A Reply to the Commentaries on “School-wide PBIS: An Example of Applied Behavior Analysis Implemented at a Scale of Social Importance” by Horner and Sugai (2015): PBIS is Function over Form: The Clear Behavioral Roots and Opportunities the PBIS Framework presents to the Field of Behavior Analysis Moving Forward

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Abstract In the previous issue of Behavior Analysis in Practice (May 2015), a special section of the journal was devoted to positive behavior intervention and support (PBIS). Horner and Sugai (2015) published a manuscript providing an overview of school-wide PBIS describing how PBIS is an example of applied behavior analysis at a scale of social importance. A number of manuscripts providing commentary on the Horner and Sugai manuscript were also published in this special section of the journal. This paper will review this PBIS manuscript along with the associated commentaries published in the May 2015 special section.

Keywords PBIS · Behavior analysis · Applied behavior analysis

Function over Form and Clarifying Misunderstanding: The Clear Behavioral Roots and Opportunities PBIS presents to the Field of Behavior Analysis Moving Forward

A special section on PBIS was published in the May 2015 edition of the Behavior Analysis in Practice. Horner’s and

Sugai’s (2015) manuscript provided an overview of the school-wide positive behavior intervention and support (PBIS) framework, suggesting the clear influence of applied behavior analysis in its development, foundations, practices, and emphasis on observable behaviors in concert with data collection and analyses to inform decision-making. A number of additional manuscripts in the special section provided commentary on Horner’s and Sugai’s manuscript. The authors will review and provide commentary on the manuscripts in the special section and provide guidance on the inherent opportunities within PBIS for behavior analysts to play a constructive role in improving service delivery systems in schools, human service organizations, mental health, and other related organizations.

Horner and Sugai (2015), highlight, in the context of defining PBIS, the contributions of behavior analysis in shaping both the content and implementation of framework. They report that over 21,000 schools have begun implementation or implemented PBIS over the past 20 years. They highlight that behavior analysis has played an important role in the evolution of PBIS with its emphasis on (a) operational definitions of behavior and interventions elements; (b) an empirical logic model used to select, progress, monitor, and modify interventions for changing staff and student behavior; and (c) most importantly, “an unrelenting commitment to the measurement of both implementation fidelity and the impact of PBIS on student outcomes.”.

Horner and Sugai suggest that two major themes that define PBIS are (a) using the whole school as a unit of analysis and intervention and (b) the framework’s development and implementation tied to at least three tiers of support intensity. They further suggest that there are four important lessons to be

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learned through experiences implementing the PBIS framework for behavior analysts. First, a strong emphasis should be placed on the implementation of core components and evidenced-based strategies. In this regard, they emphasize the importance of identifying multiple core strategies and practices that allow implementers (e.g., practitioners in schools) to select the strategies or practice that best fits their social and cultural context.

Second, they highlight the importance of establishing and implementing “systems” that support and sustain high fidelity of effective practices. To this end, they suggest that these systems include team structures, decision-making protocols, funding, and organizational practices as these system drivers support the implementation of effective practices to be adopted and implemented with efficiency and effectiveness.

Third, they emphasize that priority be placed on developing data collection systems that position all staff to efficiently collect meaningful data. Further, they recommend that these systems are thoughtfully designed so staff can efficiently use data for decision-making.

Lastly, they suggest focusing on the process of implementation which is of critical importance, in tandem with selection and installation of evidence-based practices within the multi-tiered framework. They specifically note that the process of implementation includes “selection of core practices, the teams needed to achieve functional effects, stages of adoption, and the development of the drivers and data systems that allow effective practices to flourish.”

Commentaries to Horner’s and Sugai’s Manuscript

There were five commentaries published in this special section to Horner’s and Sugai’s manuscript “School-wide PBIS: An Example of Applied Behavior Analysis Implemented at a Scale of Social Importance.” In this section, the authors will discuss and comment on each manuscript.

In Jarmolowicz’s and Tetreault’s (2015) discussion and review of Horner’s and Sugai’s manuscript, they suggest areas of potential “controversy” between applied behavior analysis (ABA) and PBIS. We believe it is worthwhile to address some of the areas that they note as potentially controversial. The first area of concern highlighted in their commentary focuses on methodology associated with PBIS. The controversy, as described in their commentary, arises due to the fact that rather than using data exclusively generated through direct observation as might the case with more classical ABA, the initial metric employed within universal prevention (tier 1) in the PBIS’s framework is that of office discipline referrals (ODRs). To some extent, this approach is an artifact of the emphasis on prevention in tier 1 of the PBIS framework. A challenge in schools, with implementing large-scale observational systems, is that they are very active places of learning with many

students requiring staff teaching in large group settings (e.g., classrooms) which can make it impracticable for direct observation by those same staff for each student. This reality is further compounded by the fact that schools have limited resources, and as such, very few schools (if any) would have ample resources to employ additional staff for the purposes of data collection at such a large scale. Therefore, the PBIS framework is designed to be implemented with emphasis on prevention (tier 1) within the context of existent resources within the given school. In the PBIS framework, ODRs are used due to their availability in schools coupled with their simplicity in collecting information about problem behavior across an entire school. Most schools complete some sort of documentation when a student is sent to another location (e.g., Principal’s Office) as a result of problem behavior. It is true that reliance on such data may be impure when compared to more robust direct observational data. The use of a metric such as ODRs offers a reasonable method to gather and use data in a sustainable manner (Irvin, Tobin, Sprague, Sugai, and Vincent, 2004).

One of the goals of the universal (tier 1) team is to construct an ODR form that will allow the staff to quickly complete the form in check-off fashion using agreed upon operational definitions in order to collect data across the school. Horner and Sugai suggest that this data be entered into an electronic data base that can be used as a way to aggregate the data on a school-wide basis as well as to disaggregate these same data down to the individual student level. The National Technical Assistance Center for PBIS provides access to schools to the school-wide information system (SWIS) at low cost which allows staff to enter ODR information and subsequently generate graphic displays of these data to facilitate data-based decision-making. For schools not using SWIS, these schools may utilize other forms of software programs including simply entering the ODR data onto an Excel spreadsheet format.

Horner and Sugai suggest that an agreed upon standardized ODR form be completed for each out of behavioral referral (e.g., classroom referrals) and that the following information fields be listed on the form (a) name, (b) location, (c) behavior that is operationally defined, (d) time, and (e) by perceived function. They suggest that these five types of information be gathered and aggregated electronically. This positions school teams (e.g., tier 1 team) to review these data for the purposes of problem solving: (a) what problem behaviors occur most often, (b) which students are generating the greatest number of ODRs, (c) in what problem behaviors do students engage, (d) what locations reflect the most problem behaviors, (e) how many ODRs are there for each month, and (e) what are the perceived functions of these problem behaviors (e.g., staff attention, peer attention, escape from challenging task). These data can be used by school teams to initially develop and longitudinally enhance their universal prevention strategies (interventions) as part of the overall school-wide positive

behavior and intervention support (SWPBIS) plan (Irvin et al., 2006). The SWPBIS plan should include (a) school-wide expectations based on the analyses of the aggregated ODR data, (b) lesson plans to teach the desired expectations (behaviors) that are incompatible with the problem behaviors of concern (e.g., keep your hands and feet to yourself to prevent aggressive behavior), and (c) a reinforcement system for acknowledging students when they engage in desired behaviors.

Direct observation can, of course, be incorporated within the implementation of the SWPBIS plan. For example, in the instance where the ODR data suggest that a particular location at particular time of day tends to set the stage for high rates of the problem behavior, direct observation could be conducted at that time in that setting to ascertain if the students under those particular conditions are (1) clear on behavioral expectations, (2) receiving sufficient reinforcement for engaging in the desired behaviors, and (3) environmental triggers that may be increasing misbehavior.

The ODR data on perceived functions is particularly helpful to staff to determine behavioral expectations and subsequent design and delivery of proactive lesson plans to teach the expectations at the universal (tier 1) level. For example, if a significant portion of the problem behavior in the school is perceived by the staff to be motivated by gaining staff attention, proactively teaching the students to appropriately solicit adult attention across contexts such as raising one's hand in the classroom or appropriately approaching a staff member in the cafeteria would be targeted for intervention. This would include both the active teaching of this behavior as well as reinforcement for students who are observed engaging in such desired/targeted behavior. In this preventive sense, ODR data can serve as the basis of a functional assessment using the school as the unit of analysis.

As part of ongoing decision-making these data would be reviewed by the universal prevention (tier 1) team on a monthly basis to determine the effectiveness of the interventions. For example, if student behavior in the cafeteria generates a large proportion of the school's ODRs, the tier 1 team would support staff to increase (ramp up) preventive approaches in the cafeteria in tandem with reviewing redirection and de-escalation procedures. Horner and Sugai recommend that the school use an electronic system (e.g., SWIS) to facilitate disaggregation of the ODRs in various ways including by perceived function for those students who are not sufficiently responsive to the preventive universal (tier 1) approaches. In this sense, the ODR information serves as screening methodology. Students who are not sufficiently responding to universal prevention (tier 1) would be considered as candidates to receive tier 2 interventions and supports. In some instances, as a part of targeted (tier 2) intervention and support, a brief functional behavior assessment may be employed associated with the provision of small group instruction with emphasis on additional teaching of relevant skills including both

functional equivalent behavior (e.g., an escaped motivated social skills group) and coping/problem-solving skills in concert with increased reinforcement for engaging in desired behavior. Those students who do not sufficiently respond to both tiers 1 and 2 approaches or engage in dangerous behavior would become candidates for individual-intensive (tier 3) interventions and supports in the form of a multi-component behavior support plan based on the results of a more comprehensive functional behavior assessment.

Jarmolowicz and Tetreault (2015) clearly acknowledge the emphasis on prevention as they suggest that PBIS is prevention science and that prevention science has been sorely lacking in the field of applied behavior analysis. Consistent with this observation, and consistent with previous remarks in this manuscript, it is suggested that schools implement universal prevention (tier 1) first to reduce the frequency of problem behaviors that result in ODRs. Hanover Research (Hanover Research, 2013) has found that the implementation of the SWPBIS universal prevention (tier 1) with treatment fidelity has resulted in a decrease of between 10 and 60 % of ODRs in schools. The successful implementation of tier 1 preventive approaches as measured by a standardized treatment integrity tool such as the tiered fidelity inventory (Algozzine et al., 2014) reduces the number of students who need more intensive interventions, such as those seen at tiers 2 and 3. This is also true for successful implementation of tier 2 interventions and supports, which in turn reduce the number of students who require individual-intensive (tier 3) interventions. In short, the more effective tiers 1 and 2 interventions, the less need for tier 3 interventions which would require a more comprehensive FBA and subsequent individualized BSP.

It is also important to note that Horner and Sugai suggest that schools implementing PBIS also use multiple sources of data including suspensions, attendance, academic performance, and the like rather than exclusively relying on any one data source in isolation (such as ODRs). Also, at the universal level, they recommend the use of standardized screening, completed by the staff, of all students to identify those students with behavioral and emotional concerns that may be less likely to surface to staff attention through analysis of ODRs (e.g., students with internalizing conditions) (Walker et al. 2005).

Acknowledging these areas of potential "controversy," Jarmolowicz and Tetreault explicitly indicate that they have a difficult time understanding why "PBIS being a manifestation of behavior analysis in practice is even controversial." Further, they emphasize that the methodological concerns about the lack of direct observation of behavior at the tier 1 level that may be voiced by orthodox behavior analysts may adversely limit the scope of impact of behavioral science to address societal needs which appears contrary to Skinner's vision.

Wilson (2015) suggests that the PBIS may have limitations regarding sensitivity to sociocultural values and behavioral data collection practices. In particular, she raises several

concerns including (a) a top-down approach where administrators select all the cultural practices and behavioral expectations, (b) that students do not receive services until they engage in problem behaviors, (c) that data collected is only around problem behaviors and discipline patterns, and (d) that mental health services are not addressed in this multi-tiered framework.

While Horner and Sugai (2015) provided an efficient synopsis of PBIS, understandably, they were not able to fully articulate in the limited space all aspects of the systems, data, and practices reflected in building a comprehensive, multi-tiered system. It is understandable that Wilson might make the assumption that PBIS could employ a top-down approach with little regard to culture of the student body and the community. To address this concern, it is important to clarify that one of the reasons that PBIS has been so readily adopted and implemented in over 20,000 schools is that PBIS implementation with fidelity involves all relevant stakeholders in the school (e.g., staff, students, community members/parents). For example, before a school begins to develop its SWPBIS plan, a school leadership team is formed. The team is composed of significant representative stakeholders from the school community including general and special education teachers, instructional assistants, pupil personnel staff, administrative staff, parents, and other relevant staff. Increasingly in some schools, particularly at the secondary level, students are recruited and situated on the universal prevention (tier 1) team. The purpose of a representative team is to solicit all perspectives reflective of the culture and context of the school and local community. The team is led by a staff member from within the school who serves as the team facilitator. Typically, a building administrator is a significant member of the team for many reasons including ensuring that the team has the resources it needs to develop and implement the SWPBIS plan. Given that PBIS is a systems change initiative, the team must have readiness for change as indicated by completing a readiness checklist which involves having (a) administrative and staff commitment to a proactive evidence-based multi-tiered model which involves a 3- to 5-year rollout, (b) 80 % buy in from staff, (c) commitment of the school staff to collect data and to enter, on a timely basis, into an electronic system such as SWIS (SWIS suite, [n.d.](#)), and (d) commitment to use it for data-based decision-making on at least a monthly basis with the leadership team (McKevitt & Braaksma 2008). Once these readiness thresholds have been achieved, the tier 1 team, rather than any given person in isolation including the building administrator, develops the SWPBIS plan including (a) the school-wide expectations, (b) a teaching matrix, that is, what the school-wide expectations look like in each location, (c) lesson plans to teach the expectations, and (d) reinforcement systems. Achieving PBIS treatment fidelity and sustainability requires active buy in and participation from all relevant constituencies (including the staff).

Additionally, it is important that both context and cultural factors be taken into account when implementing the PBIS framework. Horner and Sugai suggest that “PBIS is a framework for delivering both the whole-school social culture and additional tiers of behavior support intensity...” They used the term “framework” rather than “model” to convey that the framework provides a structure within which to use data to inform the selection and implementation with fidelity of an array (or perhaps continuum) of evidence-based practices to meet the needs of the students, staff, and their families. The PBIS framework has been implemented with fidelity in (a) preschools to high schools, (b) small schools where there are less than 50 students to large school buildings with more than 4000 students, (c) rural schools to urban schools, (d) financially advantaged schools as well as economically distressed schools, and (e) schools where the primary language is English to schools where there are over 40 different languages spoken in the school. Given the degree of differences among schools, it is essential that any/all interventions selected for implementation within the PBIS framework fit the context and culture of the school and community and that the universal team have adequate representation from the constituencies it serves.

Wilson (2015) also suggests “that students are left out of services until they engage in maladaptive behaviors.” This concern is, sadly, a reality for many students in traditional schools not implementing multi-tiered systems such as PBIS in that students who may be at risk or have behavioral or mental health concerns only receive services when their conditions deteriorate to the point that they are determined eligible for special education services. However, the PBIS framework, while sensitive to special education issues, does not by design rely on eligibility for special education services. As stated previously, one primary goal of the PBIS framework is prevention of behavioral problems and proactive approaches to promote social and emotional growth by providing proactive, positive, and preventative (trauma-informed) learning environments for all students. The use of ODR data as previously described, in concert with other forms of relevant information concerning student responses to universal (tier 1) prevention along with use of additional screening instruments is designed to result in student access to needed intervention and supports in a timely manner (Walker et al. 2005). Contrarily, in schools devoid of multi-tiered systems of support, there are typically siloed or disjointed approaches to identify students who might be at risk and/or in need of immediate supportive intervention. It is hoped that this clarification addresses Wilson’s suggestion that students only receive services based on maladaptive behavior.

Wilson (2015) also suggests that data collected is exclusively focused on problem behaviors and discipline patterns.

As previously noted in this response, ODRs represent one form of information and, in many ways, represent the initial start of a data system for schools implementing PBIS. It is common to see expansion of data collection strategies, as determined by the universal prevention (tier 1) team, expanded to include measures of critical features such as wellness and school climate. Further, as complexity and intensity of student supports increase, there is increased progress monitoring that comes into play related to desired behavior by students (e.g., at tier 2) as well as the acquisition, maintenance, and generalization of social skills as a result of individual-intensive (tier 3) intervention.

Finally, Wilson (2015) suggests that mental health services are not addressed in PBIS. There is considerable literature, to the contrary, that suggests one goal of PBIS is to integrate/situate mental health services into the multi-tiered framework. A recent monograph, entitled “Advancing Education Effectiveness: Interconnecting School Mental Health and School-wide Positive Behavior Support” by Barrett et al. (2014) provides both examples and methodology to integrate both school and community mental health services into the PBIS framework. This resource is available at no cost for download at the pbis.org website.

Loukas (2015) suggests that behavioral analysts need to more effectively collaborate with other disciplines. In a compatible manner, she suggests that to have more societal impact, behavior analysts must also more effectively communicate with other disciplines as well as the general public. She reviews the factors that Horner and Sugai have suggested to improve widespread adoption of the PBIS framework and suggests that behavior analysts might be well served to take note of the importance of fostering the methods and principles of behavior analysis within existent vernacular and approaches to begin to solve societal problems.

Loukas acknowledges a perspective presented by some in the field that PBIS is a packaged model or “package intervention.” As previously noted, Horner and Sugai have strongly suggested that PBIS is an organizing framework and not a “model” ...at least not in a traditional sense. Smith (2013) reported that multiple component ABA interventions maybe stronger than the sum of their parts. The framework emphasizes ongoing data-based decision-making across a multi-tiered framework. As such, data-based decision-making entails (a) the selection and adoption of evidence-based interventions, (b) ongoing team-based progress monitoring of the effectiveness of these interventions, and (c) ongoing measuring of treatment fidelity both of the systems and interventions. The school and/or district-based teams select the actual evidence-based interventions to meet their needs to embed within their PBIS framework. It would be expected that these evidence-based interventions would address local environmental factors (triggers), the function of the behavior, as well

as the instruction of skills by which students can effectively and efficiently address their needs. As students manifest more complex, frequent, and riskier behaviors or are nonresponsive to less intensive interventions, intensity, and complexity of approaches employed increase along with associated increases in progress monitoring. To this end, Loukas supports the notion that ABA should be flexible, generic, multi-component, and effective in solving societal problems and references that Skinner would likely approve in a similar manner as Jarmolowicz and Tetreault (2015). In this regard, we agree along with the caution noted by Horner and Sugai that more research is needed to improve the effectiveness and efficiency of the framework and adoption of evidence-based interventions by schools.

Critchfield (2015), notes that PBIS may be the only existing framework of the kind of society-wide behavioral engineering that Skinner liked to envision. He makes an interesting point in suggesting that PBIS was, perhaps, designed for scale up from the start with its framework designed for contextual and cultural fit into how schools operate (that is, attending to process and contextual fit as noted by Horner and Sugai as opposed to developing an approach and then trying to sell it to people that may likely be unwilling to abort their current structures). Critchfield (2015) suggests the field of applied behavior analysis’ “history is full of perfectly good behavioral interventions that have not achieved wide acceptance (e.g., direct instruction, precision teaching, and personalized systems of instruction) in part because they conflicted with entrenched cultural practices.”

We agree that PBIS is not classical ABA in that the framework does not start with functional analysis or functional assessment at the individual level. Rather, the framework focuses on the school as the unit of analysis and reserves analysis at the individual level to advanced tiers (most specifically tier 3). In addition, educational staff are taught through emphasis on prevention to think functionally rather than topographically. For many educational staff, this may be the first time they have been exposed to function rather than topography in the analysis of behavior. Additionally, the focus on prevention, proactive teaching, and reinforcement provides a contrast to what is often seen in schools in response to behavior—reactive, punitive, and exclusionary discipline practices.

Critchfield also acknowledges that classical ABA has a long history of creating powerful interventions, but limited success at societal dissemination. We would encourage behavioral analysts to further examine the literature of implementation science that focuses on how to introduce, support adoption, and scale up with fidelity of evidence-based interventions (Blasé and Fixsen 2013). This area of research has been led by a cadre of professionals (Fixsen, Naoom, Blase, Friedman, and Wallace, 2005). One noteworthy of recognition here is Dean Fixsen, one of the developers of the Achievement Place, which was one of the first large-scale successful

implementations of behavior analysis at the program and organizational level. Fixsen, Wolf, and associates ((Phillips, Phillips, Fixsen, and Wolf, 1971; Fixsen, Wolf, and Phillips, 1972; Phillips, Wolf, and Fixsen, 1973)) had multiple publications in the early issues of the Journal of Applied Behavior Analysis (JABA) detailing their success on a large-scale basis both within their organization's programs, as well as, in other organizations. Increased focus on implementation science began to emerge on a variety of fronts as Fixsen and colleagues initially experienced difficulties in scaling up this evidence-based intervention with fidelity in a sustainable manner. Horner and Sugai have built on this body of work and incorporated lessons into the PBIS framework to enhance initial adoption and ongoing implementation with fidelity in a sustainable manner.

Putnam and Kincaid (2015) in their commentary provide clear guidance to behavior analysts as to the opportunities provided through in the implementation of PBIS in the field as well as encourage behavior analysts to embrace the important leadership opportunities that exists and will likely continue to emerge with further scale-up and refinement of the PBIS framework. They note that too often in schools, behavior analysts are seen as only working with students with disabilities. In this sense, they indicate that too often, problem behavior is conceptualized as a given student's problem rather a problem with the system or within the school environment. Further, they imply that too many students are unsuccessful in school environments due to lack of, or ineffectively implemented, evidence-based practices. In their opinion, the PBIS framework provides an opportunity for behavioral analysts to increasingly impact educational systems.

Putnam and Kincaid (2015) suggest that "in many organizations the sole person committed to data based decision-making focusing on treatment integrity and meaningful social emotional outcomes and the use of evidenced based practices is the Behavior Analyst." Expanding the number of staff in schools that think about environmental factors and function should benefit all that have a vested interest in schools. Additionally, they note that the PBIS framework is being adapted and used across many other human service programs and organizations including juvenile justice, programs that support adults with intellectual disabilities, and in home and community contexts. They suggest behavior analysts have opportunities to further contribute to the empirical research around the implementation of the PBIS framework thus furthering impact on society.

We agree with the many observations noted across commentaries that Skinner would likely be pleased with the seminal role that behavior analysis has played in the emergence of the PBIS framework and the subsequent growing impact across educational settings. As a field, behavior analysis has an exciting opportunity to further expand this impact. PBIS presents, perhaps, an unprecedented opportunity for behavior

analysts working in schools and other community-based settings to realize Skinner's vision and to set the stage for even greater outcomes in the future.

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