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Positive Behavior Supports for Children and Youth with Autism Spectrum Disorders

Jennifer Neitzel

ABSTRACT: Positive behavior support has gained attention in recent years as an effective practice for reducing challenging behaviors in children and youth with a variety of disabilities including autism spectrum disorders (ASD). The goal of positive behavioral interventions for students with ASD is to prevent and reduce the occurrence of interfering behaviors, such as repetitive or disruptive behaviors, through the use of evidence-based practices. To implement specific behavioral methods and strategies, a tiered approach gradually increases the nature and intensity of support for students with ASD as interfering behaviors become more problematic. In this approach, functional behavioral assessment identifies possible causes of interfering behaviors as well as the strategies that are implemented within the context of a comprehensive behavioral intervention plan. This article aims to (a) discuss interfering behaviors in children and youth with ASD, (b) present a model for preventing and reducing these behaviors, and (c) provide a variety of evidence-based practices that can be used to address interfering behaviors in children and youth with ASD.

KEYWORDS: *autism spectrum disorders, challenging behaviors, interfering behaviors, positive behavior support, repetitive and stereotypical behaviors*

ENGAGING IN DISRUPTIVE and other challenging behaviors is not required for a diagnosis of autism; however, children and youth with autism spectrum disorders (ASD) are particularly at risk for developing at least one challenging behavior that interferes with their learning and development (Buschbacher & Fox, 2003; Matson & Nebel-Schwalm, 2007). The term interfering behavior is often used to refer to two types of behavior that children and youth with ASD may exhibit: (a) repetitive and stereotypical behaviors (e.g., repetitively rocking one's body back and forth) and (b) disruptive behaviors (e.g., aggression, tantrums). Both of these behaviors can inhibit students with ASD from meaningfully engaging in learning activities and social interactions with others; thus,

limiting their ability to acquire key social, communication, and academic skills.

Knowing how to address interfering behaviors that have become problematic is one of the major challenges for parents, teachers, and other practitioners who work and live with children and youth with ASD. The purpose of this paper is to (a) discuss interfering behaviors in children and youth with ASD, (b) present a model for preventing and reducing interfering behaviors, and (c) present a variety of evidence-based practices that can be used to address interfering behaviors in children and youth with ASD.

Interfering Behaviors and ASD

Throughout this article, we use the term *interfering behavior* to refer to both *repetitive behavior* and *disruptive behavior*. There are three reasons that these terms have been grouped together under the more overarching term *interfering behaviors*. First, both types of behaviors are likely to interfere with teachers' or parents' attempts to promote learning and optimal child development, although only the existence of repetitive behaviors is required for a diagnosis of ASD (Hettroni & Roth, 2003). Second, for some children and youth with ASD, disruptive behaviors can be triggered or caused by inadvertently or intentionally interrupting, delaying, or preventing the child's ability to engage in or complete a repetitive behavior. For example, children who insist on always sitting in the same spot for morning "circle time" may get upset, tantrum, or even become aggressive with themselves or others when a peer

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TABLE 1. Interfering Behaviors Displayed by Children and Youth with Autism Spectrum Disorder

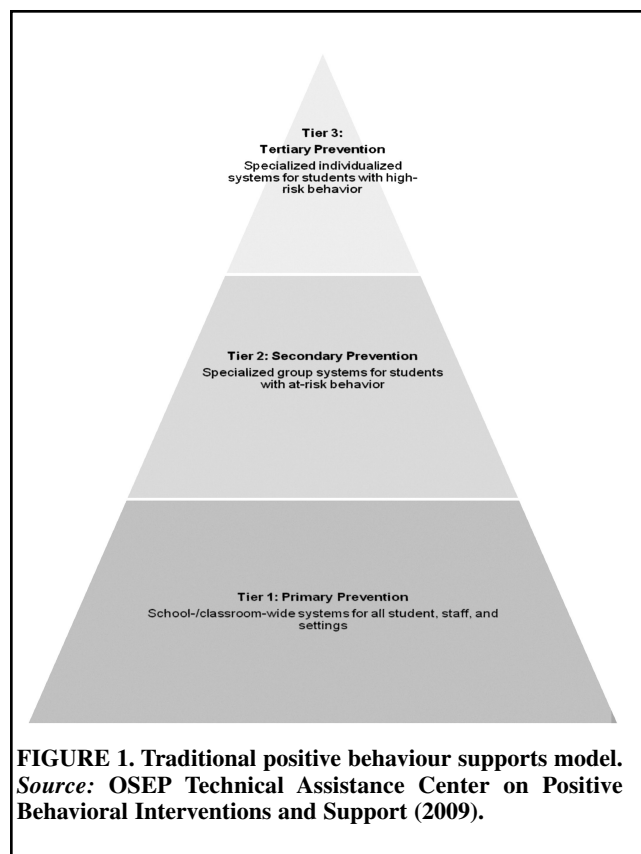
Class of interfering behavior	Types of behaviors observed
<i>Repetitive and stereotypical or restrictive</i> (also referred to as stereotypies, self-stimulatory behaviors, mannerisms, obsessions)	<ul style="list-style-type: none"> • Stereotyped movements with body or objects (e.g., hand flapping, body rocking, spinning objects) • Idiosyncratic rituals, personal routines, or compulsions (e.g., arranging toys in a particular manner, having to close doors or turn off lights) • Echolalia (e.g., repeating the same noise, word, or phrase) • Insistence on sameness (e.g., traveling the same route home from school everyday, doing a routine in the same way everyday) • Narrow, circumscribe, or unusual interests, preoccupations, or attachments (e.g., carrying a specific toy, preoccupation with weather) • Difficulties with change and transition
<i>Disruptive behaviors</i> (also referred to as problem/challenging/maladaptive behaviors)	<ul style="list-style-type: none"> • Self-injury (e.g., biting/hitting self) • Aggression (e.g., hitting, kicking, scratching, biting) • Running from the classroom unattended • Tantrums (e.g., crying, screaming, yelling)

tries to sit in their spot. Third, from a practical perspective, the types of interventions used to treat both types of interfering behaviors are largely the same. Therefore, parents, teachers, and other practitioners can think about and address these types of behaviors using similar strategies. Table 1 outlines the two classes of interfering behaviors that are commonly displayed by children and youth with ASD.

It is important to note that all forms of *repetitive behavior* or *disruptive behavior* are not necessarily *interfering behaviors*. In other words, not all types of repetitive or disruptive behaviors exhibited by children with ASD necessarily warrant intervention. Some children with ASD exhibit only mild, noninterfering repetitive behaviors. For example, a child may hand flap or stare at his or her hand discreetly, which may not interfere with learning or development in any significant way. Alternatively, a child may line up toys when he or she plays by herself but not when he or she plays with others. For this reason, it is imperative that parents and teachers assess each child's behaviors individually to determine whether or not a given behavior is causing a significant problem. Often, children and youth with ASD engage in interfering behaviors because they are unable to use appropriate communication or social skills to get their wants or needs met (Buschbacher & Fox, 2003). If the behavior escalates or continues to be problematic, intervention is necessary. The evidence-based practices (EBPs) outlined in this paper may help to reduce interfering behaviors. However, if a given behavior is not interfering with learning, development, and interactions with others then parents and teachers do not have to devise a formal intervention plan to address it.

Using Positive Behavior Supports to Address Interfering Behaviors

Recently, there has been an increased emphasis on using positive behavioral interventions to modify the classroom or home environment to prevent the occurrence of interfering behaviors and teach the child or youth to engage in more appropriate, alternative behaviors. Research suggests that for educational interventions to be successful for children and youth with ASD, positive and proactive behaviors must be considered and developed. *Positive behavior support* (PBS) is a common prevention and intervention approach that has been used with children and youth who exhibit challenging behaviors. The primary goal of PBS is to improve the quality of life for children by increasing their appropriate behaviors and adjusting the learning environment to prevent interfering behaviors from first occurring or re-occurring. Research on PBS has shown that it is effective in reducing interfering behaviors for children and youth with at-risk behavior and children with a variety of disabilities including those with ASD (Bushbacher & Fox, 2003; Carr et al., 1999; Dunlap & Fox, 1999; Iovanne et al., 2003; National Research Council, 2001; Turnbull et al., 2002). In PBS, a tiered intervention model is used to increase positive behavior in children by gradually applying more focused support and intervention at each level of the hierarchy (Scott & Caron, 2005). Figure 1 illustrates the tiered nature of the intervention hierarchy used with PBS. Many elements of the traditional PBS model are relevant to children and youth with ASD (e.g., small-group instruction, individualized interventions); however, several aspects need to be adapted to address the core characteristics of ASD.



First, social and communication deficits are prevalent in this population of children; thus, the development of these skills is a key focus across all three tiers of the intervention hierarchy. It can be difficult to determine whether children or youth are engaging in interfering behaviors because they have no other way to communicate their wants and needs. Therefore, teachers and other practitioners must seek to identify the factors in the environment that may be causing the interfering behaviors by conducting a functional behavioral assessment (FBA). In the traditional PBS model, FBA is generally initiated in Tier 3; however, FBA is initiated in Tier 2 of this model for children and youth with ASD so teachers and other practitioners can accurately identify the environmental, sensory, and social-communication variables potentially causing the interfering behaviors. This problem-solving process helps teachers and families identify the possible triggers and functions of interfering behaviors (i.e., what in the environment is causing and reinforcing the behavior) as well as the subsequent EBPs that can be used to ultimately reduce their occurrence. Figure 2 illustrates how the traditional PBS model has been adapted for children and youth with ASD.

Although both models use a tiered approach designed to provide behavioral interventions that proceed from least to most intensive, it may be necessary to provide intensive and

individualized intervention immediately for some students, particularly when safety is a concern. The tiered intervention approach for children and youth with ASD includes prevention strategies, functional behavioral assessments, and comprehensive behavioral interventions designed to both decrease interfering behaviors and increase positive behaviors and adaptive skills (National Research Council, 2001).

In each intervention tier, there is a focus on ensuring positive relationships through team building and family involvement. The well-being of individual family members is considered an influential factor in the development of children and youth with ASD. Particularly in Tier 3, it is essential that teachers and other professionals collaborate with family members to develop interventions that support family functioning and well-being and are consistent across home, school, and community settings (Dunlap & Fox, 1996). For the remainder of this article, we focus on providing an overview of what a PBS model for children and youth with ASD may look like and the EBPs that can be used to prevent and reduce interfering behaviors in this population of children.

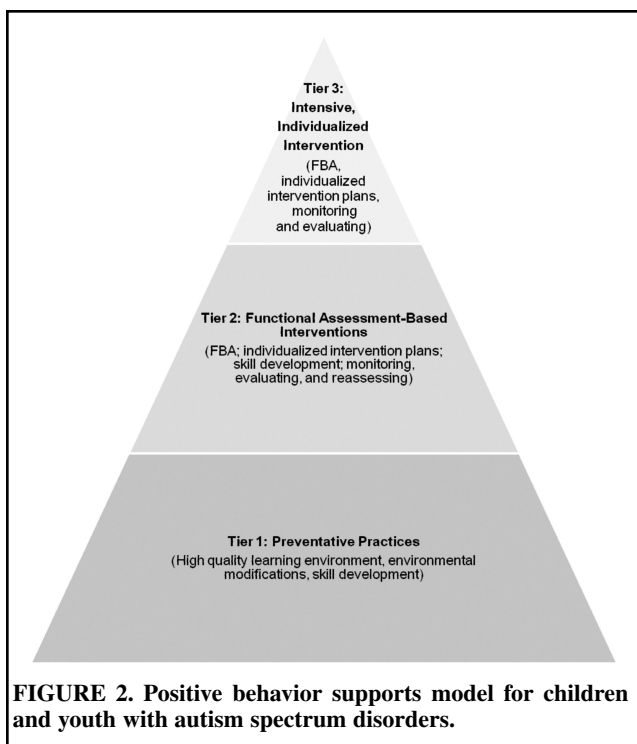
Tier 1: Preventive Practices

The primary goal of Tier 1 is to prevent interfering behaviors from occurring. This goal is accomplished through the use of specific preventive practices designed to address the core characteristics of ASD by changing the environment, activities, and other interactions that may cause interfering behaviors to escalate (Buschbacher & Fox, 2003; Sharma, Singh, & Geromette, 2008). They include (a) organizing a high-quality learning environment, (b) arranging the environment to support positive student behavior, and (c) developing communication and social skills as part of the core curriculum.

Organizing High-Quality Learning Environments

High-quality learning environments are safe, predictable, and focused on building positive relationships with adults and other students (Benedict, Horner, & Squires, 2007). In classrooms and programs that serve students with ASD, teachers and other practitioners should provide materials and activities that provide (a) a high level of student engagement, (b) positive classroom climate and interactions, (c) access to preferred activities and rewards, (d) a consistent and predictable system of scheduling (particularly visual schedules), (e) continual access to typically developing peers, and (f) immediate and effective systems of communication (Horner et al., 2002).

The classroom also has clearly defined rules and expectations for students as well as adults. For example, staff members are aware of their roles regarding the implementation of regular classroom activities (e.g., supervising areas of



the classroom, setting up materials for the next activity in advance) and the application of specific intervention strategies and procedures to support students with ASD (e.g., what strategies to use, who is responsible, when learning opportunities will occur).

Arranging the Environment to Support Positive Student Behavior

Environmental modifications often are used in high-quality learning environments to provide students with ASD the structure, visual supports, and predictability they need to learn new skills and develop positive relationships with others (Henry & Myles, 2007; Horner et al., 2002). These types of modifications help students with ASD understand what is expected of them during daily routines and activities. Certain modifications such as visual supports and the use of individual work systems provide students with ASD the information needed to complete the task or activity independently. For example, organizational support (e.g., color-coded materials that highlight relevant parts of a task, visual schedules) and having materials located in the space where they are routinely used provides critical information to students with ASD to help them find and put away materials without additional support from others. Teachers also may redesign social groupings so that interfering behaviors are less likely to arise. For example, a teacher might move a student with ASD to a different seat during small-group activities if he becomes agitated sitting next to a particular peer. To prevent interfering behaviors,

teachers and other practitioners should consider the following factors when designing and modifying environments for students with ASD:

- Is there enough space for all students to participate in the activity?
- Are work areas located in the least distracting locations of the classroom?
- Is there anything in the classroom that might be distracting to students with ASD?
- Are activity and work materials clearly marked and easily accessible to all students in the classroom?
- Do the work and activity areas have visual cues associated with them? That is, do students with ASD know what is expected of them in all areas of the classroom (e.g., blocks, computer, individual work area, circle time, quiet or leisure area)?
- Do students with ASD know where to put their work when they are finished with a task or activity?
- Does the classroom have a daily schedule posted where all students can see it?
- Do students with ASD have individual schedules that tell them what they are supposed to be doing throughout the day (e.g., picture schedule posted, portable picture schedule, portable checklist)?
- Are transitions included as part of the daily schedule (Sharma, Singh, & Geromette, 2008)?

Developing Communication and Social Skills

A final strategy used to prevent interfering behaviors is to teach key communication and social skills to children and youth with ASD. The reason for this is that communication and social skills are two of the more pervasive areas of developmental delay in children with ASD. Being able to communicate effectively is critical for all aspects of social and cognitive development. Furthermore, communication difficulties often are related to the occurrence of interfering behaviors in students with ASD (Dunlap & Fox, 1996). For example, a young child with ASD may bite peers when they take his or her toy during free play because he or she is not able to communicate effectively. Including activities that focus on developing social and communication skills may help prevent interfering behaviors from occurring in the first place.

A variety of EBPs can help children and youth with ASD increase communication and language skills such as pivotal response teaching (PRT), video modeling, and peer-mediated instruction and intervention. Table 2 provides a complete list of EBPs that can be used to teach communication, social, and academic skills.

In Tier 1, skill development is part of the routine curriculum and takes place daily through a balance of teacher-directed and student-initiated activities. That is, teachers

TABLE 2. Tier 1 Evidence-Based Practices to Teach Social and Communication Skills

Evidence-based practice	Description
Computer-assisted instruction	<ul style="list-style-type: none"> • Uses computer to teach key skills • Can be used to teach language, communication, reading (including spelling and vocabulary), and math
Discrete trial teaching	<ul style="list-style-type: none"> • One-to-one instructional approach that teaches skills in a planned, controlled, and systematic manner • Used when a learner needs to acquire a skill with the skill being taught using prompting and reinforcement • Each trial or teaching opportunity has definite beginning and end • Positive praise, sometimes with tangible rewards, is used to reinforce desired skills or behaviors
Independent work systems	<ul style="list-style-type: none"> • Used to promote independence by organizing tasks and activities in ways that are visually comprehensible to individuals with ASD • Provide opportunities to practice previously taught skills, concepts, or activities
Naturalistic interventions	<ul style="list-style-type: none"> • Occur in naturally occurring settings, routines, and activities • Usually involve following the student's lead • Learner plays an active role in determining multiple aspects of the instructional interaction (e.g., choice of location, materials, persons involved)
Peer-mediated instruction and intervention	<ul style="list-style-type: none"> • Designed to increase the social engagement of children with ASD • Teaches peers to initiate and maintain interactions with children with ASD
Picture exchange communication system	<ul style="list-style-type: none"> • Used to help children and youth with ASD effectively communicate with teachers, parents, and peers • Developed at the Delaware Autistic Program by A. Bondy and L. Frost (1994)
Pivotal response training	<ul style="list-style-type: none"> • Teaches the student to respond to naturally occurring learning opportunities and to seek out such opportunities • Developed to enhance four pivotal learning variables: motivation, responsiveness to multiple cues, social initiations, and self-regulation
Social-skills groups	<ul style="list-style-type: none"> • Teach and apply social skills in a support group format • Students may interact and practice skills with typically developing peers
Social narratives	<ul style="list-style-type: none"> • Interventions that describe social situations • Aimed at helping students adjust to changes in routine, adapt their behavior based on social and physical cues
Video modeling	<ul style="list-style-type: none"> • Assistive technology (e.g., computers, digital cameras) is core component of instruction • Used to teach social, adaptive, academics, and play skills
Visual supports	<ul style="list-style-type: none"> • Any tool presented visually to help students throughout their daily routines • Include the use of pictures, written words, gestures, objects within the environment, arrangement of the environment or visual boundaries, schedules, maps, labels, organization systems, timelines, and scripts
Voice output communication aids/speech-generating devices	<ul style="list-style-type: none"> • Portable electronic devices that produce either synthetic or digital speech for the user • May be used with graphic symbols as well as with alphabet keys and are used to teach communication skills to learners with limited verbal ability

Note. ASD = autism spectrum disorders.

plan for particular times when pivotal response teaching or video modeling are implemented; however, teachers also set up the environment to ensure that opportunities for learning are embedded in daily routines and activities (e.g., placing preferred items out of reach).

Tier 2: Functional Assessment-Based Interventions

Tier 2 of the PBS model, or secondary prevention, is designed to provide more targeted support for students who continue to exhibit interfering behaviors despite the implementation of the preventive strategies in Tier 1. Behaviors

that might require additional support in Tier 2 often are not dangerous; however, they continue to occur despite the implementation of prevention strategies. Tier 2 focuses on three outcomes: (a) using FBA to design a comprehensive behavior plan that guides intervention, (b) implementing EBPs during ongoing routines and activities to decrease interfering behaviors, and (c) further developing communication and social skills. These activities differ from the traditional PBS model in a number of ways. First, it is not always apparent why an interfering behavior occurs with learners with ASD. Therefore, teachers and other practitioners must conduct a FBA to identify the function of the interfering behavior in order to select an appropriate EBP to reduce and replace that behavior. Second, small-group instruction—as is often used in Tier 2 of the traditional PBS model—may not always be applicable to the interfering behaviors of students with ASD and peer groupings may exacerbate the problem for some students. It is essential that interventions are individualized to meet the unique needs and characteristics of each learner with ASD so that interfering behaviors can be reduced quickly and efficiently.

Using FBA to Design a Comprehensive Behavior Plan

FBA is a proactive strategy to intervention planning that helps teachers and others understand the purpose of the student's behavior and link it to relevant intervention strategies to reduce its occurrence (Barnhill, 2005; Buschbacher & Fox, 2003; Gresham, Watson, & Skinner, 2001; Scott & Caron, 2005). Further, FBA is a key activity of Tier 2 and includes specific procedures to help teachers, practitioners, and family members determine the function of the behavior and design interventions that focus on teaching alternative behaviors to take the place of the interfering behavior. In general, there are two functions of behavior: the person engages in the behavior to (a) get access to something in the environment (e.g., get access to food or drink, get access to a specific computer activity) or (b) escape or avoid something in the environment (e.g., escape an activity, escape a social interaction). FBA procedures include (a) defining the student's behavior (e.g., running from an activity), (b) reviewing the student's records to determine medical or physical reasons for the behavior and past interventions that have been tried, (c) observing the child with ASD in the setting where the behavior occurs, (d) interviewing team and family members, and (e) developing a hypothesis about what is happening right before and after the behavior that is maintaining it. At this stage, only those individuals who have direct contact with the student when the interfering behavior occurs are part of the assessment process (e.g., parents, teachers, paraprofessionals) (Scott & Caron, 2005). Through this process, teachers, parents, and other staff members identify the following:

- what the student is doing that is problematic (i.e., observable behavior),

- how often the behaviors occur,
- what happens before and after the behavior,
- other variables in the environment that are affecting the student's behavior, and
- replacement or alternative behaviors that serve a similar function as the interfering behavior (Buschbacher & Fox, 2003).

Implementing Interventions to Decrease Interfering Behaviors

Using the results of the FBA, teachers and other team members identify specific EBPs that can be used to decrease the interfering behavior. These practices often focus on providing planned teaching episodes as part of ongoing classroom routines and activities so the student has multiple opportunities to practice engaging in the alternative behavior instead of the interfering behavior. Research has suggested that when students learn more conventional ways to interact and communicate with others, interfering behaviors decrease (Billingsly & Neel, 1985; Durand & Carr, 1992). Therefore, teachers and other practitioners focus on teaching replacement or alternative skills by reinforcing the student for using those skills, which increases the probability that he will use the alternative skill again in the future (Buschbacher & Fox, 2003). It is more likely that the child will use the replacement skill if it serves the same function as the interfering behavior. For example, if a student hits because he wants access to another child's toy, then teaching him to say, "My turn" to a peer is a more appropriate behavior, but one that would also provide him access to the toy. EBPs that often are used to teach and reinforce replacement behaviors include functional communication training, extinction, self-management, differential reinforcement, and antecedent-based intervention strategies. These practices are easily embedded in ongoing routines and activities, and require very little additional planning and effort by teachers and other practitioners. Table 3 provides a complete list and descriptions of each EBP that can be used to address interfering behaviors in Tier 2. These strategies can be implemented either when the interfering behavior occurs or by creating opportunities within ongoing classroom routines and activities to work on the target skill. Major features of Tier 2 intervention include the following:

- intervention is implemented during teacher-directed and student-initiated activities;
- interventions are easy to implement and require little effort by teachers;
- interventions are designed to address the function of the behavior (e.g., escape, acquire something);
- clear procedures are outlined for responding to the interfering behavior when it occurs (e.g., reinforcing the replacement behavior, ignoring the interfering behavior, determining who will implement the intervention); and

TABLE 3. Tier 2 Evidence-Based Practices to Reduce Interfering Behaviors

Evidence-based practice	Description
Differential reinforcement of other/alternative behaviors	<ul style="list-style-type: none"> Reinforcement provided when the learner is not engaging in the targeted inappropriate behavior (DRO), when the learner is engaging in a specific desired behavior other than the inappropriate behavior (DRA), or when the learner is engaging in a behavior that is physically impossible to do while exhibiting the inappropriate behavior (DRI).
Extinction	<ul style="list-style-type: none"> Used to reduce or eliminate unwanted behavior Involves not allowing the child to have access to the reinforcer when the behavior occurs
Functional communication training (FCT)	<ul style="list-style-type: none"> Systematic technique that replaces inappropriate or ineffective behavior serving a communicative function with a more appropriate or effective behavior or skills (e.g., teaching a child to say, "My turn," instead of biting)
Response interruption/redirection	<ul style="list-style-type: none"> Physical prevention (e.g., blocking) of a learner's interfering behavior and immediate redirection to another, more appropriate activity
Self-management	<ul style="list-style-type: none"> Method where learners are taught to monitor and take data on their own behavior Typically used with older, high functioning learners who are capable of reflecting on their actions
Antecedent-based intervention strategies	<ul style="list-style-type: none"> Involves manipulating aspects of the environment that are known to influence a learner's behavior (e.g., adjust lighting if it effects a student's behavior)

- periodic data are collected to monitor the occurrence of the interfering behavior (Buschbacher & Fox, 2003; Newcomer & Powers, 2005; Scott & Caron, 2005).

At this point, teachers and other team members still may not need to develop an individualized behavior plan; however, they should determine the potential causes of the behavior so that appropriate EBPs are identified to address the function of the interfering behavior. Teachers and other practitioners may then use an activity matrix or other scheduling technique to identify when and where it may be appropriate to implement the EBPs in ongoing routines and activities.

Developing Communication and Social Skills

The EBPS used in Tier 1 to develop social and communication skills also are used in Tier 2 (e.g., social narratives, video modeling); however, they are more intentional and frequent. For example, a teacher may plan for daily small-group instruction with typically developing peers that is focused on teaching the student with ASD important social and communication skills rather than just weekly. The goals of skill development instruction in Tier 2 are to (a) teach the target skill (e.g., requesting, picture exchange, vocalizing and verbalizing, taking turns, asking for help, initiating interactions with peers); (b) demonstrate how it is used through adult and peer modeling; (c) practice with adults and typically developing peers;

(d) provide students with constructive feedback; and (e) generalize across activities, settings, and individuals (Scott & Caron, 2005). Again, implementation of specific activities and opportunities for learning should take place frequently throughout the day and build upon skills that students already have in their repertoire (Buschbacher & Fox, 2003). Periodic progress monitoring also occurs (e.g., once per week) to determine whether the interventions are effective in reducing the interfering behavior and to make decisions about when to switch tiers.

Tier 3: Intensive, Individualized Interventions

Tier 3 is focused on providing intensive, individualized instruction to students with ASD who continue to exhibit interfering behaviors despite the use of the preventive strategies and interventions employed in Tiers 1 and 2. By the time teachers reach this tier of support, the interfering behaviors have become problematic. For example, behaviors may be occurring almost continually or they may be potentially dangerous to the student or others (Scott & Caron, 2005). Some of the same activities that are implemented in Tier 2 also are used at this stage in the process; however, they are more individualized and intensive. For example, teachers and other practitioners use FBA to develop a formal behavioral intervention plan, implement more intensive interventions to decrease interfering behaviors, and monitor outcomes more frequently.

Using FBA to Develop a Behavioral Intervention Plan

FBA continues to be an important activity in Tier 3, although a clear antecedent (i.e., what happens in the environment before the behavior occurs) or function (i.e., what is happening after the behavior occurs to reinforce it) may not always be apparent. At this point, additional team members are included in the assessment process (e.g., school psychologist, administrator, specialists) to provide a more thorough understanding of the behavior and why it may be happening. In Tier 3, team members (a) reevaluate identified variables that might be influencing the behavior, (b) gather additional assessment information (e.g., interviews, rating scales, observations, scatterplots), (c) evaluate student behavior patterns under previous interventions, and (d) develop a more detailed hypothesis regarding the function of the student's behavior (Scott & Caron, 2005). An individualized intervention plan then is developed using data from the FBA.

Implementing Intervention and Monitoring Outcomes

Tier 3 interventions often are more complex, time-consuming, and require more individuals to implement them. Teachers, parents, and other school staff work together to ensure that interventions are implemented with consistency and with the necessary intensity to achieve the identified goals. Interventions at this stage often involve direct instruction of specific skills (Scott & Caron, 2005). For example, a teacher or other practitioner may work with a student in the resource room or separate area of the classroom several times a day. The key distinction between Tiers 2 and 3 is that Tier 2 is focused on identifying the function of the interfering behavior through an informal FBA and then implementing EBPs during small-group activities or ongoing classroom routines. Alternatively, Tier 3, is highly individualized. That is, teachers and other individuals who have regular contact with the student with ASD conduct a more intensive FBA. The end result is an individualized behavior plan that outlines when, where, how often, and with whom EBPs are implemented to reduce interfering behaviors.

At this point, team members also may decide that different EBPs may be more effective at reducing the behavior. All staff members who work with individual students should be knowledgeable about the instructional strategies and methods that are being used, when they should be used, and who is responsible for collecting progress monitoring data (Buschbacher & Fox, 2003). Data collection occurs frequently (e.g., daily, twice per week) so that team members can carefully evaluate the effectiveness of the interventions.

Conclusion

In recent years, PBS has gained attention as an effective way to address interfering behaviors in children and youth with ASD. This practice is particularly promising for this popula-

tion because of its emphasis on preventing interfering behaviors and reducing their occurrence by providing increasingly intensive interventions based on the results of a high quality functional behavioral assessment. Through the use of preventive and specialized instructional practices and strategies, the positive behaviors of students with ASD are supported and interfering behaviors are addressed more effectively.

AUTHOR NOTE

Jennifer Neitzel is an investigator at the Frank Porter Graham Child Development Institute at the University of North Carolina at Chapel Hill. Her main area of interest is providing services for young children with autism in inclusive settings using a variety of evidence-based practices.

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APPENDIX Case Story

Melinda, a third grade general education teacher, has a student with autism spectrum disorder, Michael, who comes to her class for language arts, math, and morning recess each day. Melinda has been working with the school district's autism specialist to set up the environment and provide instruction that meets Michael's needs. Because Michael has difficulties with transitions, the autism specialist has helped Melinda create a picture schedule that hangs on the dry erase board at the front of the room. The schedule contains pictures of the different instructional activities that will occur during Michael's time in the classroom (e.g., individual seat work, small groups, reading alone). As each activity is completed, Melinda removes the picture and puts it in a pocket next to the schedule. This strategy is beneficial for Michael because it helps him prepare for the changes in activities. Melinda and the autism specialist also have color-coded materials for Michael so that he can easily find what he needs for a particular activity without additional assistance. For example, Michael's school books and worksheets have a colored blue dot on the outside of them, which make them easy to find so he can begin work sooner. With the help of the autism specialist, Melinda also has begun implementing peer-mediated instruction and intervention once a week during language arts to address Michael's social and communication goals. Thus far, these strategies have prevented some interfering behaviors from occurring. Despite the preventive practices that Melinda has put into place in her classroom, Michael has begun yelling while she is providing whole-group instruction. Melinda has become quite frustrated because she doesn't know how to decrease the interfering behavior. Furthermore, she is unable to adequately instruct the rest of the class when Michael yells. Melinda meets with the autism specialist and tells her that she has no idea why Michael is engaging in this behavior. The autism specialist tells Melinda that the next step will be to conduct an informal functional behavior assessment (FBA) to figure out what might be causing Michael to engage in this behavior. During the FBA, the autism specialist talks with Michael's parents to see if he is yelling at certain times at home and observes Michael during whole class instruction to identify what is happening right before and after the interfering behavior. The results of the FBA indicate that Michael is not yelling at home and that Melinda responds to Michael each time he yells by saying, "Michael, no yelling." They speculate that Michael might be yelling to get Melinda's attention. Melinda and the autism specialist decide to use extinction and self-management for 2 weeks to see if they are effective in reducing Michael's yelling in class. They decide Michael will have an index card on his desk that reminds him to raise his hand instead of yelling, and if he remembers to raise his hand at least three times before yelling then he gets a special reward. The index card contains check boxes so Michael can indicate when he did the right thing, and it has a picture of his special reward. This also means that Melinda will ignore Michael when he yells, although she may briefly walk over and point to the index card on his desk to remind him what he should be doing to get her attention. Melinda also will continue to focus on social and communication skills development by implementing more frequent activities that focus on these skills. For example, Melinda plans to use peer-mediated interventions during math and at recess, and social narratives during language arts. After three weeks of consistently trying to implement the intervention, it has become quite clear to Melinda and the autism specialist that the intervention strategies are not working. Michael's yelling has become more frequent and has even escalated. For example, he now tries to leave the room during whole-class instruction. At this point, the autism specialist determines that a more formal FBA should be conducted. She plans to observe Michael across the day. The autism specialist also asks the school psychologist and the school district's behavioral specialist to join the team. The goal of this FBA is to identify, as clearly as possible, what might be causing Michael to engage in the interfering behavior. After conducting the formal FBA, the team will meet to develop an individualized behavioral plan that will outline which evidence-based practices will be used to decrease the interfering behavior, when the practices will be implemented, and who will be responsible for implementing them (including any additional supports that may be needed to implement the practices effectively).