


# A Survey of Team Members' Perceptions of Coaching Activities Related to Tier I SWPBIS Implementation

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## Abstract

Coaching is an important component in multi-tiered systems of support (MTSS) such as school-wide positive behavioral interventions and supports (SWPBIS), but little is known about which coaching activities are most related to sustained implementation of this school-wide framework. A survey was developed to examine the amount of receipt and perceived importance of coaching activities delivered to SWPBIS school teams. Respondents included SWPBIS team members ( $n = 264$ ) implementing Tier I SWPBIS for at least 3 years in 138 districts across nine states. Partial correlations were conducted on a subsample of schools ( $n = 131$ ) using the Benchmarks of Quality (BoQ) to assess self-reported implementation fidelity to examine the extent to which each coaching activity was associated with fidelity of implementation of SWPBIS. Results indicated Assisting With Team Action Planning, Assisting With Data Collection, and Sharing Knowledge of SWPBIS Systems were perceived as most important to SWPBIS sustainability. Partial correlations showed two activities were statistically significant and positively correlated with SWPBIS fidelity of implementation: Running Data Reports for the Team and Modeling SWPBIS Implementation. Implications for assessing and differentiating coaching supports delivered to schools are discussed.

## Keywords

coaching, school-wide intervention, positive behavior supports, training

Educators invest considerable resources implementing evidence-based practices (EBPs) that may not last beyond a few years (Adelman & Taylor, 2003; Pinkelman, McIntosh, Rasplica, Berg, & Strickland-Cohen, 2015). When schools abandon or fail to implement EBPs to fidelity, the positive effects of adopting a new practice can be diminished (Latham, 1988; Nese et al., 2016). Access to coaching may help educators to sustain the use of EBPs, even when schools experience significant turn-over of teachers and administrators (Adelman & Taylor, 2007; Strickland-Cohen, McIntosh, & Horner, 2014). Coaching is believed to improve the fidelity of implementation of classroom-based practices (Kretlow & Bartholomew, 2010). Freeman, Sugai, Simonsen, and Everett (2017) described coaching as serving a critical function to help implement multi-tiered systems of support in schools by transferring knowledge and skills from staff professional development activities into school-wide and classroom practices.

## School-Wide Positive Behavioral Interventions and Supports (SWPBIS) and Coaching

SWPBIS is an evidence-based, multi-tiered framework implemented in schools to improve social and academic

outcomes for students using integrated and preventive practices (Horner et al., 2009). SWPBIS consists of three tiers: (a) Tier 1, or universal practices, which are delivered to all students to increase overall success; (b) Tier 2, or targeted interventions, which are designed to support a smaller percentage of students not responding to Tier 1 practices; and (c) Tier 3, or individualized and intensive supports, delivered to a small number of students who require highly coordinated behavior supports. Schools implementing Tier 1 SWPBIS with fidelity are shown to have lower rates of office discipline referrals (Childs, Kincaid, George, & Gage, 2016), improved school climate (Bradshaw, Koth, Bevans, Ialongo, & Leaf, 2008), and an increased capacity to implement more intensive or individualized student supports (Kim, McIntosh, & Hoselton, 2014).

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A team consisting of teachers, administrators, parents, and coaches can help establish and coordinate Tier 1 SWPBIS practices and systems in a school (Lewis, Barrett, Sugai, & Horner, 2010). After Tier 1 SWPBIS training is provided to a school or district, internal or external coaches may provide on-site technical assistance to school personnel to support and monitor SWPBIS implementation tasks. Coaches help schools to organize team meetings, deliver staff professional development, analyze school data, and conduct evaluations of Tier 1 systems. Coaches may use checklists, surveys, direct observations, and school staff members' feedback to guide what type and amount of coaching support is required to guide implementation of Tier 1 SWPBIS (Sugai & Todd, 2006).

### Coaching Delivered to Support SWPBIS Implementation

Prior studies have examined the effects and perceptions of coaching delivered to improve the fidelity of Tier 1 SWPBIS. A study by Bethune (2017) found a functional relation between coaching provided in classrooms and an increase in teachers' accuracy of implementation of SWPBIS Tier 1 procedures. Massar (2017) showed that coaching delivered using prompting and performance feedback was related to a functional increase in teachers' use of classroom EBPs and a reduction in classroom disruptions. Although coaching is believed to support fidelity of SWPBIS practices in classrooms (Kretlow & Bartholomew, 2010), it is not clear how coaching delivered to schools may support sustained fidelity of Tier 1 SWPBIS.

Scheuermann and colleagues (2013) developed a survey to explore SWPBIS team members' perceptions ( $n = 24$ ) of coaching activities delivered to support Tier 1 SWPBIS implementation in a juvenile correctional setting. Respondents perceived coaches as lacking both knowledge of juvenile offenders and experience working in secure settings but reported coaching activities such as evaluation and offering feedback were valuable (i.e., rated as "very useful" by 12 of 23 respondents).

Scheuermann and colleagues (2013) examined coaching in an alternative setting, less representative of K–12 schools where SWPBIS is typically implemented. Bethune (2017) and Massar (2017) were single case-design studies with only a small number of participants. Examining how coaching is perceived across a larger sample of educators in K–12 settings is needed to understand how coaching activities are delivered to school teams implementing Tier 1 SWPBIS. Despite strong evidence documenting the positive effects of implementing Tier 1 SWPBIS, many schools struggle to sustain the framework with fidelity beyond a few years (Pinkelman et al., 2015). Coaches may help address barriers to sustainability that erode implementation fidelity and diminish staff support (Turri et al., 2016).

### Purpose of the Study

The purpose of the current study was twofold. First, we developed and validated an exploratory survey to assess SWPBIS team members' perceptions of the receipt and importance of coaching activities delivered by external coaches. Second, we focused on assessing the perceptions of SWPBIS team members because teams have emerged as a critical factor for ensuring sustained implementation (McIntosh et al., 2018). Although prior studies have validated factors related to SWPBIS sustainability (McIntosh et al., 2011), we wanted to understand how coaching was perceived by school personnel and the extent to which specific coaching activities were associated with Tier 1 SWPBIS fidelity.

The following research questions were examined:

**Research Question 1:** Which coaching activities do school SWPBIS team members report receiving from external coaches?

**Research Question 2:** Which coaching activities do school SWPBIS team members report as important to Tier 1 SWPBIS implementation?

**Research Question 3:** To what extent is receipt of each of these coaching activities related to Tier 1 SWPBIS fidelity of implementation?

### Method

#### Participants and Settings

We recruited Tier 1 SWPBIS team members who had participated in a longitudinal study examining the barriers and facilitators to SWPBIS implementation and sustainability (McIntosh, Mercer, Nese, Strickland-Cohen, & Hoselton, 2016). Of the 555 participants in the longitudinal study, a SWPBIS team member from each of 264 schools in 138 districts participated in the current study. Nine states were represented: California ( $n = 33$ ), Idaho ( $n = 1$ ), Maryland ( $n = 25$ ), Minnesota ( $n = 53$ ), Missouri ( $n = 41$ ), North Carolina ( $n = 18$ ), Oregon ( $n = 25$ ), Washington ( $n = 7$ ), and Wisconsin ( $n = 61$ ). School demographic data were obtained from the National Center for Education Statistics for 97% of participating schools ( $n = 256$ ). Of these, 68% were elementary schools, 17% were middle schools, 10% were high schools, and 2% were other (e.g., K–8, K–12). The schools were relatively evenly distributed in terms of school locale (30% city, 29% suburb, 21% rural, and 18% town). On average, 53% of students received free or reduced-price meals ( $SD = 0.23$ ), and 37% were non-White ( $SD = 0.29$ ).

Of the schools that reported years of Tier 1 SWPBIS implementation ( $n = 252$ ), 62 schools had been implementing for 3 to 4 years, 96 schools had been implementing for 5 to 6 years, 53 schools had been implementing for 7 to 8

years, and 41 schools had been implementing for 9 or more years. Of the schools reporting Tier 1 SWPBIS fidelity of implementation scores for the 2014–2015 school year ( $n = 192$ ), 84% met criteria for adequate implementation, as measured by the Benchmarks of Quality (BoQ; Kincaid, Childs, & George, 2005), Team Implementation Checklist (TIC; Sugai, Horner, & Lewis-Palmer, 2001), School-Wide Evaluation Tool (SET; Sugai, Lewis-Palmer, Todd, & Horner, 2001), or the Tiered Fidelity Inventory (TFI; Algozzine et al., 2014).

Regarding the type of coaching support received by the school, 93% of schools ( $n = 241$ ) reported receiving some form of formal coaching support. A total of 52% of the schools received both internal and external coaching ( $n = 138$ ), 24% received internal coaching only ( $n = 64$ ), and 11% received external coaching only ( $n = 30$ ). Six percent of schools received neither internal nor external coaching supports ( $n = 16$ ). Six percent of schools ( $n = 16$ ) were unsure of what type of coaching supports they were receiving.

## Measures

**Coaching activities measure.** We developed a survey to assess SWPBIS team members' perceptions of the amount of receipt and relative importance of coaching activities delivered by internal or external SWPBIS coaches. The survey included two questions related to 17 coaching activities a coach could deliver to Tier 1 teams. First, respondents were asked to rate the extent to which their school received each coaching activity in the past year (e.g., *In the past year, our school's SWPBIS coach has assisted with data analysis*). Response options were provided on a 5-point Likert-type scale (*never, rarely, sometimes, often, almost always*), in which higher scores indicated higher receipt of the coaching activities. Next, to determine the perceived importance of the coaching activities, respondents were asked to rank order the top six of the 17 coaching activities that they perceived as most important to SWPBIS Tier 1 implementation and sustainability for their school. Participants were also asked to select and rank order six of 17 coaching activities from more to less important related to sustaining implementation of Tier 1 SWPBIS, where higher scores indicated more importance.

**Item development.** We followed a systematic process to develop items for the coaching survey and assess the content validity of the measure using an expert panel (Rubio, Berg-Wagner, Tebb, Lee, & Rauch, 2003). First, we conducted a review of articles examining Tier 1 SWPBIS coaching and technical assistance. Second, we generated a list of potential Tier 1 coaching activities: use of performance feedback (Reinke, Stormont, Herman, & Newcomer, 2014), modeling SWPBIS practices (Sugai & Todd, 2006), and assisting with data-based problem solving (Newton, Algozzine,

Algozzine, Horner, & Todd, 2011). We also examined recent reviews and concept papers on coaching practices used in school settings (Freeman et al., 2017; Kraft, Blazar, & Hogan, 2018; Kretlow & Bartholomew, 2010; Stormont, Reinke, Newcomer, Marchese, & Lewis, 2015). Third, we selected coaching activities aligned with items on Tier 1 SWPBIS fidelity of implementation measures (e.g., TFI; Algozzine et al., 2014). All activities on the coaching survey are included in Table 1.

**Item validation.** To establish content validity, we recruited six experts to rate the representativeness of 17 Tier 1 coaching activities. Experts needed to have (a) at least one published peer-reviewed paper related to SWPBIS and/or coaching in educational settings or (b) at least 5 years of experience as a systems-level coach (i.e., an external coach hired by a local or state educational agency to support the implementation of SWPBIS in schools). We asked experts to rate the extent to which each of the 17 items on the coaching survey were typical actions for Tier 1 SWPBIS coaches working with school teams (e.g., "Rate the extent to which you agree that each of the following 17 items identify an action that a SWPBIS coach may use with teams implementing Tier 1 SWPBIS"). Responses were indicated using a 4-point Likert-type scale (from *strongly disagree* = 1 to *strongly agree* = 4).

Next, we followed procedures described by Rubio and colleagues (2003) to assess the content reliability of survey items. To calculate inter-rater agreement of experts' responses, the number of items with at least 80% agreement was divided by the total number of items on the survey. Item coefficients ranged from 0.50 to 1.0 with overall agreement of 0.92, indicating strong consistency across experts, above the recommended criteria of 0.80 (Davis, 1992). Next, we calculated the Content Validity Index (CVI) to quantify the extent to which each item and the total measure represented Tier 1 SWPBIS coaching activities (Rubio et al., 2003). The CVI scores for the coaching activities ranged from 0.50 to 1.0, with an overall CVI of 0.92, indicating strong content validity.

**Survey reliability and validity.** Additional analyses were conducted on the coaching activity receipt data collected from respondents. Coefficient alpha was .95, indicating strong internal consistency for the survey measure. To assess construct validity of the survey, we conducted an exploratory factor analysis in *Mplus* 6.1 (Muthén & Muthén, 2010). Results showed that a one-factor solution had the best model fit,  $\chi^2(119) = 971.54, p < .001$ , comparative fit index (CFI) = .93, Tucker–Lewis index (TLI) = .92, root mean square error of approximation (RMSEA) = .157.

**Fidelity of implementation.** The Schoolwide BoQ (Kincaid et al., 2005) is a research-validated measure of Tier 1

**Table 1.** Mean Ratings of Receipt and Ranked Importance of 17 Coaching Activities.

Coaching activity survey items	Mean score of receipt			Mean rank of importance		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
Assisted with team action planning	262	4.12	0.91	165	4.40	1.51
Assisted with data collection	263	3.92	1.07	63	4.13	1.49
Shared knowledge of SWPBIS systems	262	4.07	0.90	144	4.04	1.71
Modeled SWPBIS implementation	257	3.59	1.22	125	4.00	1.45
Ran data reports for school team	264	3.83	1.19	73	3.97	1.65
Assisted with data analysis	264	3.20	1.03	125	3.75	1.63
Assisted in problem-solving issues or challenges with implementation	262	4.02	0.98	157	3.64	1.56
Supported individual teachers with class-wide SWPBIS practices	259	3.61	1.10	126	3.45	1.52
Led SWPBIS meetings	261	4.04	1.29	64	3.17	1.83
Connected team to resources or support outside of school	263	3.00	1.21	45	3.13	1.66
Listened to staff concerns	263	4.19	0.90	87	3.13	1.66
Attended SWPBIS meetings	261	4.44	1.06	42	2.74	1.94
Provided emotional or personal support to team or individuals	259	3.87	1.09	36	2.42	1.32
Provided support or consultation on individual student behavior support	260	3.87	1.05	130	2.42	1.72
Provided prompts for completion of key SWPBIS practices	264	3.80	1.12	31	2.29	1.35
Provided positive feedback	264	3.93	1.00	114	2.23	1.41
Provided corrective feedback	263	3.38	1.08	57	2.10	1.37

Note. Coaching activities ordered by mean rank perceived importance. Mean receipt coaching: 0 = never, 1 = rarely, 2 = sometimes, 3 = often, 4 = always. SWPBIS = school-wide positive behavioral interventions and supports.

SWPBIS, measuring the extent to which 51 items related to universal SWPBIS practices are being implemented with fidelity. Psychometric testing indicates that the BoQ is reliable and valid for measuring fidelity, with previous analyses showing interrater and test–retest reliability above 90% (Cohen, Kincaid, & Childs, 2007). In the present sample, internal consistency was strong ( $\alpha = .96$ ).

Although 192 schools (73%) reported using a fidelity measure of SWPBIS implementation during 2014–2015, the BoQ was the most completed measure, administered to 131 schools (49.6%). By selecting one fidelity of implementation measure, we were able to conduct the analyses on a continuous rather than dichotomous scale (i.e., implementing to criterion or not). To assess any differences in mean coaching activity receipt between this subsample with BoQ scores and the rest of the sample, we conducted an independent-samples *t* test, which did show a small but significant difference in amount of mean coaching received by schools in the BoQ subsample ( $M = 3.97$ ,  $SD = 0.81$ ) compared with all others schools ( $M = 3.75$ ,  $SD = 0.82$ ) in the sample,  $t(262) = 2.24$ ,  $p = .026$ .

## Procedure

Participants were recruited via email from a sample of schools in the fourth year of a longitudinal study on positive behavioral interventions and supports (PBIS) sustainability (McIntosh, Mercer, Nese, Strickland-Cohen, & Hoselton, 2016). Of the 555 invitations sent to SWPBIS team members and external

coaches, team members from 264 (47.6%) unique schools responded to the survey. School Tier 1 SWPBIS fidelity data were obtained from PBIS Assessment (pbisapps.org), a database maintained by the Educational and Community Supports research unit at the University of Oregon.

## Data Analyses

To assess reported receipt of coaching activities, we calculated mean ratings of the extent to which the 17 coaching activities were received by school teams, with higher scores indicating the coaching items were received more frequently. Similarly, to assess the perceived importance of the coaching activities, mean ranks and standard deviations were calculated.

To evaluate the extent to which receipt of each of the coaching activities was related to Tier 1 SWPBIS fidelity of implementation, we used a smaller subsample of schools ( $n = 131$ ) with assessment data from the BoQ for the 2014–2015 school year. For this subsample, partial correlations were calculated to examine the relation between fidelity of implementation scores and the perceived rate of receipt of each of the 17 coaching items to determine which coaching supports were related to sustained implementation (i.e., beyond 3 years). We completed a partial correlation analysis because the variables of interest were continuous and had a linear relationship, with no significant outliers and a normal distribution. We used the BoQ Total Implementation Score ( $M = 95.82$ ,  $SD = 10.09$ , range = 61–107) to

calculate the extent to which the 17 coaching activities were related to Tier 1 SWPBIS fidelity of implementation.

## Results

### *Receipt of Coaching Activities*

Table 1 shows participants' reported receipt of coaching activities. The coaching activities received most frequently by SWPBIS Tier 1 team members were Attending SWPBIS Meetings ( $M = 4.44$ ), Listening to Staff Concerns ( $M = 4.19$ ), and Assisting With Team Action Planning ( $M = 4.12$ ). The items that were received least frequently were Connecting the Team to Outside Resources ( $M = 3.00$ ), Providing Corrective Feedback ( $M = 3.38$ ), and Modeling SWPBIS Implementation ( $M = 3.59$ ). Table 2 provides an inter-correlation matrix for receipt of the 17 coaching activities.

### *Perceived Importance of Coaching Activities*

The mean ranks of rated importance for each coaching activity are presented in the rightmost column of Table 1. The mean rank order was calculated for each item and transformed for ease of interpretation so that higher scores indicated an item that was perceived as more important. The coaching activities perceived as most important to SWPBIS implementation were Assisting With Team Action Planning ( $M = 4.40$ ), Assisting With Data Collection ( $M = 4.13$ ), and Sharing Knowledge of SWPBIS Systems ( $M = 4.04$ ). The coaching activities that were ranked as least important were Providing Corrective Feedback ( $M = 2.10$ ), Providing Positive Feedback ( $M = 2.23$ ), and Providing Prompts for Completion of Key SWPBIS Activities ( $M = 2.29$ ). Figure 1 compares the reported receipt and perceived importance to Tier 1 SWPBIS implementation for each of the 17 items.

### *Relation to Fidelity*

Partial correlations ( $r$ ) between receipt of each coaching activities and BoQ scores are reported on the final column in Table 2. Two items were statistically significantly and positively correlated with fidelity of implementation: Running Data Reports for the Team ( $r = .18, p < .05$ ) and Modeling SWPBIS Implementation ( $r = .20, p < .05$ ). Providing Corrective Feedback ( $r = -.22, p < .05$ ) was statistically significantly and negatively correlated with fidelity of implementation.

## Discussion

Coaching may support educators to implement evidence-based school-wide practices to fidelity, which can contribute to positive outcomes for students. This study aimed to

explore coaching as a set of activities provided to schools sustaining Tier 1 SWPBIS. No known study to date has examined the relation between coaching activities and sustainability of SWPBIS. It is critical to understand how coaching is delivered in schools to optimize the time and resources invested to sustaining this school-wide EBP (Swain-Bradway, Lindstrom, Johnson, Bradshaw, & McIntosh, 2017).

We focused on perceptions of SWPBIS team members, typically responsible for overseeing implementation of Tier 1 SWPBIS in their schools. We explored three aspects of coaching in this study: (a) receipt of each of 17 common coaching activities, (b) rated importance of these activities, and (c) the relation between receipt of each of these coaching activities and Tier 1 SWPBIS fidelity of implementation.

### *Receipt of Coaching Activities*

*High-receipt coaching activities.* The three coaching activities reported as most frequently received by SWPBIS team members were (a) Attending SWPBIS Meetings, (b) Listening to Staff Concerns, and (c) Assisting With Team Action Planning (see Table 1). This finding suggests that coaching supports are visible during school meetings where a coach can provide direct input or receives updates related to implementation tasks. Listening to Staff Concerns is an activity that may help a coach build rapport or collect information to guide the problem-solving process. Team Action Planning has been identified as a factor sustaining SWPBIS implementation (McIntosh et al., 2018). Coaches could help school teams in long-range planning including scheduling staff development activities or periodic evaluations of Tier 1 SWPBIS systems.

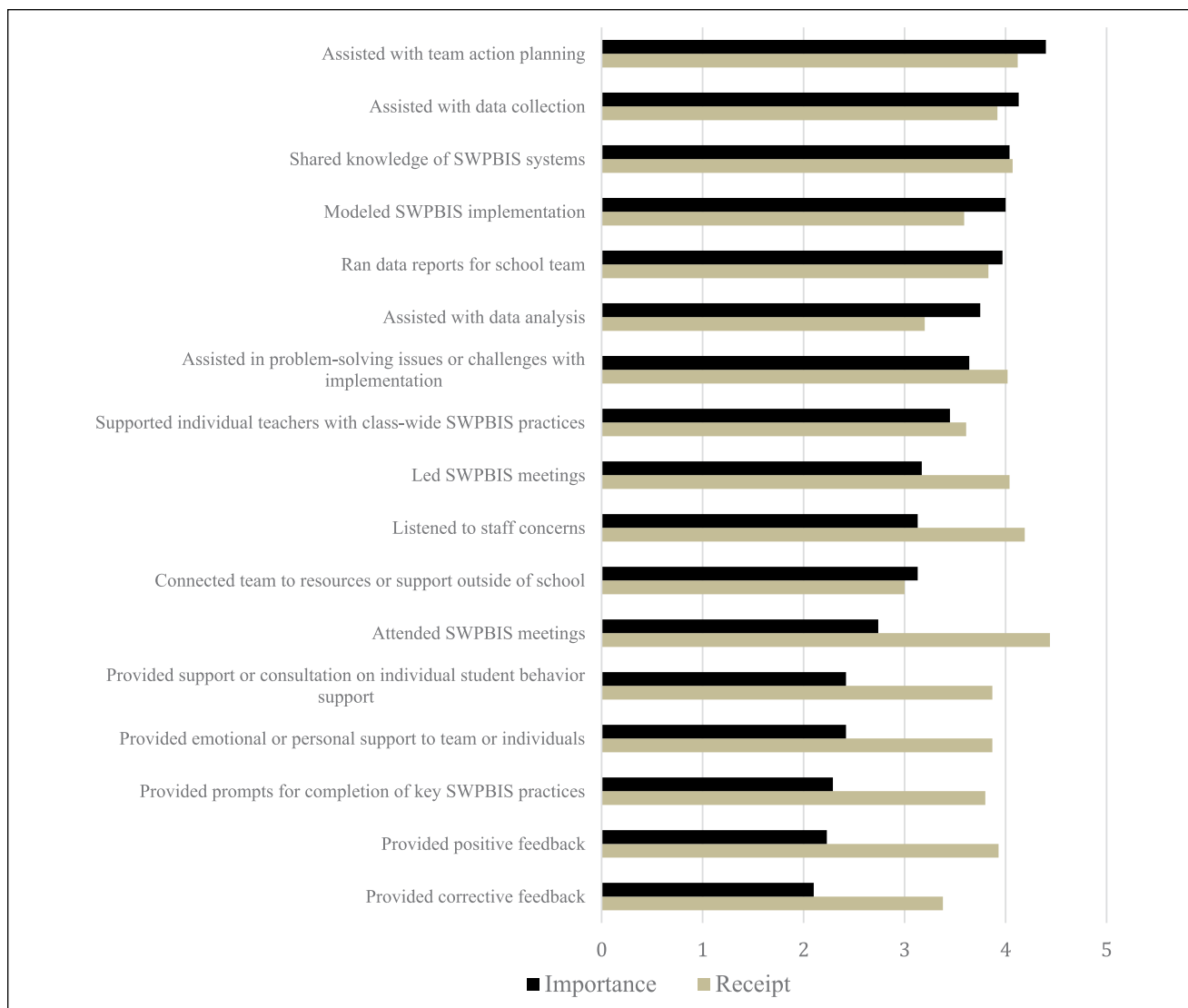
The survey results also indicated selected high-receipt coaching activities that were ranked lower in perceived importance. For example, although Attending SWPBIS Meetings was reported as frequently received by team members, it was ranked as one of the least important coaching activities. In theory, a coach's attendance at a team meeting allows for the delivery of additional support; however, just a coach's attendance at a meeting may not be as valued as other activities. Providing Positive Feedback was another coaching activity that was received frequently but ranked lower in importance. It is possible that providing feedback may be more important to schools during the initial stages of SWPBIS implementation, but as team members access natural reinforcement (e.g., improved staff and student outcomes), positive reinforcement from a coach may not be as useful (Andreou, McIntosh, Ross, & Kahn, 2015). Differences observed between average ratings of frequency and ranked importance suggest coaches could be delivering implementation supports not always aligned with the priorities of SWPBIS team members.

**Table 2.** Descriptive Statistics, Intercorrelations, and Partial Correlations (BoQ Total Score) for Receipt of 17 Coaching Activities.

Coaching activities	n	Coaching activities															BoQ Partial correlations	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		16
1. Run data reports for school team	313	—	.79**	.76**	.58**	.57**	.37**	.48**	.60**	.51**	.56**	.43**	.53**	.53**	.53**	.53**	.49**	.18*
2. Assisted with data collection	312	—	.86**	.68**	.65**	.42**	.61**	.66**	.63**	.66**	.64**	.48**	.54**	.56**	.57**	.57**	.55**	.03
3. Assisted with data analysis	313	—	.78**	.71**	.39**	.39**	.57**	.67**	.62**	.64**	.64**	.52**	.56**	.55**	.61**	.61**	.57**	.05
4. Assisted with team action planning	311	—	.78**	.49**	.49**	.49**	.58**	.73**	.60**	.62**	.64**	.61**	.59**	.56**	.60**	.60**	.57**	.02
5. Shared knowledge of PBIS systems	311	—	.51**	.51**	.51**	.51**	.58**	.72**	.58**	.61**	.67**	.52**	.51**	.54**	.63**	.63**	.63**	.06
6. Connected team with outside resources	312	—	.53**	.53**	.53**	.53**	.53**	.53**	.50**	.41**	.44**	.33**	.37**	.44**	.51**	.51**	.53**	-.08
7. Modeled SWPBIS practices	304	—	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.62**	.58**	.43**	.52**	.53**	.60**	.60**	.56**	.20*
8. Assisted in problem solving issues or challenges with implementation	309	—	.71**	.71**	.71**	.71**	.71**	.71**	.71**	.75**	.70**	.57**	.55**	.55**	.61**	.61**	.59**	.07
9. Supported individual teachers with class-wide PBIS practices	307	—	.75**	.75**	.75**	.75**	.75**	.75**	.75**	.75**	.74**	.48**	.57**	.58**	.64**	.64**	.59**	-.12
10. Provided support/consultation on individual behavioral support	308	—	.69**	.69**	.69**	.69**	.69**	.69**	.69**	.69**	.73**	.49**	.50**	.50**	.55**	.55**	.52**	-.03
11. Listened to staff concerns	311	—	.78**	.78**	.78**	.78**	.78**	.78**	.78**	.78**	.78**	.62**	.60**	.58**	.69**	.69**	.57**	.05
12. Provided emotional/personal support to team or individuals	306	—	.58**	.58**	.58**	.58**	.58**	.58**	.58**	.58**	.58**	.58**	.59**	.55**	.69**	.69**	.59**	.01
13. Attended PBIS meetings	310	—	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.44**	.54**	.54**	.47**	.08
14. Led PBIS meetings	310	—	.59**	.59**	.59**	.59**	.59**	.59**	.59**	.59**	.59**	.59**	.59**	.59**	.59**	.59**	.52**	.01
15. Provided prompts for completion of key PBIS practices	313	—	.67**	.67**	.67**	.67**	.67**	.67**	.67**	.67**	.67**	.67**	.67**	.67**	.67**	.67**	.58**	-.02
16. Provided positive feedback	313	—	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.02
17. Provided corrective feedback	312	—	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.72**	.72**	-.22*

Note. BoQ = Benchmarks of Quality; SWPBIS = school-wide positive behavioral interventions and supports; PBIS = positive behavioral interventions and supports.

\* $p < .05$ . \*\* $p < .01$  (two-tailed).



**Figure 1.** SWPBIS coaching activities by ranked importance and frequency of receipt.

Note. SWPBIS = school-wide positive behavioral interventions and supports.

*Low-receipt coaching activities.* Of the 17 items, three activities were reported to be received less often: (a) Connecting Teams to Outside Resources, (b) Providing Corrective Feedback, and (c) Assisted With Data Analysis. Connecting Teams to Outside Resources may not be an activity that coaches are expected or trained to deliver to school teams. In addition, the expert panel rated Connecting Teams to Outside Resources as less representative of a Tier 1 SWPBIS coaching activity. It is curious that Assisting With Data Analysis was perceived as less frequently delivered by coaches as data-based decision making is considered an integral aspect of SWPBIS implementation (Horner et al., 2018). It is possible that team members viewed a coaching activity like Assisting With Data-Analysis as included within other activities (e.g., Assisting With Team Action

Planning). Further analysis is needed to operationalize and differentiate how coaching supports enable teams to leverage data to support SWPBIS implementation tasks.

### Importance of Coaching Activities

*High-ranked coaching activities.* SWPBIS team members perceived (a) Assisting With Team Action Planning, (b) Assisting With Data Collection, and (c) Sharing Knowledge of SWPBIS Systems to be the most important coaching activities related to sustaining Tier 1 SWPBIS. Assisting With Team Action Planning was highly ranked by rate of perceived receipt and ranked importance. A core practice of SWPBIS is to use data to identify problems and subsequently develop action plans (Newton, Horner, Algozzine,

Todd, & Algozzine, 2009). Team members also rated Assisting With Data Collection as a high-ranked coaching activity. These findings suggest that coaching activities geared toward helping teams to collect and use data for strategic planning were valued by teams in this sample. One hypothesis for why data assistance was high-ranked as a coaching support is that school team members may have limited time to collect and interpret data used to sustain school-wide behavioral supports.

Finally, Sharing Knowledge of SWPBIS Systems relates to the role of a coach as a content-area expert. SWPBIS coaches may contribute specialized knowledge from behavioral sciences (e.g., psychology) or discipline of Implementation Science (Lewis, Mitchell, Bruntmeyer, & Sugai, 2016). For example, a coach could educate team members on how to tailor implementation strategies to address specific school-level barriers (e.g., lack of staff buy-in, staff turn-over). Coaches may also ensure that new practices adopted in schools are evidence-based, meet an established need, or are function-based (Freeman et al., 2017).

*Low-ranked coaching activities.* Of the 17 items, the lowest ranked activities by perceived importance were (a) Prompting to Complete Key SWPBIS Activities, (b) Providing Positive Feedback, and (c) Providing Corrective Feedback. This was a surprising finding, as these types of coaching activities have been shown to increase fidelity of implementation in prior studies but were perceived by school team members as the less valuable as school-wide coaching activities (Kretlow & Bartholomew, 2010; Stormont et al., 2015). An explanation for this finding may be that coaches rely more on prompting to increase correct skill use and reduce team members' errors during skill-acquisition but may fade this support when a SWPBIS team becomes fluent with a skill or practice (MacDuff, Krantz, & McClannahan, 2001).

In schools sustaining SWPBIS over 3 years, team members may also perceive performance feedback as less useful for addressing more rudimentary implementation errors (Hattie & Timperley, 2007). Specifically, more directive coaching activities (e.g., prompting, delivering performance feedback) may be less important for school teams with formalized SWPBIS Tier 1 practices and systems (e.g., regular team meetings, school-wide expectations, corrections procedures) already in place.

### *Coaching Activities Related to Fidelity of Implementation*

Running Data Reports for the School Team was positively but moderately correlated with fidelity of implementation. Prior work has demonstrated data-based decision making can contribute to improve team use of data and contribute positively to student outcomes (Team

Implemented Problem-Solving; Horner et al., 2018). McIntosh and colleagues (2018) also found that Team Use of Data during the first year of implementation was one of the strongest predictors for sustained implementation of SWPBIS past 3 years.

Modeling SWPBIS implementation was also positively correlated with fidelity of implementation. Modeling was ranked as one of the top five coaching activities delivered. We hypothesized that teams more proficient with implementing Tier 1 practices may value having a coach who assist to train new teachers or administrators by modeling use of Tier 1 SWPBIS across all settings within a school.

Providing Corrective Feedback was negatively correlated with fidelity of implementation. It is possible that team members receive corrective feedback from a coach when they have received insufficient training or misunderstand how to implement the core features of SWPBIS. Hypothetically, lower implementation fidelity scores may be related to team members struggling to implement SWPBIS to fidelity which may elicit more frequent and corrective feedback from coaches. Given the strong relation demonstrated between delivering corrective feedback and teacher behavior change, further research is warranted to help explain this result (Scheeler, Ruhl, & McAfee, 2004).

### *Limitations and Future Research*

There are some important limitations to consider in interpreting the results of this study. First, the 264 schools in our sample were participating in a longitudinal study of SWPBIS and had been implementing the school-wide framework for 3 or more years. As such, schools sustaining Tier 1 SWPBIS with fidelity beyond 3 years represent a unique sample. Additional analyses would be required to determine how contextual factors (e.g., school demographics, resources, external supports) may affect how coaching activities were perceived by SWPBIS team members in our sample. Second, more research is needed to examine perceptions of coaching in schools during initial implementation of SWPBIS to understand whether school team members perceive coaching supports differently when adopting the framework. Third, the survey responses relied on participants' retrospective recall of the perceived amount of receipt of each coaching item. It is possible that teams reported receiving coaching activities less or more frequently than in actual practice. Fourth, coaching delivered to support a whole-school approach like SWPBIS is complex and dynamic and undoubtedly include activities that were not identified or examined in this study. Finally, our study only included one type of respondent (i.e., SWPBIS school team members). It would be useful to investigate the perspective of both coaches and teams working together in schools to further examine how coaching is used to sustain SWPBIS implementation.



## Conclusion

Schools implementing Tier 1 SWPBIS at fidelity are shown to produce better outcomes for students (Bradshaw, Mitchell, & Leaf, 2010). It is important to consider with more precision how coaching is used to sustain implementation of this evidence-based school-wide framework. As coaching continues to evolve as a practice, we need to understand how coaching supports are perceived by all school stakeholders. There is also a need to evaluate how coaching contributes uniquely to valued outcomes in schools and districts. The results of this study suggest a need to consider differentiating the frequency and type of coaching supports delivered to schools implementing SWPBIS based on team priorities. Although we identified school-wide coaching activities more associated with Tier 1 SWPBIS fidelity, there is a need to understand more about how coaching delivered to schools is related to fidelity of implementation.

SWPBIS team members' perceptions of coaching receipt and ranked importance also suggest a need to distinguish between adaptive and technical coaching support for implementation. It may be that SWPBIS teams in schools implementing for 3 or more years need more adaptive coaching supports (e.g., Assistance With Team Action Planning, Sharing Knowledge of PBIS Systems) to integrate new initiatives into existing school systems or to adjust to the priority of new leaders (Heifetz, Grashow, & Linksy, 2009; Strickland-Cohen et al., 2014). Coaching supports can be used to embed new practices into existing school-wide supports (Good, McIntosh, & Gietz, 2011; Meng, McIntosh, Claassen, & Hoselton, 2016). The results also suggest team members in schools sustaining SWPBIS beyond 3 years may not require as much direct skills-training or performance feedback from team members adopting the framework.

This study was designed to explore and provide initial validation of a survey describing a set of 17 Tier 1 SWPBIS coaching activities. The results offer useful but tentative insights into how coaching is perceived by school team members sustaining an evidence-based multi-tiered framework. Moving forward, it is important to develop a more precise understanding of how coaching supports are used in schools to sustain and enhance the positive effects associated with school implementation of Tier 1 SWPBIS.

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