data-based

decisions (3 items). Each item on the FSET is scored on a 3-point scale with 0 = *not in place* (or *not documented*), 1 = *partially in place* (or *verbally confirmed, but not documented*), and 2 = *fully in place* (or *documented*).

The capacity foundation area items evaluate the coordination, staffing, budget, orientation or information, and documentation available at each school. The items in the second foundation area, identification and selection, evaluate how staff request and select students for FSS at their school. Items for implementation process, the third foundation area, rate staff implementation, level of implementation, and acceptability of FSS by teachers. The items in the data systems foundation area rate the consistency with which a school monitors the fidelity and outcomes of FSS cases.

The FSET produces a total sustainability score (0%–100%) and a score for each of the four sustainability foundation areas. The foundation score for a school is calculated by summing individual item scores within a foundation area and dividing this total by the total number of items within that area and multiplying by 100%. A school's total sustainability score is computed by taking the sum of all item scores and dividing this by the total possible score (26) in the FSET and multiplying this total by 100%.

Prior to completing the items on the FSET, all school-level participants were asked to provide background information concerning FSS implementation. Background questions for school-level participants were the following: (a) "When did initial FSS training occur at your school?" (b) "When was FSS first effectively used (i.e., one student with full intervention)?" (c) "How was FSS initiated in the school?" (d) "Did staff play a role in selecting FSS as an intervention?" and (e) "Does FSS address one of the top five needs identified by staff?" The psychometric properties of the FSET have not yet been documented. However, the FSET content was reviewed and piloted for use with a designer of FSS, a district-level implementer of FSS, and a school-level implementer of FSS before being used to collect actual data from school- and district-level personnel. During the pilot period, the two individuals who conducted all of the actual FSET interviews also determined agreement in the scoring of both of the FSET formats. During the data collection period, 12% of the interviews were conducted by both data collectors, and 100% agreement was achieved during these interviews.

Implementation of SWPBS. The level of implementation of SWPBS for each school was determined through use of the *School-Wide Evaluation Tool* (SET; Sugai, Lewis-Palmer, Todd, & Horner, 2001). SET data were retrieved from those schools that input scores into the PBS Surveys Web site (www.pbssurveys.org). The SET is a research instrument for determining the extent to which a school is implementing SWPBS (Sugai et al., 2005) that evaluates a

total of 28 research questions across seven feature areas. The feature areas include (a) schoolwide behavioral expectations defined, (b) schoolwide behavioral expectations taught, (c) acknowledgement procedures for appropriate behaviors, (d) correction procedures for problem behavior, (e) data systems for monitoring and evaluation, (f) administrative support and management, and (g) district-level support. Information necessary for the SET is gathered through multiple sources including a review of permanent products (including discipline handbook, school improvement plan for safety-related goals, instructional materials, meeting minutes), observations, and brief staff and student interviews. The results of the SET are presented as a total implementation score (0%–100%) and subscale scores (0%–100%) for each of the seven feature areas (see a through g above). It has been established that schools considered to be fully implementing SWPBS meet the criteria scores of 80% on the Behavioral Expectations Taught subscale and 80% on the total implementation score (“80/80”; Sugai et al., 2005).

Psychometric evaluations of the SET have been conducted (Horner et al., 2004; Vincent, Spaulding, & Tobin, 2009). Results from the psychometric evaluations of the SET conducted by Horner and his colleagues (2004) indicated strong internal consistency (Cronbach’s $\alpha = .96$, $n = 45$), strong test–retest reliability (interobserver agreement of 97.3% for total scale, $n = 8$), and strong construct validity (correlated with *Effective Behavior Supports Self-Assessment*; Sugai, Horner, & Todd, 2000; Pearson $r = .75$, $p < .001$). Vincent and her colleagues (2009) replicated these results with more than 1,100 schools (Cronbach’s $\alpha = .850$ for 833 elementary schools, $\alpha = .854$ for 264 middle schools, $\alpha = .899$ for 93 high schools).

Procedures

Via phone or in-person interviews, 29 school-level participants provided background information and completed the FSET. All of the participants were individuals who initiated FSS in their schools and were knowledgeable of the current implementation in their schools. All data were collected from these schools during the 2007–2008 academic school year. The FSET interviews took approximately 10 to 15 min to administer. During the FSET interview, participants were first asked to answer each FSET item as it pertained to the first year FSS was implemented in their school. Next, they were asked to rate that same FSET item as it presently pertained to their school (for the current 2007–2008 school year). Then, to better understand the features that define the phenomenon of “sustainability,” participants were asked to rate how important the implementation of each specific FSET item was to sustaining FSS in their school. Respondents rated the level of importance of each item on a 3-point scale (0 = *not important*, 1 = *somewhat important*, 2 =

important). At the conclusion of the FSET interviews, school-level participants were asked, “What do you see as the 3 most critical features related to sustained implementation of FSS in your school?” This question was asked to identify what school personnel perceived as critical features to sustaining FSS in their school.

Results

Of the 29 school districts documented as formally adopting FSS between 1998 and 2004, district administrators from only 13 (45%) were able to identify an employee with knowledge about FSS implementation to adequately complete the FSET. A total of 29 schools were selected from these 13 districts to provide more detailed information about FSS implementation through use of the FSET. Based on the results of the FSET conducted with these schools, 8 of the 13 districts reported that at least one school was continuing to use FSS, and 5 reported that they did not continue FSS implementation. The 8 districts that sustained implementation of FSS represented nearly 28% of the 29 districts that adopted FSS in Oregon. Of the 29 schools reporting more detailed FSS data, 21 (72%) reported sustained implementation of FSS. The mean duration of FSS implementation for the 21 sustained implementers was 7.14 years, with a range of 4 to 10 years. The 8 schools that did not sustain implementation of FSS, on average, implemented the program for 2.38 years (range = 1–3 years).

Sustained and Nonsustained Implementation Schools

Based on interviews with school-level respondents and review of permanent products (e.g., completed data forms or spreadsheets when available), schools were defined as sustained and nonsustained implementers. A sustained implementer was defined as a school fully implementing at least one student FSS case with all components of the intervention at least once every 2 years. Table 1 summarizes demographic data of sustained and nonsustained implementer schools. Sustained implementer schools ($n = 21$) were made up of schools in large suburbs ($n = 8$, 38.0%), rural areas ($n = 4$, 19.0%), midsize cities ($n = 4$, 19.0%), small cities ($n = 3$, 14.0%), and towns ($n = 2$, 10.0%). Nonsustained implementer schools ($n = 8$) consisted of schools in rural areas ($n = 5$, 62.5%), towns ($n = 2$, 25.0%), and a midsize city ($n = 1$, 12.5%). The average student population of sustained implementer schools was 471.62 (range = 270–955 students), whereas the average student population of nonsustained implementer schools was 349.98 (range = 110–582 students). The average district size of sustained implementers was 29 total schools per district (range = 3–51 schools per district), as compared to 9 total schools per

district (range = 2–13) for nonsustained implementers. Of sustained implementer schools, 71% ($n = 15$) were located at least 124 miles from UOCHD, which trained schools in Oregon on FSS, whereas 29% of these schools were found in the same county as UOCHD. Of nonsustained implementers, 50% ($n = 4$) were located in the same county as UOCHD.

Foundation Systems Contributing to Sustained Implementation of FSS

Evaluation results of systems-level implementation of FSS at the school level (FSET) are summarized in Table 2 (first year of implementation) and Table 3 (present year of implementation) for the range, mean, and standard deviation of scores for each item on the FSET. Both Table 2 and Table 3 provide the average sustainability foundation area scores and percentages and average total sustainability score and percentage for sustained and nonsustained implementer schools. The FSET has four sustainability foundation areas with a total of 13 items and a total score range of 0 to 26. The capacity foundation area has a range of 0 to 10 and consists of 5 items. The identification and selection area consists of 2 items and has a range of 0 to 4. Both the implementation process and the data systems foundation areas have 3 items with a range of 0 to 6.

School-level responses pertaining to the systems implementation of FSS (FSET) during the first year of adoption were scored and analyzed to determine if there was a difference between sustained and nonsustained implementer schools during the first year of FSS implementation (see Table 2). The first year FSET average total sustainability score for schools that eventually sustained implementation ($n = 21$) was 68.70%, whereas nonsustained implementer schools ($n = 8$) averaged 53.40% overall, $t(27) = 3.41$, $p = .002$. The first year FSET average foundation area scores, for schools that sustained implementation of FSS, ranged from 61.20% (data systems foundation area) to 82.30% (implementation process foundation area). The average foundation area scores for nonsustaining schools on the FSET ranged from 37.50% (identification and selection area) to 75.0% (implementation process foundation area).

The average percentage score for the first year capacity foundation area was statistically different between sustained (64.8%) and nonsustained implementers (50.0%), $t(27) = 2.13$, $p = .043$. Sustained implementers (69.0%) and nonsustained implementers (37.5%) also statistically differed in their average first year identification and selection foundation area scores, $t(27) = 2.40$, $p = .042$. In addition, sustaining and nonsustaining school-level implementers differed on two individual items: (a) capacity foundation Item 3, asking if schools had full-time equivalent staff formally allocated for coaches, $t(27) = 3.26$, $p = .013$, and (b)

identification and selection foundation Item 2, asking if there was a process for selecting students to receive FSS, $t(27) = 3.27$, $p = .003$.

Table 3 summarizes the FSET scores pertaining to the current (2007–2008) school year that school participants were interviewed. FSET average foundation area scores ranged from 68.33% (data systems) to 82.50% (implementation process) for schools that sustained implementation of FSS ($n = 21$). The average foundation area scores for nonsustaining schools ($n = 8$) on the FSET ranged from 18.75% (identification and selection) to 25.0% (data systems). The average total sustainability score for schools that sustained implementation was 72.54%, whereas nonsustaining schools scored 24.04%.

Schools identified as sustained implementers, as shown in Table 3, received an average score of 72.54% ($M = 18.86$, $SD = 3.56$) of the total possible points (26) measured by the FSET. For individual sustainability foundation areas, these schools averaged a score of 69.0% ($M = 6.90$, $SD = 1.84$) for capacity, 72.5% ($M = 2.90$, $SD = 0.83$) for identification and selection, 82.50% ($M = 4.95$, $SD = 0.67$) for implementation process, and 68.33% ($M = 4.10$, $SD = 1.34$) for data systems.

Nonsustained implementers ($n = 8$) received an average total FSET score of 24.04% ($M = 6.25$, $SD = 6.90$). These schools scored 21.30% ($M = 2.13$, $SD = 2.36$) on the capacity foundation area, 18.75% ($M = 0.75$, $SD = 1.04$) on the identification and selection foundation area, 31.17% ($M = 1.87$, $SD = 2.03$) on the implementation process foundation area, and 25.0% ($M = 1.50$, $SD = 1.85$) for the data systems foundation area. All of the items, foundation areas, and total sustainability scores pertaining to the present school year were significantly different between sustained and nonsustained implementers.

Perceived Critical Features for Sustaining FSS

Each school respondent was asked to rate the importance of each item on the FSET to sustaining FSS implementation at his or her school. Respondents rated the importance of each item on a 3-point scale (0 = *not important*, 1 = *somewhat important*, 2 = *important*). There was no statistical difference in the importance of the items between school and district sustained and nonsustained implementers. With the exception of capacity Item 5 (description of FSS included in behavior support handbook) and data systems Items 2 (monitoring student outcomes) and 3 (regular meetings where FSS data are reviewed and used for decision making), all school respondents rated each item as at least *somewhat important* (1) to sustaining FSS at their school or district. All individual items averaged an “importance” score of at least 1.62 ($SD = 0.68$), to a maximum average “importance” score of 2.00 ($SD = 0.00$).

Table 2. First Year of Implementation First Step Evaluation Tool Scores for Sustained and Nonsustained School-Level Implementers

Foundation Area	Items	Range	Sustained Implementers (<i>n</i> = 21)			Nonsustained Implementers (<i>n</i> = 8)			<i>t</i>	<i>p</i>
			<i>M</i>	<i>SD</i>	Avg. % Score	<i>M</i>	<i>SD</i>	Avg. % Score		
Capacity	5	0–10	6.48	1.63	64.80	5.00	1.77	50.00	2.13	.043
	Coordinator	0–2	1.19	0.40		1.62	0.52			
	Coach full-time equivalent	0–2	1.71	0.64		1.12	0.99			
	Budget	0–2	1.95	0.22		0.75	1.04			
	Orientation	0–2	1.19	0.87		0.75	0.71			
	Document	0–2	0.43	0.68		0.75	1.04			
Identification and selec- tion	2	0–4	2.76	0.76	69.00	1.50	1.41	37.50	2.40	.042
	Request	0–2	1.24	0.54		0.75	0.71			
	Selection	0–2	1.52	0.51		0.75	0.71			
Implement process	3	0–6	4.95	0.59	82.30	4.50	0.76	75.00	1.53	.160
	Staff experience	0–2	1.95	0.22		2.00	0.00			
	Components	0–2	1.90	0.30		1.88	0.35			
	Response	0–2	1.10	0.44		0.62	0.52			
Data systems	3	0–6	3.67	0.91	61.20	2.88	1.55	48.00	1.36	.210
	Fidelity	0–2	1.86	0.36		1.13	0.64			
	Outcomes	0–2	1.57	0.68		1.38	0.74			
	Review	0–2	0.24	0.44		0.38	0.52			
Total score	13	0–26	17.86	2.85	68.70	13.88	2.70	53.40	3.41	.002

Note: Scores are based on participants' responses to *First Step Evaluation Tool* questions as they pertained to the systems in their school the first year First Step to Success was implemented.

The initiation, staff role in initiation, and priority of FSS in schools were analyzed to determine the difference between schools that sustained and did not sustain implementation. Sustained implementers did statistically differ from nonsustained implementers in how they initiated FSS, $t(27) = 2.16$, $p = .040$, where more than 52.0% ($n = 11$) of sustained implementers compared to only 25.0% ($n = 2$) of nonsustained implementers initiated FSS through a district adoption. Of schools that are no longer implementing FSS, 25.0% ($n = 2$) initiated it on their own, without a district initiative to implement FSS. Grants were the other way FSS was initiated in both nonsustained (50.0%) and sustained (47.6%) implementers. In addition, 100.0% ($n = 21$) of sustained implementer schools compared to 25.0% ($n = 2$) of nonsustained implementers stated that staff played a role in adopting FSS in their schools. However, the priority of FSS within a school did not differ between continued and noncontinued implementing schools, as all schools except 1 ($n = 28$) stated that FSS met one of the top five needs of staff.

Critical features for sustaining FSS were identified by school-level respondents through an open-ended interview question. A summary of responses by sustained implementers and nonsustained implementers is presented in Table 4. Dedicated resources (i.e., personnel to provide FSS coaching,

funds, materials, and release time) was the critical feature most frequently provided by all school ($n = 29$, 86.2%) respondents. Training and orientation activities (i.e., annual training of all school staff and FSS coaches, information on the program for administrators) were also identified as critical features for sustaining FSS (58.6% of all school respondents). Nearly 28% of all respondents considered high-quality FSS coaches as critical to sustaining FSS at their school. In addition, nearly 35% of all respondents identified parent participation in the intervention and home training component as a key to sustaining FSS.

District-level coordination (i.e., dedicated district-level personnel responsible for supporting FSS implementation at the school level) and selection of students that are appropriate for the intervention were critical features of sustainability identified by sustained implementers (38.0% and 23.8%, respectively) but were not identified as critical by nonsustained implementers.

In addition, 62.5% of nonsustained implementers identified staff buy-in and support for FSS in the school as critical to sustained implementation of FSS. Staff buy-in was not identified as frequently by sustained implementers (6.9%). Systems and procedures for reviewing data were provided infrequently as a critical feature for sustainability by all respondents (10.3%).

Table 3. Present Implementation First Step Evaluation Tool Scores for Sustained and Nonsustained School-Level Implementers

Foundation Area	Items	Range	Sustained Implementers (n = 21)			Nonsustained Implementers (n = 8)			t	p
			M	SD	Avg. % Score	M	SD	Avg. % Score		
Capacity	5	0–10	6.90	1.84	69.00	2.13	2.36	21.30	5.17	< .001
	Coordinator	0–2	1.24	0.44		0.75	0.99			
	Coach full-time equivalent	0–2	1.71	0.64		0.25	0.70			
	Budget	0–2	1.95	0.22		0.00	0.00			
	Orientation	0–2	1.14	0.91		0.50	0.76			
	Documents	0–2	0.86	0.85		0.50	0.93			
Identification and selection	2	0–4	2.90	0.83	72.50	0.75	1.04	18.75	5.28	< .001
	Request	0–2	1.29	0.56		0.38	0.52			
	Selection	0–2	1.62	0.50		0.38	0.52			
Implement process	3	0–6	4.95	0.67	82.50	1.87	2.03	31.17	4.20	.003
	Staff experience	0–2	1.95	0.22		1.00	1.07			
	Components	0–2	1.90	0.30		0.50	0.53			
	Response	0–2	1.09	0.44		0.38	0.52			
Data systems	3	0–6	4.10	1.34	68.33	1.50	1.85	25.00	3.62	.005
	Fidelity	0–2	1.86	0.48		0.38	0.52			
	Outcomes	0–2	1.62	0.59		0.88	0.99			
	Review	0–2	0.62	0.80		0.25	0.46			
Total score	13	0–26	18.86	3.56	72.54	6.25	6.90	24.04	4.92	.001

Note: Scores are based on participants' responses to *First Step Evaluation Tool* questions as they pertained to the systems in their school for the current school year.

SWPBS in Schools Implementing FSS

Individual school data on the SET (Sugai et al., 2001) were examined to determine the level of SWPBS implementation. Only 18 (62%) of the 29 participating schools had SET scores available in the PBS Surveys database (www.pbssurveys.org) within the 2 school years prior to when this study was conducted (2006–2007 and 2007–2008). Of the 18 schools with available SET data, 14 (78%) were sustained implementers and 4 (22%) were nonsustained implementers. Of the 14 schools that sustained implementation of FSS, 11 (79%) were identified as implementing SWPBS with fidelity based on the “80/80” (i.e., a score of 80% in the Behavioral Expectations Taught subscale and 80% on the total SET score) criterion on SET scores. Of the 4 nonsustaining schools, 3 (75%) implemented SWPBS with fidelity. There was no statistical difference between the SET scores from sustained and nonsustained implementer schools, $t(16) = 0.311, p = .760$.

Discussion

The study's findings identify that nearly a third of the school districts (8 of 29, 28%) in the state of Oregon that had

adopted and implemented the targeted intervention, FSS, continued to implement the program 4 to 10 years post-initial implementation. Continued implementation was based on the criteria of having fully implemented one student case with all components of the intervention per school year or having the capacity to implement FSS but not having students who needed the intervention during a school year (with no more than 3 years without implementing a case). However, the results also indicated that most of the schools that had personnel knowledgeable of FSS implementation and completed the FSET measures were sustained implementers (72%). These data suggest that schools and districts that retained personnel who were involved in the initiation and implementation of FSS were more likely to continue implementing the program.

The housing and sponsorship of a program by leadership with ties to established resources (i.e., district administration) has been considered important for the sustainability of a program (Gustafson et al., 2003; Shediak-Rizkallah & Bone, 1998). The study's findings are consistent with this literature, as it was observed that the way in which a school initially adopted FSS may have affected the sustainability of the program. For example, most schools in Oregon that sustained implementation of FSS adopted the program as part of a districtwide initiative. Conversely, most schools

that failed to sustain implementation of FSS initiated the program independent of district support (with only two non-sustaining schools adopting through a district initiative).

The present findings also suggest that schools that continued to implement FSS had a greater capacity to support the program and use data to identify students for the intervention at the onset of the program. Furthermore, the results also imply that staff buy-in of the program during adoption may be important in sustaining a program such as FSS. All schools that sustained implementation indicated that school staff played a role in the adoption of the program, whereas this was indicated by only some of the schools that failed to sustain implementation of the program. However, the priority for the program did not differ between sustaining and nonsustaining schools, as nearly all of the schools (including those that no longer implement FSS) indicated that FSS met one of the top five needs of their staff.

In the case of this study, the perceived importance of FSS was sufficient to initiate the implementation of the program but not adequate to sustain the program. This may be because of the intensive resource requirements of implementing a program such as FSS (i.e., the resources to allocate well-trained coaches, program materials, and funds to pay for staff to receive training and provide parent training). In many cases, FSS continued to be implemented as long as key trained personnel were still in place at a school or district. However, when these key personnel moved from the school or the district, FSS quickly ceased to be implemented. Furthermore, the importance for key personnel was supported by anecdotal information from school districts that were considered to have formally adopted FSS. Only 13 (45%) of the 29 school districts were able to identify an employee with knowledge about FSS.

Schools that were considered to be sustained implementers of FSS scored high on the FSET measures. This may suggest that the FSET systems foundation areas, based on the conceptual model of sustainability presented by McIntosh et al. (2009), are critical to sustaining a practice or program. These foundation areas are (a) the capacity (i.e., personnel, funding sources) with which a school has to support implementation, (b) systematic procedures for identifying and selecting students to receive the intervention, (c) delineated implementation processes to ensure fidelity, and (d) utilization of systems for making data-based decisions to modify practices to improve outcomes. In addition, six critical features for sustainability identified by sustained implementers fit into these foundation areas and sustainability framework of this study. For example, the first four critical features for sustainability of FSS they identified (dedicated resources [e.g., personnel to provide FSS coaching, funds, materials, and release time], training and orientation activities, district-level coordination, and administrative support) are exemplified within the capacity

foundation area. The selection of students appropriate for the intervention was also considered critical to sustainability. This critical feature fits within the foundation area of identification and selection. Finally, sustained implementers considered highly qualified coaches critical to sustained implementation of FSS. This critical feature is expressed within the implementation process foundation area.

Furthermore, the systems foundation areas and critical features to sustaining FSS suggested from this study closely correspond with themes that have emerged from health care and mental health research for sustaining evidence-based programs (e.g., Evashwick & Ory, 2003; Krahn & Levkoff, 2006; Shediak-Rizkallah & Bone, 1998). The capacity foundation area identified in this study closely mirrors features critical to sustainability identified in the literature, such as (a) institutional strength (e.g., governing board, personnel, financial stability; Evashwick & Ory, 2003), (b) organizational characteristics (i.e., organizational framework that allows new program to become embedded in the larger organization; Evashwick & Ory, 2003), (c) financial support and funding (Evashwick & Ory, 2003), (d) an organization's ability to continue to implement a program without external assistance (i.e., financial, managerial, and technical assistance; Evashwick & Ory, 2003; Shediak-Rizkallah & Bone, 1998), (e) vision and energy of a strong leader (powerful champion within the organization for the program; Evashwick & Ory, 2003; Shediak-Rizkallah & Bone, 1998), (f) shared organization vision, and (g) training and maintenance of the program (Krahn & Levkoff, 2006). The research literature also emphasizes the importance of the design of the program being implemented fitting within the target population and skills of staff (Gustafson et al., 2003; Shediak-Rizkallah & Bone, 1998). This aspect in the literature is exemplified by the critical features of sustainability in the implementation process foundation area identified in this study. Finally, the sustainability foundation area of data systems outlined in this study corresponds with literature that suggests that (a) the use of data for monitoring and feedback to ensure continuous program improvement and effective progress of the implementation (Gustafson et al., 2003) and (b) recognizing and utilizing behavioral change principles to improve Journal of Emotional and Behavioral Disorders Evashwick & Ory, 2003) are critical to sustaining a program.

Clinical Relevance

The present findings have direct implications for all schools and districts seeking to implement proven interventions such as FSS. First, schools contemplating the adoption of a program or intervention such as FSS should first determine if the practice fits their population's needs and staff's skills (Albin, Lucyshyn, Horner, & Flannery, 1996; Evashwick &

Table 4. Perceived Critical Features to Sustaining First Step to Success From School-Level Respondents

Response	Sustained Implementers (<i>n</i> = 21)		Nonsustained Implementers (<i>n</i> = 8)		Total Respondents (<i>n</i> = 29)	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Dedicated resources	19	90.4	6	75.0	25	86.2
Training or orientation	12	57.1	5	62.5	17	58.6
District coordination	8	38.0	0	0.0	8	27.6
Selection of students	5	23.8	0	0.0	5	17.2
High-quality coaches	5	23.8	3	37.5	8	27.5
Admin support	2	6.9	0	0.0	2	6.9
Parent participation	7	33.3	3	37.5	10	34.5
Staff buy-in	2	6.9	5	62.5	7	24.1
Effective results	1	4.8	0	0.0	1	3.4
Data systems	1	4.8	2	25.0	3	10.3
Other	1	4.8	0	0.0	1	3.4

Ory, 2003) and whether their school has or is able to develop the capacity to support the practice over time. The sustainability of a targeted intervention program such as FSS can be improved by integrating the program with existing programs within the school and district (e.g., framing FSS to fit within a school's response to intervention [RTI] and SWPBS framework). The continued implementation of FSS by schools appears to be highly dependent on the capacity of districts to provide funding and coaches for the program. One way to increase the likelihood that schools have access to necessary resources to implement an intervention such as FSS is to acquire district-level financial support. In addition to financing FSS, it is important that there are individuals (either at the district level or as external consultants) available to schools who are knowledgeable about FSS to provide training and coordinate appropriate utilization of the intervention. Adequate funding and selection of the best evidence-based program to fit a school's population and staff skills have been suggested as critical to its ability to sustain within a school (Gustafson et al., 2003; Krahn & Levkoff, 2006).

The present findings are consistent with literature suggesting that developing sustainability should be a priority when initially adopting an evidence-based program (Sugai et al., 2005). Early in the adoption of a program, it is important for schools to develop systems to support the fidelity of implementation (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). Such systems include data-based processes to identify students to receive the intervention and to monitor the fidelity of the intervention to ensure positive outcomes. A clear and efficient identification and selection procedure for selecting students to receive FSS is important to sustained implementation at the school level. Systems that emphasize the effective use of data will empower schools with information to determine whether to continue the

program, modify the implementation of the program, or discontinue the program altogether.

Unfortunately, schools did not perceive the use of data as relevant to sustained implementation of FSS. However, the results suggest that sustained implementers of FSS did indeed use data for decision making to review the fidelity of implementation and student outcomes. With systems such as RTI (Sailor, Doolittle, Bradley, & Danielson, 2009) increasing the emphasis on progress monitoring, schools should utilize data to make decisions to improve student outcomes. As schools become more fluent using data to make decisions concerning interventions, positive outcomes for students receiving interventions may become more likely. Research on sustainability emphasizes that the effectiveness of a program is paramount to its continued implementation (Krahn & Levkoff, 2006).

Ongoing training, technical assistance, and maintenance for staff to ensure that the program is implemented with fidelity are important for sustained implementation of a program within a school. Most schools that continued to implement FSS received support from a district-level coordinator who facilitated trainings for new personnel to orient them to the availability and utility of the intervention. In addition, in schools that sustained the program, technical assistance was provided by both the individual coach and the district-level coordinator to ensure that the intervention was implemented with fidelity as well as fit the context (skills of staff and classroom environment). Furthermore, it is likely that trainings provided to individual coaches improve the quality of coaching, thus resulting in increased effectiveness of implementation and more positive outcomes. Coordination at the school and district levels to provide ongoing trainings can support a program in becoming an effective intervention that is embedded into the school's infrastructure.

Limitations

This study was primarily descriptive by design, and more rigorous research should be conducted to understand factors that predict the sustainability of FSS and other empirically supported programs within schools. The selection of participants in this study was not random, and participants included only 45% of the schools and districts that initially implemented FSS within the state of Oregon. These limitations make it difficult to determine if the data accurately represent both sustained and nonsustained implementers. Further research should be done to determine if schools and districts in other states experienced the same issues in sustaining FSS.

The measure utilized in this study to determine the sustainability of FSS (FSET) was designed by the authors based on the conceptual model of McIntosh et al. (2009). However, this instrument does not have established psychometric reliability or validity in measuring the sustainability of a program within a school. Though the FSET was designed based on research literature and was piloted before actual data collection, the results from this measure may provide a tenuous metric of a school's ability to sustain a program. Furthermore, the limited size of the sample constrained the statistical methods used to determine whether the factors in the conceptual model predicted whether a school sustained or failed to sustain implementation of FSS. A larger sample size would offer the opportunity to utilize more robust statistical methods to provide a better picture of the factors that influence a program's sustainability.

Future Directions

The sustainability of evidence-based programs is a burning issue that will continue to gain attention from both researchers and practitioners in the field of education. Schools in the 21st century continue to struggle to implement empirically supported practices with their limited budgets, diverse populations, and perpetually competing initiatives. Researchers are encouraged to shift their focus not only to designing evidence-based practices but also to designing systems that provide schools with the infrastructure to support such practices. This study provided a review of literature and a descriptive analysis of an empirically supported program to further define and understand the phenomenon of sustainability in schools. However, continued research utilizing more rigorous designs that allow for robust statistical analyses will provide a clearer direction to guide schools in their implementation efforts.

The conceptual framework of sustainability outlined by McIntosh et al. (2009) may be useful to frame the design of research to further understand how to sustain and "scale up"

evidence-based practices. The adoption and sustained implementation of a practice requires educational systems change that can be explained by behavioral change principles such as those defined by McIntosh and his colleagues. Critical analysis of each of the sustainability foundation areas (capacity, identification and selection processes, implementation processes, data systems [i.e., data-based decision making]) identified in this study may provide researchers and practitioners information on developing systems that can effectively and efficiently integrate evidence-based programs within the diverse context of a school. In addition, as schools seek to comprehensively support all of their students, methods on how to effectively incorporate community stakeholders should be analyzed as a critical feature to the success of school programs. Furthermore, large-scale longitudinal research utilizing innovative research designs and methods should be conducted to determine how schools continue implementation of evidence-based practices. The study of sustainability will require new research tools and procedures to provide information on how to implement proven practices in dynamic organizational and instructional school environments.

Empirical evidence of factors that contribute to the sustainability of evidence-based programs may help transform state and federal policies to better support schools in their pursuit to effectively support all children and leave no child behind. A better understanding of the level of commitment, required resources, and duration of time needed to realize the benefits of a program implemented in schools may play a large role in the development of future educational policies. In addition, evidence of the critical elements and time that schools require to effectively improve student outcomes may inform legislation to formatively evaluate the outcomes of educational school reform as well as evaluate them over longer periods of time. Understanding of the complexities of the organizational evolution that a school must undergo to effectively implement evidence-based programs may transform policy agendas to focus on funding to provide schools with the systems, resources, and time needed to systematically integrate proven practices in their schools.

Acknowledgments

The authors acknowledge Dr. Hill Walker and Dr. Annemeike Golly for their guidance in the design and completion of this research.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interests with respect to the authorship and/or publication of this article.

Funding

The authors disclosed receipt of the following financial support for the research and/or authorship of this article: Preparation of

this article was supported in part by the U.S. Department of Education (CFDA 84.32P, Grant H32P040006). Opinions expressed herein do not necessarily reflect the position of the U.S. Department of Education, and such endorsement should not be inferred.

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About the Authors

Sheldon L. Loman, MA, is a doctoral candidate in special education at the University of Oregon in Eugene, OR.

Billie Jo Rodriguez, MS, is a doctoral candidate in school psychology at the University of Oregon in Eugene, OR.

Robert H. Horner, PhD, is a professor of special education at the University of Oregon in Eugene, OR, and codirector of the National Technical Assistance Center on Positive Behavioral Interventions and Supports.