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Examining Teaming and Tier 2 and 3 Practices Within a PBIS Framework

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Abstract

One core feature of Positive Behavioral Interventions and Support (PBIS) is a systems-level teaming process for coordinating staff implementation of evidence-based practices and monitoring student progress across all three tiers. Prior research has shown schools that report regular teaming and team-based data use are more likely to successfully adopt and sustain implementation of multi-tiered systems of behavior support. However, more research is currently needed to better understand the various teaming configurations, structures, and practices commonly used by PBIS teams in typical schools, particularly at advanced tiers. For the current study, members of school and district PBIS teams representing 718 U.S. schools were surveyed to better understand (a) teaming configurations and practices currently being used in schools implementing PBIS and (b) common interventions that PBIS teams report implementing at Tiers 2 and 3. Survey findings are discussed, along with implications of those results for future research and practice in applied settings.

Keywords

interventions, positive behavioral interventions and supports, systems, teams

To successfully implement and sustain evidence-based practices and enhance positive student outcomes, an increasing number of schools around the United States are implementing multi-tiered systems of support (MTSS). Multi-tiered systems of support is a tiered framework that emphasizes the use of a continuum of support strategies that match the intensity of students' needs (Freeman et al., 2015). One core feature of this approach is the provision of an evidence-based core instructional and behavioral curriculum for all students to maximize success and prevent academic and behavioral challenges. Multi-tiered systems of support is also characterized by the regular collection and use of data to identify students who require support beyond the universal level, tailor support at advanced tiers to match student need, and progress monitor students' responses to those supports (Bruhn et al., 2020). The implementation of MTSS in schools has been linked to a number of positive student and school outcomes, including increased academic engagement and performance (Kim et al., 2018), reductions in unwanted behaviors and the use of exclusionary discipline (Gage et al., 2018), and improvements in school climate and organizational health (Bradshaw et al., 2009).

Positive Behavioral Interventions and Supports in Schools

One of the most widely implemented examples of MTSS in schools is Positive Behavioral Interventions and Supports (PBIS). Within the past 15 years, PBIS has been adopted by over 29,000 schools and 500 school districts in the United States (Kittelman et al., 2019). Positive Behavioral Interventions and Support is a three-tiered framework comprising practices and organizational systems to support the implementation of evidence-based behavior supports (Coffey & Horner, 2012; Gage et al., 2018). The key logic behind the implementation of PBIS is to improve preventive practices and student supports to impact meaningful student and school outcomes (e.g., academic success, positive school climate, supportive relationships between peers and adults). Tier 1 (universal) practices are intended for all students. These practices include teaching and acknowledging prosocial behavioral expectations and providing a continuum of proactive strategies to school personnel for responding to unwanted behaviors (Horner et al., 2009). Tier 2 (targeted) practices are designed for students needing additional behavior and/or academic supports beyond universal practices. At Tier 2, school personnel implement efficient standardized interventions and manualized social skills programs (Hawken et al., 2014;

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Kern et al., 2020; Rodriguez et al., 2016). For students with the most significant behavioral and academic needs, supports at Tier 3 (intensive) center on information gathered through a functional behavioral assessment (FBA) and are designed to address individual student needs and motivational factors (Gage et al., 2012; Horner et al., 2009; Pinkelman & Horner, 2016).

Teaming as an Implementation Driver Within PBIS

In addition to the array of practices implemented at each tier of the PBIS framework, the successful adoption and sustained implementation of PBIS requires a focus on organizational systems (Bruhn et al., 2020). One integral component of this systems approach is a coordinated teaming process for supporting staff implementation of student support practices (Horner et al., 2018). Within a PBIS framework, it is recommended that representative teams made up of school personnel (e.g., administrators, coaches, general and special education teachers) and non-school personnel (e.g., family members, community leaders) meet regularly (at least monthly) and use school-level and individual student-level data to monitor the implementation fidelity of evidence-based practices, evaluate student outcomes, and identify areas of need at Tier 1 (Bruhn et al., 2020; Pinkelman & Horner, 2019). Using school-wide data, Tier 1 PBIS team members identify and address issues such as a need to provide more focused training and coaching supports for staff on how to effectively implement universal practices (e.g., teaching school-wide expectations, using the school-wide acknowledgment system). Tier 1 teams also use screening and progress monitoring data to identify students who may need more than universal supports (e.g., students who have received multiple behavior referrals) and nominate those students for more intensive intervention supports (i.e., Tier 2 or Tier 3 support).

For students who require supports beyond Tier 1, the PBIS literature recommends Tier 2 and Tier 3 teams meet more frequently to both assess the extent to which systems and practices at advanced tiers are being implemented with fidelity and evaluate students' responses to targeted or individualized behavioral interventions. The role of the Tier 2 team is to ensure that Tier 2 systems and practices are being implemented as intended and to regularly review screening and progress monitoring data to assess the need to continue, intensify, or fade supports for students receiving Tier 2 support (Rodriguez et al., 2016). At Tier 3, there are ideally two types of teams for supporting students with individualized needs: (a) the Tier 3 PBIS team and (b) the individual student support team (Kittelman, McIntosh, et al., 2021). The Tier 3 PBIS team monitors whether Tier 3 systems and practices are being implemented with fidelity, and they collaborate with each student's individual student support team. The individual student support team is made up of a team of stakeholders (e.g., classroom teacher, family members, related service personnel) responsible for the design, implementation, progress monitoring, and adaptation of the individualized student behavior support plan (Strickland-Cohen et al., 2016).

Teaming in Typical Practice

The PBIS literature base contains numerous examples of and specific recommendations for teaming systems across all three tiers (e.g., required team members' expertise, recommended frequency of team meetings, protocols for leading effective meetings; Horner et al., 2018; Todd et al., 2019). However, in typical practice, team configurations and teaming practices can vary widely across schools and districts based on local contextual factors and available resources. For example, because of the added complexity of teaming for data-based decision-making at Tiers 2 and 3, it is recommended that teams at advanced tiers meet more often than once per month (e.g., biweekly; Bruhn et al., 2020). However, the team's ability to meet more frequently is dependent on administrator support and the allocation of sufficient time in the school day for team meetings. Furthermore, depending on a wide range of contextual factors, such as school size, grade levels served, or level of experience implementing PBIS, school teams may need to adapt the recommended configurations of Tier 1, 2, and 3 teams to fit their specific context (Kittelman, Goodman, & Rowe, 2021). Rather than having separate teams that address needs for each of the tiers, school teams may choose to merge their resources into combined or integrated teams. Whereas one school may have a single PBIS team that strategically allocates meeting time to examine data and action plan to support students across all three tiers, others may have three separate teams (i.e., one for each Tier) or a Tier 1 team that meets separately from a combined Tier 2/3 team. Furthermore, some schools may choose to have separate teams for academic and behavior support, whereas others may use an integrated teaming approach (e.g., a single Tier 3 team that addresses both academic and behavior needs for students who require individualized supports).

A Need for More Research on PBIS Teaming Practices

Although team-based implementation has long been considered a cornerstone of PBIS (Horner & Sugai, 2015), there is little empirically grounded guidance for which teaming structures and practices may be most effective or efficient (McIntosh & Goodman, 2016). There is some evidence to suggest that coordinated teaming systems have a significant impact on the extent to which evidence-based

Tier 1 practices are adopted and sustained over time. For example, McIntosh and colleagues (2018) surveyed staff from 860 schools and found team functioning, including reported regular use of data, to be a significant predictor of fidelity and continued implementation of Tier 1 PBIS practices after 3 years. Furthermore, a small number of studies have documented positive student outcomes associated with a PBIS approach that includes integrated teaming structures for academic and behavior supports (McIntosh et al., 2006; Stewart et al., 2007). However, the gap between recommended teaming practices in the literature and those currently being used in schools highlights the need for further research identifying common teaming configurations and any indication of differential effects on implementation or outcomes.

The lack of evidence-based guidance on how to effectively and efficiently structure and coordinate multitiered teaming systems may be particularly problematic for teams supporting students with more individualized needs. Because interventions at advanced tiers are more resource-intensive than those at Tier 1, systems for supporting students with Tier 2 and Tier 3 needs are by nature more complex. Tier 1 teams are responsible for supporting the implementation of a defined set of practices for all students within a school. By contrast, team members at Tiers 2 and 3 oversee the implementation of a wide array of practices that require the use of a variety of measures for assessing fidelity and student progress. Moreover, an additional responsibility of teams at advanced tiers is to ensure that district and school resources are used most efficiently to provide the least intensive student supports necessary to produce desired student outcomes (e.g., providing a standard manualized program for students who need Tier 2 support before moving to the use of more individualized support at Tier 3; Majeika et al., 2020). Yet, to date, there is a dearth of research documenting which teaming structures are feasible for schools without substantial external funding and researcher support.

Purpose of the Study

Before attempting to identify optimal teaming practices within PBIS, there is a prerequisite need to understand the specific practices and teaming configurations that are currently being implemented in schools, particularly at advanced tiers. The purpose of the current study was to address this gap in knowledge. Specifically, our focus was on identifying common team configurations, frequency of team meetings, and the specific interventions used at Tiers 2 and 3. The following research questions were addressed:

Research Question 1 (RQ1): What were the most common configurations of teams across tiers?

Research Question 2 (RQ2): How frequently did teams report meeting?

Research Question 3 (RQ3): What were the most common interventions used at Tiers 2 and 3?

Research Question 4 (RQ4): What proportion of schools used a standard protocol Tier 2 intervention prior to adapting interventions, and did schools using a standard protocol have higher implementation fidelity?

Method

Settings and Participants

Participants consisted of one member of a school or district team reporting from 718 U.S. schools who participated in a longitudinal research study examining implementation of PBIS systems at Tiers 2 and 3. The majority of school personnel were PBIS team leaders, facilitators, or coaches ($n = 361$, 50.3%), followed by school administrators ($n = 191$, 26.6%), school faculty or staff members (not an administrator or PBIS team leader, facilitator, or an internal coach [$n = 91$, 12.7%]), external, district, or regional coaches (outside of the school [$n = 60$, 8.4%]), PBIS team members ($n = 6$, 0.8%), specialists or related service providers ($n = 5$, 0.7%), other (i.e., data coordinator, learning environment specialist [$n = 3$, 0.4%]), and a district administrator ($n = 1$, 0.1%). Table 1 includes a summary of demographic information for the participating schools. A total of 420 schools were elementary (58.5%), 110 were middle (15.3%), 70 were high (15.3%), and 118 (16.4%) were other schools (e.g., charter, K–8, P–8). Participating schools were in 23 states across the United States. Specifically, 278 (38.7%) were in the Midwest, 203 (28.3%) were in the West, 170 (23.7%) were in the South, and 67 (9.3%) were in the Northeast.

Measures

School-level data were obtained from three data sources. Specifically, data from a researcher-developed PBIS teaming survey were used to evaluate common teaming configurations, the frequency those school teams met, the most common Tier 2 and Tier 3 interventions that were implemented, and whether schools used a standard protocol Tier 2 intervention prior to adapting interventions. Data from the School-wide PBIS Tiered Fidelity Inventory (TFI; Algozzine et al., 2014), available through PBIS Assessment (www.pbisapps.org), were used to evaluate differences in implementation fidelity scores and the use of a standard protocol Tier 2 intervention. Third, data from the National Center of Education Statistics (NCES) were used to report school demographic characteristics (e.g., school type, size, locale).

Table 1. Sample School Demographics.

Variable	*M*	*SD*	% missing
Total student population	610.5	379.0	5.4
% White	46.5	29.9	5.6
% Hispanic	23.3	24.1	5.6
% Black	19.4	25.9	7.0
% American Indian/Alaska native	1.0	4.3	18.0
% Asian/Pacific Islander	4.21	8.9	8.6
% Native Hawaiian/other Pacific Islander	0.4	0.8	23.3
% two or more races	5.8	4.2	5.7
Years implementing	5.85	4.14	5.0
TFI implementation fidelity			
Tier 1	0.83	0.18	35.8
Tier 2	0.76	0.23	33.8
Tier 3	0.68	0.28	56.6
% Free and reduced-price lunch	0.60	0.27	5.7
	# of schools	% of schools	
Level			0
Elementary	420	58.5	
Middle	110	15.3	
High	70	9.7	
Other	118	16.4	
Locale			5.3
Schools in city	238	33.1	
Schools in suburb	255	35.5	
Schools in town	83	11.6	
Schools in rural areas	104	14.5	
Title I school-wide	493	68.7	23.8

Note. Data for school size, grade level, locale, and Title I statues were collected from NCES for the 2018–2019 school year. TFI = Tiered Fidelity Inventory; NCES = National Center of Education Statistics.

PBIS Teaming Survey. Information about school teaming and interventions was obtained from a brief 10-item PBIS teaming survey developed by the authors (Kittelman et al., 2021). To develop the survey, the items were first created by the authors and then reviewed by an expert panel of 26 researchers and practitioners with experience supporting implementation of Tier 2 and 3 behavior systems and practices. Panelists provided feedback on whether each item should be retained, removed, or revised and whether items were relevant to specific tiers or multiple tiers.

The first item on the survey asked participants which teams were in place in their schools (i.e., "Apart from Special Education/IEP teams, which of the following teams does your school have?"). Participants applied their own interpretation into what constitutes a team and could select from 13 different response options: (a) One team for academic and behavior support for all 3 tiers, (b) Tier 1 behavior support team (i.e., school-wide PBIS team, school climate team), (c) Tier 1 academic support team(s), (d) Tier 2 behavior support team, (e) Tier 2 academic support team, (f) integrated Tier 2 behavior and academic support team, (g) Tier 3 behavior support team, (h) Tier 3 academic support team, (i) integrated Tier 3 behavior and academic support team, (j) combined Tier 2 and 3 behavior support team, (k) combined Tier 2 and 3 academic support team, (l) integrated and combined Tier 2 and 3 behavior support and academic support team, and (m) don't know. Next, the survey asked, "For each team selected above, how often do they meet?" Participants selected from the following response options: (a) weekly, (b) every other week, (c) monthly, (d) quarterly, (e) yearly, (f) less than yearly, and (g) don't know.

Next, participants reported Tier 2 and 3 interventions that were implemented (i.e., "What Tier 2 social/emotional/behavior interventions are being implemented in the school?" and "What Tier 3 social/emotional/behavior interventions are being implemented in the school?"). Response options for Tier 2 interventions included Check-In Check-Out (e.g., CICO, Behavior Education Program), modified Check-In Check-Out (e.g., Breaks are Better, peer-mediated), social/emotional/behavior skills small groups, brief individual skills instruction, choice contracting, self-management, choice point card, group counseling, other (with an option to provide), and don't know. For Tier 3 interventions,

response options included function-based behavior support plans, Check and Connect, manualized evidence-based therapies (e.g., CBITS, CBT, Coping Cat, Coping Power), First Step to Success, Wraparound, RENEW, individualized point card, individual counseling, safety plan, other (with an option to provide), and don't know.

Finally, participants were asked whether their school used a standard protocol Tier 2 intervention prior to adapting these interventions, that is, "Except for severe behavior needs, do students requiring behavior support begin with a standard protocol Tier 2 intervention (e.g., Check-In Check-Out) before being adapted based on need (e.g., individualized support plan)?" Response options for this question included yes, no, and don't know.

School-Wide PBIS assessment. PBIS implementation fidelity was assessed using the TFI (Algozzine et al., 2014). The TFI is a widely used and comprehensive measure that assesses implementation fidelity of PBIS practices and systems across all three tiers. The TFI consists of 45 items (15 items for Tier 1, 13 items for Tier 2, and 17 items for Tier 3) and includes three subscales at Tier 1 (Teams, Implementation, and Evaluation), three subscales at Tier 2 (Teams, Interventions, and Evaluation), and four subscales at Tier 3 (Teams, Resources, Support Plans, and Evaluation). In terms of the psychometric evidence supporting the TFI, the measure has strong evidence of content validity (content validity index [CVI] = .92) and concurrent validity compared to other PBIS measures (*rs* = .51–.75; McIntosh et al., 2017). The TFI have been shown to have strong test–retest reliability (*rs* = .99) and internal consistency (overall and across individual tiers), with alphas consisting of .96 (overall), .87 (Tier 1), .96 (Tier 2), and .98 (Tier 3; McIntosh et al., 2017). Although implementation fidelity benchmarks have been established for Tier 1 practices, there are currently no established TFI fidelity benchmarks at Tiers 2 and 3.

Of the 718 schools in this study, 565 schools (79%) completed at least one tier of the TFI. Thus, 153 schools (21%) did not complete the TFI. Of the 565 schools that did complete the TFI, 224 schools (40%) completed all three tiers of the measure, and 341 schools (60%) completed less than the full measure (e.g., completed Tiers 1 and 2, but not Tier 3). Table 1 provides average implementation scores across the schools at each tier.

School Characteristics. School demographic information was obtained from the NCES database for the year of the study and was used to report on the following characteristics: enrollment, school levels (elementary, middle, high, other), locale (city, suburban, town, rural), and Title I status. Table 1 includes the percentage of schools with NCES data on the specific demographic variables. Finally, data on PBIS years of implementation (see Table 1) were obtained from PBIS Assessment (www.pbisapps.org), a freely available web application where teams can enter and review their PBIS implementation fidelity data. Positive Behavioral Interventions and Support Assessment is a database housed at the University of Oregon, within the Educational and Community Supports research unit.

Procedure

Participants were invited to complete the online survey via email invitations that were forwarded by regional and state contacts from the National Technical Assistance Center on PBIS. Participants completed the survey during the 2018–2019 school year and were part of a 3-year national longitudinal study in the first year of data collection focused on identifying factors that predict implementation and sustainability of Tier 2 and Tier 3 behavior systems in schools. Of the 718 participants who completed the survey, we merged their survey responses with their school demographic data and their PBIS implementation fidelity data using each school's NCES identification number. Implementation fidelity and NCES data were merged using SQL server management studio (SSMS), and survey data were merged using SPSS software.

Data Analysis

For RQ1 and RQ2, we calculated descriptive statistics (i.e., frequency counts) to examine the different teaming configurations school personnel reported and the three most common team meeting frequencies (weekly, every other week, monthly) for each team identified.

For RQ3, we identified the most common interventions implemented at Tiers 2 and 3 by conducting a frequency count of the closed-ended response options. For the open-ended response option ("other"), we used an open coding process to recategorize responses that fit within existing closed-ended response options and identified any additional intervention types not listed in the closed-ended response options (Patton, 2002). This process included the first author reviewing participants' open-ended responses and first removing any responses that were duplicates of the closed-ended options they selected or were not Tier 2 or Tier 3 interventions (Tier 2: $n = 40$; Tier 3: $n = 41$). For the remaining open-ended responses, the first author then identified whether the response would fit within one of the existing closed-ended response options (Tier 2: $n = 18$; Tier 3: $n = 6$) or whether new categories of Tier 2 or 3 interventions were needed (Tier 2: $n = 2$; Tier 3: $n = 2$). New categories were created when the intervention was included in at least 3% of open-ended responses (Patton, 2002). For both Tier 2 and Tier 3, two new intervention categories were created, and the first author created a codebook of the new intervention categories for the second author. The second author then randomly selected 20% of the open-ended

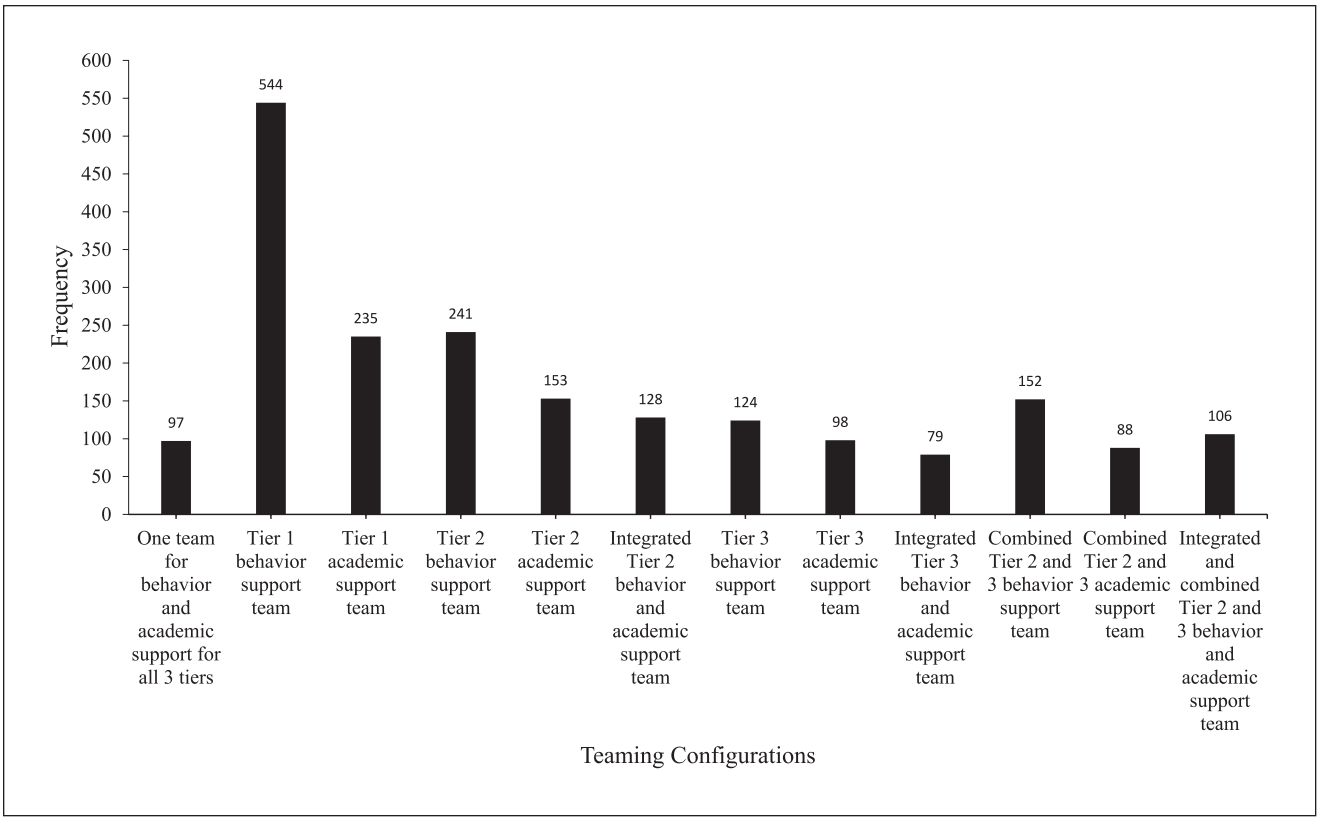

Figure 1. Teaming Configurations in the Sample.

responses and coded them into existing closed-ended categories or the new categories that were created by the first author. The first and second author then compared how they coded the responses, and an inter-rater agreement (IRA) of 90% was achieved across the first and second authors. After reviewing disagreements, the independent coders came to 100% agreement on all responses.

For RQ4, we conducted descriptive statistics to count the schools that reported using or not using a standard protocol Tier 2 intervention before adapting interventions based on need. We conducted an independent samples *t*-test on the subsample with TFI Tier 2 data to evaluate whether there was a significant difference in implementation fidelity between the conditions. Due to the unequal sample sizes and the negative skew in the fidelity scores, we did not assume equal variances between conditions.

Results

Teaming Configurations

Teaming configurations reported by participating schools are included in Figure 1. For the 702 schools (97.8%) that responded to the team item, there were an average of 2.91 ($SD = 1.86$) teams per school. The three most common teams were a Tier 1 behavior support team ($n = 544$), a Tier 2 behavior support team ($n = 241$), and a Tier 1 academic support team ($n = 235$). Only 97 of the 718 schools (13.5%) reported having a single team for academic and behavior supports for all three tiers.

Frequency of Team Meetings

Figure 2 includes a summary of the three most common meeting frequencies for each type of team and Table 2 includes the three most common teaming configurations disaggregated across school levels. For Tier 1 teams, the most common meeting frequency was monthly. Most Tier 1 teams in middle, high, and other school types met monthly. In contrast, Tier 1 academic teams in elementary schools were more likely to meet weekly. For Tier 2 teams, the most common meeting frequency was monthly, but most middle school Tier 2 teams met every other week. For Tier 3 teams, the most common meeting frequency was monthly. The second most reported meeting frequency was weekly. Disaggregated by school level, meeting monthly was most common for elementary, high, and other schools, but meeting weekly or twice per week was most common for middle schools.

For Tier 2 and 3 combined or integrated/combined teams, the most common meeting frequency was weekly for

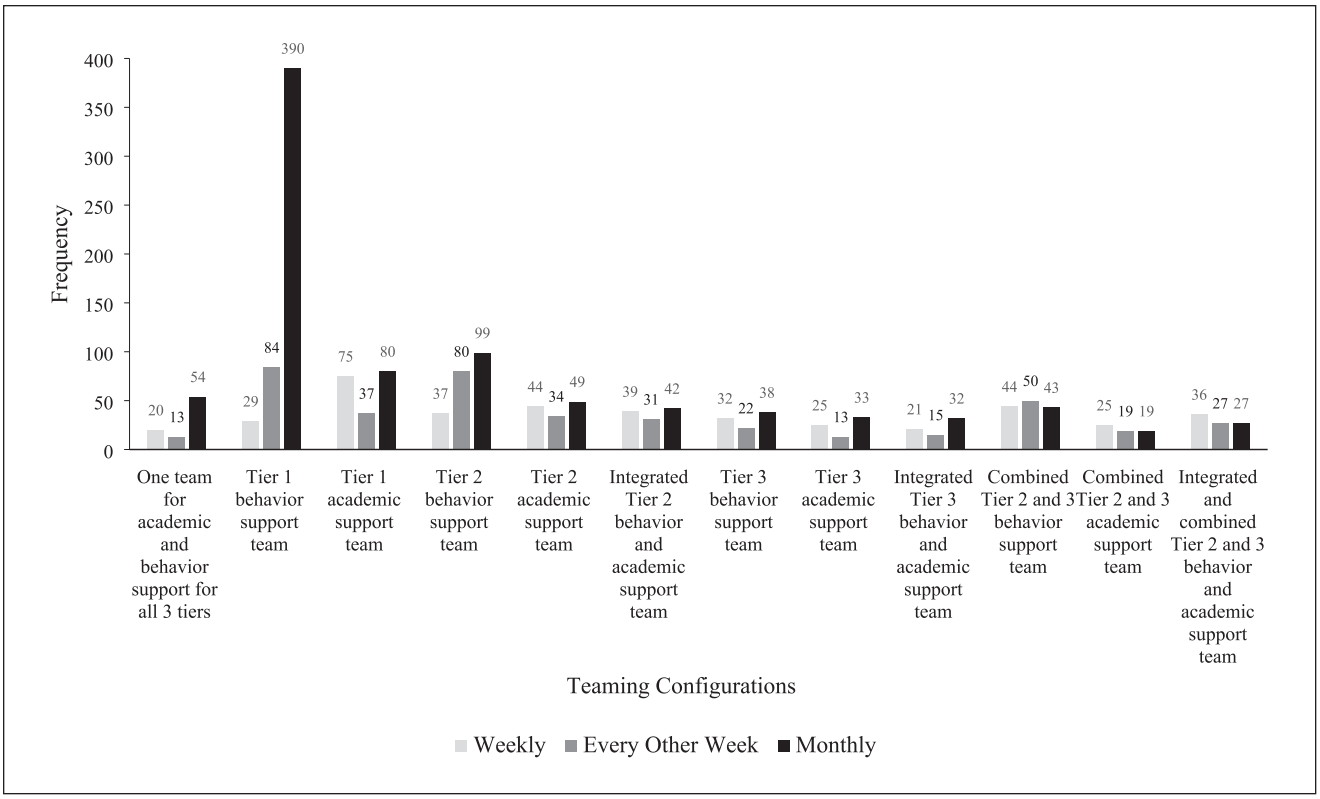

Figure 2. Meeting Frequencies Across Different Teaming Configurations.

combined Tier 2 and 3 academic teams, and weekly for integrated/combined Tier 2 and 3 behavior and academic teams. Both combined Tier 2 and 3 academic teams and integrated/combined Tier 2 and 3 behavior and academic teams reported meeting monthly and every other week equally as often. In addition, meeting weekly was most common for Tier 2 and 3 integrated or integrated/combined teams at elementary schools, meeting weekly or every other week were equally common for middle schools, meeting every other week was most common for high schools, and meeting monthly was most common for other school types.

Most Common Tier 2 and Tier 3 Interventions

The average number of Tier 2 interventions reported by the participating schools in this study was 3.93 ($SD = 1.87$). As shown in Figure 3, the most frequently reported Tier 2 interventions were Check-In Check-Out ($n = 582$), Social-Emotional-Behavioral Small Groups ($n = 520$), Modified Check-In Check-Out (e.g., Breaks are Better; $n = 311$), and Group Counseling ($n = 307$). In addition, two more intervention categories were identified from the open-ended coding process: Mentoring ($n = 12$) and Restorative Practices ($n = 7$).

The average number of Tier 3 interventions reported was 2.95 ($SD = 1.50$). As shown in Figure 4, the most frequently reported Tier 3 interventions were Behavior Support Plans ($n = 457$), Individualized Counseling ($n = 379$), Safety Plans ($n = 313$), and Individualized Point Cards ($n = 236$). Other less commonly reported categories are presented in Figure 4. In addition, two more intervention categories were identified from the open-ended coding process: Outside Agency Supports ($n = 7$) and Self-Contained Classrooms ($n = 5$).

Using a Standard Protocol Tier 2 Intervention Prior to Adaptation

Overall, 553 schools (77%) reported that students requiring behavior support received a standard protocol Tier 2 intervention (e.g., Check-In Check-Out) before adapting interventions based on need. A total of 95 schools (13.2%) reported that students did not receive a standard protocol Tier 2 intervention prior to adaptation, 37 schools (5.2%) reported not knowing, and 33 schools (4.6%) did not respond. Results from the independent samples t-test indicated that schools using a standard protocol Tier 2 intervention had significantly higher Tier 2 implementation fidelity ($n = 405$, $M = 0.78$, $SD = 0.21$) than schools that did not ($n = 41$, $M = 0.61$, $SD = 0.28$), $t(45) = 3.81$, $p < .001$.

Table 2. Teaming Configurations and Meeting Frequencies by School Type.

	School level											
	Elementary			Middle			High			Other		
Team type	Weekly	Biweekly	Monthly	Weekly	Biweekly	Monthly	Weekly	Biweekly	Monthly	Weekly	Biweekly	Monthly
One team for behavior and academic support for all three tiers	11	4	28	2	4	13	3	4	7	4	1	6
Tier 1 behavior	15	43	251	7	15	47	5	12	29	2	14	63
Tier 1 academic	57	28	50	8	2	9	5	4	12	5	3	9
Tier 2 behavior	25	52	71	4	12	9	2	5	7	6	11	12
Tier 2 academic	34	23	39	5	4	3	2	5	4	3	2	3
Integrated Tier 2 behavior and academic	21	18	25	7	8	5	6	1	6	5	4	6
Tier 3 behavior	22	12	24	4	4	3	2	3	6	4	3	5
Tier 3 academic	19	7	28	3	3	1	1	2	3	2	1	1
Integrated Tier 3 behavior and academic	15	8	22	3	2	4	1	0	1	2	5	5
Combined Tier 2 and 3 behavior	29	29	27	8	8	3	2	6	4	5	7	9
Combined Tier 2 and 3 academic	18	14	10	2	0	1	1	4	2	4	1	6
Integrated and combined Tier 2 and 3 behavior and academic	26	17	19	4	4	2	4	1	2	2	5	4

Note. Weekly, biweekly, and monthly refer to the three most common meeting frequencies.

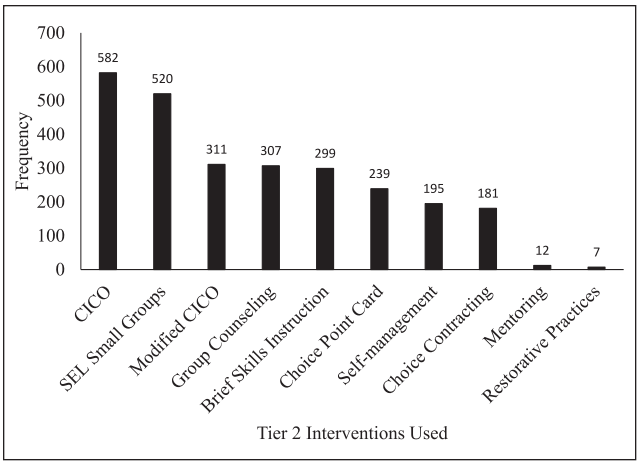

Figure 3. Tier 2 Interventions Commonly Reported.
Note. CICO = Check-In Check-Out; SEL = Social Emotional Learning.

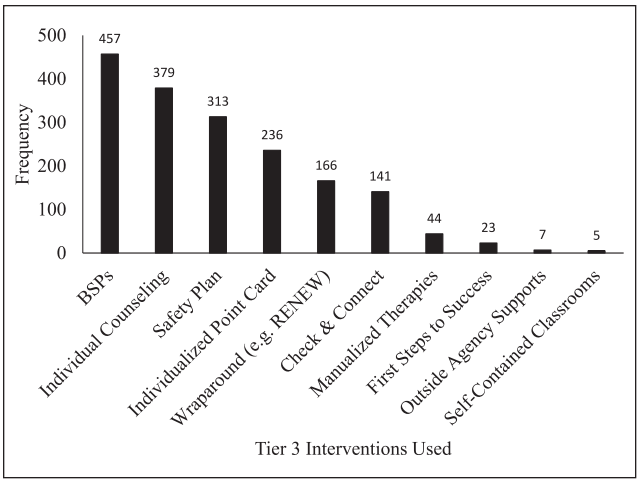

Figure 4. Tier 3 Interventions Commonly Reported.
Note. BSP = Behavior Support Plan.

Discussion

Given the widespread adoption of MTSS, and the importance of teaming in achieving Tier 1 implementation fidelity and sustainability (McIntosh et al., 2018), it is of great importance to explore specific teaming structures and practices to optimize support planning. The current study provides initial descriptive information about team configurations, frequency of team meetings, and common interventions at Tiers 2 and 3. Although we provide initial descriptive data on teaming at the advanced tiers, we recommend that these findings be interpreted with caution. For example, because many schools did not report Tiers 2 and 3 implementation fidelity, and there are no established benchmarks for meeting Tiers 2 and 3 implementation fidelity using the TFI, we cannot identify the optimal number of teaming configurations, frequency of team meetings, or number of Tiers 2 and 3 interventions. In addition, without having student outcome data from these schools (e.g., reading and math scores, attendance), we cannot conclude that having more or fewer teaming configurations, meetings, or interventions across tiers improved student outcomes.

Our analyses found schools commonly had single teams at each tier of their PBIS framework. It was of note that very few schools (13.5%) reported having integrated behavior and academic teams at all three tiers. This finding may reflect that the teams in the sample were relatively early in the process of installation and had not yet begun the complex task of integration, or had encountered barriers that prevented integration, such as not having enough time to address both domains in the same meeting. As indicated by our second set of analyses, teams most often met monthly, which might further explain the challenges of reviewing and assessing academic and behavior needs in the given team meeting time frame. Although researchers have noted advantages to integrated behavior and academic teaming due to the frequent connection between student behavior and academic concerns (McIntosh & Goodman, 2016), future research is needed to evaluate whether integrated teaming leads to improved student outcomes beyond those achieved through separate academic and behavior teaming models. Such improvements may include a team's ability to monitor student progress across multiple academic and behavior domains, and improved coordination and communication of academic and behavior supports across contexts and personnel (McIntosh & Goodman, 2016). Future research is also needed, though, to investigate the barriers to data analysis and action planning in integrated team meetings.

Not surprisingly, schools reported the most frequent use of the most widely studied interventions at Tiers 2 and 3, Check-In Check-Out and Behavior Support Plans, respectively. Counseling supports were also found to be widely used at both tiers, with adaptations made based on the needed skill development and the modality of service delivery occurring for groups versus individual students. One finding of note was that some participants wrote in the names of interventions that were not in fact interventions. For example, "Self-Contained Classroom" was provided as an open-text answer by five participants in response to the question about Tier 3 interventions used. The physical space of a self-contained classroom is not what would typically be defined as an intervention; the supports provided to students within that classroom are interventions. Therefore, findings indicated that there may be confusion about what constitutes an intervention, and clarity in definitions of student supports is needed.

Most schools also reported that students requiring behavior supports receive a standard protocol Tier 2 intervention before interventions were adapted based on need. Results also indicated significantly higher Tier 2 implementation fidelity scores for schools that used a standard protocol versus those that did not. The use of a standard

protocol may aid in the efficiency or feasibility of targeted and individualized intervention delivery, whereby students are provided with less resource-intensive supports before services are intensified and individualized (Zumeta Edmonds et al., 2019). These findings indicate that this approach aids in implementation fidelity, but its effects on student outcomes are unknown.

Limitations and Future Research

Although this study provided novel information regarding the types of teams and interventions being implemented across tiers using a large sample of schools, several limitations restricted our ability to draw additional implications for researchers and practitioners. A number of these limitations could be addressed through future research. First, it should be noted that although 64.2% of schools reported Tier 1 implementation fidelity data, many did not report implementation fidelity data for Tier 2 (33.8%) or Tier 3 (56.6%). Thus, future research could identify mechanisms for assessing teaming configurations and practices in schools not implementing PBIS or schools that do not utilize the PBIS Assessment database for entering and monitoring implementation data. Also, because there are currently no established TFI fidelity benchmarks at Tiers 2 and 3, we could not examine differences in teaming configurations and practices for schools meeting or below Tiers 2 and 3 implementation fidelity. Future research could evaluate these differences with another sample of schools once Tiers 2 and 3 TFI implementation fidelity benchmarks are established.

Second, there were fewer schools with Tier 2 and Tier 3 teams than with Tier 1 teams (see Table 1). These smaller cell sizes at the advanced tiers made it difficult to compare teams and assess which teams were most common at Tiers 2 and 3. One possible reason for fewer teams at the advanced tiers may be that many schools were early in their PBIS implementation efforts and thus more focused on implementing Tier 1 systems and practices. Future research could address this gap by surveying a larger group of schools implementing all three tiers and at different stages of adoption, implementation, and sustainability.

Third, because we did not collect data on students supported by these teams, we were not able to assess how effective teams were in improving student outcomes. We also did not assess how many students were being supported by teams and what data were used to monitor and improve student outcomes. Answering these questions through future research could help researchers and practitioners identify the most feasible teaming configurations and what data (e.g., office discipline referrals, attendance, grades) are most commonly reviewed and needed during team meetings. Relatedly, we did not collect data on the types of measures teams were using to identify students for Tiers 2 and 3 interventions, the length of team meetings, or what types of training specific teams received. However, answering these questions through future research could have important implications for how PBIS teaming systems are best developed, implemented, and sustained in schools.

Fourth, as all schools in the study were recruited through the National Technical Assistance Center on PBIS and state PBIS leadership team contacts, the findings of this study may not generalize to schools not implementing a PBIS framework. For example, schools not implementing PBIS at Tiers 1, 2, or 3 could have different teaming configurations or be implementing different practices. Future survey research, with a sample of schools implementing and not implementing PBIS, could expand our understanding of the generalizability of these results. Finally, to answer RQ4 we used an unbalanced sample, as most schools reported using a standard protocol Tier 2 intervention prior to adapting interventions based on need. Therefore, although there were significantly higher Tier 2 implementation fidelity scores for those using a standard protocol, these findings should be interpreted as tentative, and additional research with a more balanced sample or experimental design is needed. In addition, Tier 2 implementation fidelity scores were negatively skewed, which also could have affected the internal validity of the findings.

Implications for Practice

Although it is important to be careful in inferring too much from an exploratory study, teams could use the findings for tentative guidance while other studies are underway. First, the diversity in team configurations could reflect the general importance of a team-based approach as opposed to strict adherence to requirements on how many or what types of teams should be in place. Hence, each school or district's teaming structures might be able to vary based on local resources and need, instead of adhering to one "gold standard" configuration (McIntosh & Goodman, 2016). Similarly, there was variance in how often teams met. Team leaders and coaches could reflect on meetings or review meeting minutes to determine whether the typical meeting frequency or meeting length is sufficient to cover the agenda items. Combined or integrated teams may need to meet more often than monthly or for more time than single teams, given that they are tasked with reviewing more student outcomes. Especially at Tiers 2 and 3, teams could be more effective if they meet more frequently than monthly, to catch and correct errors in implementation before they become chronic. Finally, the use of a standard protocol approach to behavior support at Tier 2 was associated with higher implementation fidelity. Such an approach can make meetings more efficient, especially if meeting frequencies are limited. Future research could provide stronger guidance for teams and coaches.

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