

**Building Supportive Environments: Toward a Technology for
Enhancing Fidelity of Implementation**

Kent McIntosh

University of Oregon

Joseph M. Lucyshyn

University of British Columbia

M. Kathleen Strickland-Cohen

Robert H. Horner

University of Oregon

Citation: McIntosh, K., Lucyshyn, J. M., Strickland-Cohen, M. K., & Horner, R. H. (2015). Building supportive environments: Toward a technology for enhancing fidelity of implementation. In F. Brown, J. Anderson & R. L. DePry (Eds.), *Individual positive behavior supports: A standards-based guide to practices in school and community-based settings* (pp. 401-415). Baltimore, MD: Brookes.

Author Note

The research reported here was supported by the Institute of Education Sciences, U.S. Department of Education, through Grant R324A120278 to the University of Oregon. The opinions expressed are those of the authors and do not represent views of the Institute or the U.S. Department of Education.

Building Supportive Environments: Toward a Technology for Enhancing

Fidelity of Implementation

Effective behavior support is achieved through designing supportive environments. When designing behavior support plans for individuals, it is common to examine the proximal (i.e., immediate) environment and how it relates to an individual's problem or adaptive behavior. For example, implementers may identify environmental events and environmental contingencies that evoke or maintain problem or adaptive behavior. Elements of the environment, such as the level of brightness in the room or how a task request is delivered, may be modified to prevent problem behavior from occurring. Likewise, social attention may be withheld for misbehavior and provided contingent on adaptive behavior to help increase the likelihood of adaptive behavior and decrease misbehavior. Such aspects of environmental redesign may be considered manipulation of the proximal environment, because these events serve as immediate triggers or reinforcers for the target behaviors of individuals. As such, effective behavior support represents change in adult or caregiver behavior (i.e., implementing strategies) to change the immediate environment surrounding the individual.

However, it is also common to overlook the distal, or contextual, environment when designing support for individuals. This lack of attention to the broader context (e.g., behavior of peers, school resources, capacity of family members to use recommended strategies) may lead to insufficient behavior change and the ultimate failure of behavior support plans (Benazzi, Horner, & Good, 2006). In light of this common error, there has been a contemporary focus on examining the broader context and systems that may support the implementation of effective practices within that broader context (Biglan, 1995; Fixsen, Naoom, Blase, Friedman, & Wallace, 2005; Walker et al., 1996). This chapter focuses on the importance of *context* in

individual behavior support and steps to create contexts that support the implementation of effective individual behavior support practices, interventions, and strategies.

Schools and Communities as Host Environments

Kame'enui, Simmons, and Coyne (2000) used the term “host environments” to describe the broader context of intervention implementation and focus attention on how contextual variables influence implementation. This thinking represents a continuing evolution of service delivery from an earlier notion of viewing schools and communities as settings where interventions are delivered, to optimal places to identify individuals needing intervention, to a context that can be manipulated to enhance implementation and delivery of interventions. This shift represents an important frame of reference for interventionists because it exponentially expands the number of malleable variables that can be addressed to enable behavior change for populations of individuals.

From an individual behavior support perspective, the broader environment consists of risk and protective factors that influence individual behavior. Host environments can be viewed as constellations of antecedents and consequences that may either encourage and maintain or discourage the behavior of individuals in these environments. These environmental features may act as setting events across school, home, and the community (Mayer, 1995). Host environments may inadvertently be arranged to support maladaptive behavior for individuals. For example, the fear of retribution may prevent well intentioned students from intervening when they observe bullying, in essence creating a school culture in which bullying behavior is tolerated or even reinforced (Whitted & Dupper, 2005). In another example, schools may implement harsh, exclusionary discipline policies intended to curb antisocial behavior, but in reality, the problem behavior may be reinforced by removal from aversive academic tasks or social interactions.

Suspensions, often perceived as a powerful deterrent by school personnel, may be perceived by some students as school-sanctioned vacation days (Maag, 2001; Mayer, 1995). This difference in perspectives is troubling, given the research showing detrimental outcomes of suspensions (Hemphill, Toumbourou, Herrenkohl, McMorris, & Catalano, 2006; Skiba & Peterson, 2000).

Likewise, host environments may inadvertently be arranged to support maladaptive behavior of implementers as well. As with students, issuing suspensions in schools may be reinforcing for school personnel because of the momentary relief from aversive student behavior, thereby increasing their likely use in the future (Sugai & Horner, 2002). More generally, the perceived reinforcer for a classroom teacher or interventionist to implement a behavior support plan may be improved student behavior, but implementation may also result in additional work and assignment of more students with challenging behavior to her caseload. On the other hand, the contingencies for failing to implement a plan could include additional support, removal of that student from the classroom or caseload, and a special education designation or psychiatric diagnosis, which may provide relief from work and reduce feelings of incompetence. As such, environments may be naturally arranged to discourage effective behavior support without any intent of harm from implementers or their supervisors.

Over time, these interaction patterns can become coercive cycles (Patterson, 1982), wherein problem behavior for the individual is reinforced by the withdrawal of requests from the implementer, and withdrawal of requests is reinforced by the cessation of problem behavior from the individual. These patterns of negative reinforcement for the problem behavior of both individuals and implementers can easily become persistent and difficult to remediate, because the interactions are effective in removing aversive stimuli, and family or classroom harmony can be maintained by avoiding aversive demands (Lucyshyn et al., 2004; McIntosh, Horner, Chard,

Dickey, & Braun, 2008). As a result, the home or classroom setting becomes a host environment for maladaptive behavior support strategies.

Building Host Environments that Support Implementation of Effective Practices

Fortunately, the same host environments that are arranged to support maladaptive behavior can be redesigned to support adaptive individual and service provider behavior. The context can be changed to support both a) an entire population of individuals, and b) implementers of behavior support plans. The next sections describe how host environments can support more effective individual plans through establishing setting events that increase the likelihood of adaptive behavior, enhancing implementer capacity to implement practices, and creating systems to support implementers in their work with individuals.

Establishing Setting Events for Adaptive Behavior

A key component of effective environmental change is to put into place the conditions to evoke adaptive behavior for whole populations of students or communities (Biglan, 1995; Wandersman & Florin, 2003). The goal is to develop a positive social culture with prosocial norms that signal that adaptive behavior will be reinforced and maladaptive behavior will not. Essentially, the tasks are to create aspects of the environment that serve as salient setting events for adaptive behavior.

One example of a school approach to shaping the social culture of the student body as a whole is School-wide Positive Behavioral Interventions and Supports (SW-PBIS; Sugai & Horner, 2009). SW-PBIS is a systems-level framework for implementing evidence based practices in schools that focuses on a) redesigning the physical environment, b) defining, teaching, and acknowledging prosocial behavior for all students in all settings, c) using data to measure implementation, outcomes, and need for additional individual student support, and d)

providing a continuum of interventions for groups and individual students who require more support. The SW-PBIS approach, which emphasizes explicit skills instruction to prevent and address maladaptive behavior, has been shown in over 20 studies to be effective in changing important outcomes, including reducing levels of problem behavior, reducing the use of exclusionary discipline procedures (e.g., suspensions), reducing bullying behavior, increasing social competence and emotional regulation, increasing academic achievement, and increasing perceived school safety (Bradshaw, Waasdorp, & Leaf, in press; Horner et al., 2009; Luiselli, Putnam, Handler, & Feinberg, 2005; McIntosh, Bennett, & Price, 2011; Nelson, Martella, & Marchand-Martella, 2002; Waasdorp, Bradshaw, & Leaf, 2012).

Although it may seem counterintuitive to focus on all students when attempting to address the behavior of a smaller proportion of students with significant behavior needs, there are a number of compelling reasons for establishing a positive school-wide culture as a foundation for effective individual student support. First, when the student body as a whole is taught prosocial behavior and acknowledged for using it, the increased rates of prosocial behavior can create norms for behavior that endure. Among the student body, adaptive behavior becomes the expectation, not only from adults, but also from peers. Disrespectful behavior is then seen as violating not only school rules, but also the social code. New students entering the school then join an environment with setting events for prosocial behavior and peers who model adaptive behavior. Having upper grade students with high social status teach the expectation can further signal that all students, including those with disabilities, should expect prosocial behavior from one another. This aspect becomes more important as students progress through school, when peers, rather than adults, increasingly gain influence over individual behavior (Dishion & Dodge, 2006). A key challenge in schools is preventing and addressing bullying behavior,

because it is more likely to occur in a context without adult supervision and may be reinforced by peer attention (Doll, Song, Champion, & Jones, 2011). Moreover, students with disabilities are more likely to be targets of bullying, as well as bully others (Cummings, Pepler, Mishna, & Craig, 2006). With attention to building a positive social culture, school personnel can implement interventions to increase the likelihood that bystanders will intervene to stop bullying behavior (Ross & Horner, 2009). Another beneficial aspect of building a positive culture is that the reduction in problem behavior and improved perceptions of school safety often seen when implementing SW-PBIS may reduce fear and anxiety for those affected by threats to personal safety, further supporting students' behavior support needs (McIntosh, Ty, & Miller, 2012). Finally, attention to preventive interventions provided to all students can reduce the number of students who require additional support, because a high quality school-wide intervention can support more students to be successful, which both reduces the number of students who need support and frees resources for the students who truly require individualized behavior support (McIntosh, Chard, Boland, & Horner, 2006).

A number of studies have shown that the school-wide interventions associated with SW-PBIS can be effective for supporting students with significant needs as well. Tobin and colleagues (2012) showed that the effects of SW-PBIS on reducing problem behavior are seen for students both with and without Individualized Education Programs (IEPs). In addition, schools implementing SW-PBIS have reduced rates of out of school placements for students with severe behavior needs, as well as improved retention of these students when they return to their local schools (Lewis, 2007). More recently, Bradshaw, Waasdorp, and Leaf (2013) reported results from a randomized control trial where at-risk students were statistically significantly less

likely to receive office discipline referrals, and less likely to be referred for special education, in schools implementing SW-PBIS compared to control schools.

Creating Systems to Support Implementers

The potential benefits of designing effective host environments extend not only to individuals, but also to implementers. One of the most important consequences of attending to host environments has been the focus on building systems that help implementers design and implement effective support plans. Fidelity of implementation (the extent to which implementers use support plans as intended; Gresham, 1989), plays a singularly important role in behavior support. Because it predicts the extent to which interventions are successful (Domitrovich et al., 2008), assessing and improving fidelity of implementation are important goals for implementers. As such, it is important to identify how the environment can be altered to improve fidelity. These changes are considered to be implementation systems, as opposed to intervention systems (Fixsen et al., 2005).

Sugai and colleagues (2010) describe four components of systems for effective implementation of school-wide behavior support: behavioral expertise, training, coaching, and evaluation. Behavioral expertise refers to the capacity to select effective interventions based on scientific evidence and principles of behavior. Training involves the systems used to provide new staff with needed skills or existing staff with new skills, whether they are assessment (e.g., functional behavior assessment [FBA]), intervention (e.g., skills instruction, assistive technologies), or coordination of services (e.g., wraparound and person-centered planning). Training systems consist of a cadre of trainers, a sequenced training curriculum, and assessment procedures to ensure that the recipients can use the required skills. Coaching involves a system of ongoing technical assistance to implementers (e.g., assistance in the FBA process, support

plan implementation, knowledge of community supports). To be most effective, coaches need to have both implementation and consultation skills, as well as dedicated time to act as coaches.

Evaluation systems include collection, reporting, and use of data for decision making.

Comprehensive evaluation includes assessment of both fidelity of implementation (e.g., percent of support plan steps implemented) and individual outcomes (e.g., progress toward IEP goals). In addition, effective evaluation systems include regular structures for meeting, making decisions with data, and following up on action plans (Todd et al., 2011). These systems and their critical features are similar across school and community agencies.

Strategies to Support Implementers

Within these systems, specific strategies can be used to support school personnel and other implementers in implementing support plans. Like plans with students, these strategies, which focus on supporting the plan implementers, can be arranged according to a three term contingency. That is, antecedent, behavior, and consequence strategies can be arranged for implementers with the goal of increasing fidelity of implementation of individual interventions. A visual depiction of sample strategies is included in Figure 1.

Antecedent strategies. Antecedent strategies to support implementer fidelity focus on arranging the implementer's environment to prompt implementation of specific interventions. Examples include making environmental changes (e.g., making intervention materials readily available), providing specific checklists for implementation steps, or providing verbal or visual prompts to use implementation steps. An example in SW-PBIS is a tangible ticket system used to acknowledge prosocial behavior. The tickets themselves have little reinforcing value, as the key mechanism is the developmentally appropriate acknowledgment of students for their success (Biglan, Flay, Embry, & Sandler, 2012). In addition to providing teachers with a way to

acknowledge appropriate student behavior, ticket systems also serve as a prompt to school personnel to increase their rates of reinforcement for common expectations being demonstrated in targeted areas. Having tangible discriminative stimuli to prompt acknowledgment of student behavior is therefore an antecedent strategy in the host environment to enhance fidelity of the intervention (positive reinforcement) for the implementer.

Behavior teaching strategies. Behavioral strategies for supporting implementers involve teaching them needed skills and practice to be successful in implementation (e.g., conducting accurate FBAs, implementing video modeling effectively). As in individual behavior support, effective teaching involves explicit instruction and practice, accompanied with performance feedback. Effective teaching results in implementer fluency with the required skills so they can implement and adapt them across the range of individual needs (e.g., varying levels of communication). Instructional examples and practice can be tailored to the implementer's client population; more examples may be needed for successful response generalization. Familiarity with the intervention will likely decrease the effort required to implement it, increasing its desirability. In addition to instruction, implementation manuals (e.g., Dunlap et al., 2009; Loman & Borgmeier, 2010) may be provided as resources for self-instruction in implementation skills. For example, checklists of critical features for using picture schedules can assist implementers in using them optimally.

Consequence strategies. Effective host environments also include naturally occurring consequences that maintain the implementing behavior of implementers, and environments can be modified to produce or highlight existing consequences of implementation. One key step is to identify any natural contingencies that may maintain or discourage implementation of the intervention plan. Obvious reinforcers could include observing improved individual performance

or lifestyle outcomes, and reductions in aversive individual problem behavior. For example, coaches and supervisors can share student outcomes data, overlaid with fidelity of implementation data, to make these consequences more salient for implementers. In situations in which individual behavior change is small or implementation is too inconsistent to show positive results, shaping plans may be needed to reinforce efforts at implementation. For example, it can be useful for supervisors to provide developmentally appropriate praise for consistent implementation, paired with statements that persistence will result in the desired outcomes. In addition, it is helpful to identify and prevent any contingencies that reinforce failure to implement plans. For example, it may be necessary to prevent escape from work responsibilities for inaction on behavior plan implementation, while providing the support needed to help the implementer be successful.

It is an encouraging finding that obtaining experience implementing effective strategies can serve to reinforce effective intervention. Research indicates that experience implementing interventions can improve teacher self-efficacy, confidence in the ability to improve student outcomes, which increases the likelihood of sustained implementation, even after withdrawal of coaching (Baker, Gersten, Dimino, & Griffiths, 2004). Such findings have consistently been found in studies of SW-PBIS (Kelm & McIntosh, 2012; Ross & Horner, 2006; Ross, Romer, & Horner, 2012). There is also some evidence that implementing particular intervention strategies (e.g., token economies) may increase implementers' use of other behavior support strategies as well (e.g., behavior-specific praise; Elswick & Casey, 2011), although findings in this area are mixed (Lannie & McCurdy, 2007). Finally, implementing effective systems-level interventions may also influence aspects of the workplace. A trial of SW-PBIS found improvements not only in student behavior, but also organizational health, the perceived collective effectiveness of the

implementers in working together to achieve shared goals (Bradshaw, Koth, Bevans, Ialongo, & Leaf, 2008).

Elements of Host Environments that Enhance Sustainability of Interventions

A critical goal for any organization is to sustain implementation of effective interventions, so that more individuals can have improved outcomes (Greenberg, 2004). However, such outcomes are rarely observed (Fixsen et al., 2005; Latham, 1988). An emerging focus of research is on the factors that enhance or inhibit sustainability of interventions (Gersten, Chard, & Baker, 2000), and although elements of the interventions themselves can certainly affect their sustainability, features of the host environment are more predictive of sustainability than intervention effectiveness (Cornell, 2006; McIntosh, MacKay, et al., 2011). As such, it is worthwhile to examine how host environments can be altered to maximize the durability of interventions across all levels of support.

Over the past 15 years, there have been a number of research studies using in depth interviews or surveys regarding implementer perceptions of contextual factors that support implementation of evidence-based interventions. Regarding school systems, McIntosh and colleagues (in press) recently summarized studies examining implementation and sustainability of SW-PBIS. These factors included administrator and staff support, effective training systems, access to coaching, efficient teaming, and use of data for decision making. Recent large-scale quantitative studies have also provided evidence supporting these factors (Coffey & Horner, 2012; McIntosh et al., 2013). Similarly, in relation to individual (Tier III) supports, Hieneman and Dunlap (2000, 2001) identified factors leading to the effective implementation of community-based behavior support, including service provider buy-in, skills of the implementers, and the extent to which the system is responsive to individual needs. Like in

school systems, these factors could be enhanced by attending to characteristics of the host environment.

Based on a long line of experimental research in family systems, Lucyshyn and colleagues (Lucyshyn et al., 2007; 2009) identified a number of strategies for behavior intervention plans that have been shown to lead to durable implementation of support in the home. This approach can be considered as adapting each family environment to make it an effective host environment for positive behavior support. The strategies described include attending to the roles of function and coercive theory in reinforcing maladaptive parent-child interactions, building relationships with parents by establishing trust and involving them in collaborative plan development, building the capacity and willingness of parents to intervene effectively, developing plans (including relapse prevention plans) to build adherence, and planning support deliberately for long term maintenance (i.e., across the lifespan). Their research shows that when plans attend to these features, support plans may sustain for years and even decades.

In addition to identifying factors related to sustainability, there has more recently been attention to developing tools to assess the capacity of environments to implement and sustain effective practices (Fixsen et al., 2005). The two guiding messages are that (a) effective practices are more likely to sustain if (a) they are implemented at a high fidelity criterion, and (b) once implemented, they incorporate a continuous regeneration cycle in which the practice is adapted to fit more closely with the changing demands of the context. For both of these messages to be realized, implementers need formal tools for assessing both the level of implementation and the capacity of the setting to support sustain implementation.

Within SW-PBIS, there are research-validated external evaluation and school self-assessment tools for assessing implementation fidelity for each tier of support. At Tier I, the School-wide Evaluation Tool (external evaluation) and Team Implementation Checklist, PBIS Self Assessment Survey, and Schoolwide Benchmarks of Quality, (self-assessments) are used to assess fidelity of implementation for universal systems. At Tiers II and III, the Individual Student School Evaluation Tool (external evaluation) and Benchmarks of Advanced Tiers and Measure of Advanced Tiers Tool [MATT] (self-assessments) assess support systems for students requiring additional support. These measures, all available at www.pbis.org, assess both the quality of systems for support and the features of individual behavior support plans. A central feature of both the research and self-assessment tools has been the incorporation of an action planning component in which school teams are able to use fidelity tool results to define the most useful, specific tasks or actions that they will completed in short time windows (e.g. 2 weeks) to improve implementation. Self-assessments are done frequently (e.g., every fourth meeting) if a school has not implemented to criterion, and annually once a minimum criterion is met.

Tobin et al. (in press) emphasize that durable implementation of SW-PBIS at all three tiers of support often requires specific assistance from the host school district. Districts control the funding, policies, data systems, and often the professional development available to a school. The specific role and importance of districts for implementation and sustainability of evidence-based practices is still emerging. One important indicator of this new emphasis is the recent arrival of the District Capacity Assessment (DCA; Duda et al., 2012). The DCA is a self-assessment fidelity tool for examining if a school district has developed the capacity to complete core functions, such as (a) select effective practices, (b) recruit and hire skilled personnel, (c) provide essential training to key personnel, (d) coach trained personnel to implement new

practices in their local school, (e) provide feedback on staff performance, (f) collect, summarize, and use data for decision-making, and (g) organize policies and ongoing information loops to assess fidelity, impact, and sustained effectiveness.

The collective messages from emerging tools is that schools improve when groups of people (e.g., faculty, staff, families, students) have common goals, regular opportunities to assess progress, and an active process for investing time/resource in advancing their common goal. Both the fidelity of initial implementation efforts, and the sustained performance of those practices implemented to criterion will benefit from on-going, efficient strategies for monitoring implementation quality.

In family settings, the development of host environments that enhance the sustainability of behavioral interventions and supports implemented by family members requires interventionists to view the family as the unit of analysis and the family system as the context in which interventions are embedded and sustained. The family system is comprised of: (a) family characteristics; (b) parental, marital, sibling and extended family subsystems; (c) family functions; and (d) family life cycle (Turnbull, Turnbull, Erwin, Soodak, & Shogren, 2011). Any one of these features of the family system can serve to either promote or hinder the implementation and sustainability of behavioral interventions, and so understanding the strengths and needs of a family from a family systems perspective can contribute to the design of behavior support plans that are acceptable, feasible, durable, and sustainable across the life cycle of the family. Thus, it behooves family interventionists to assess the child and family from a ecological/family systems perspective, and to ensure that: (a) behavior support plans are designed to possess a good contextual fit with family life; and (b) relevant family centered supports are identified and put into place to fortify the family system and to increase the

likelihood of treatment fidelity and sustainability. Family centered supports may include, for example, respite care, sibling support, or marital therapy for the parents.

To this end, Lucyshyn and colleagues (Albin, Lucyshyn, Horner, & Flannery, 1996; Lucyshyn & Albin, 1993) developed a family ecology assessment that is based on family ecological theory (Gallimore, 2005; Gallimore, Goldenberg, & Weisner, 1993) and informed by strengths-based assessment and family centered practices (Dunst, Trivette, & Deal, 1988; Singer & Irvin, 1991; Turnbull & Turnbull, 1991). The family ecology interview is a collaborative, strengths-based assessment of features of family ecology that are relevant to the design of a contextually appropriate behavior support plan. The assessment has two parts: (a) a focused assessment of family activity settings or routines in the home and community with family members; and (b) a broader assessment of family ecology, including child and family strengths, formal (e.g., center-based respite care) and informal resources (e.g., respite care by grandparents) used by or available to the family, sources of social support, sources of stress, and family goals for the child and for the family as a whole. The purpose of the assessment is to a) identify family goals for the child and family as a whole, b) select and prioritize problematic family routines for intervention and support, c) generate a family vision of realistic but successful routines, d) gather information relevant to the design a contextually appropriate behavior support plan, and e) identify family-centered adjunctive supports that may be necessary to ensure that the plan is feasible and sustainable within the family system. A second purpose, available to interventionists who conduct the interview in a collaborative and collegial manner, is to initiate a therapeutic dialogue with the family that revives hope that may have faded, that gains the family's trust, and that builds a therapeutic alliance focused on promoting constructive changes in parent and child behavior and in family environments. The family ecology assessment conducted in conjunction

with a functional assessment of the child's behavior results in behavior support plans that have promoted meaningful and durable improvements in child behavior and participation in family life (Binnendyk & Lucyshyn, 2009; Lucyshyn et al., 2007; Lucyshyn, Albin, & Nixon, 1997; Lucyshyn et al., 2012).

Case Studies

Jacob (9 years old)

Jacob was a 4th grade student diagnosed with Asperger's syndrome. All of Jacob's primary instruction occurred in a general education classroom with 22 students and one teacher. Jacob has independently followed a daily visual schedule for the past two years. His reading skills were above average, and he spent a considerable amount of time at home on the computer reading about mystical themes (e.g., unicorns, dragons), which were his primary interests. Jacob's 504 plan (accommodation plan) primarily focused on increasing appropriate peer interactions, and he received social skills training with the school psychologist twice per week to improve the quality of his social interactions and his self-advocacy skills. Until mid-year Jacob's academic performance had been only slightly below that of his peers; however, following winter break Jacob became increasingly off-task, particularly during math and writing. When asked to complete his work, Jacob had begun verbally refusing and arguing with his teacher, Mrs. Trocki. As a result, he lost his recess time several times per week for 3 consecutive weeks. With this consequence in place, Jacob's problem behavior appeared to increase rather than decrease. Mrs. Trocki and the school psychologist agreed that a functional behavioral assessment (FBA) was needed and contacted the district behavior specialist.

The behavior specialist, Ms. Sparks, conducted an FBA interview with Mrs. Trocki and observed Jacob twice during reading and writing classes. Based on the information gathered in

the interview and through direct observation, Ms. Sparks concluded that Jacob's problem behavior was maintained by escape from academic tasks that he found difficult, and developed a behavior support plan (BSP) to directly address the function of the problem behavior (i.e., escape from difficult tasks). Ms. Sparks then provided Mrs. Trocki with a list of behavior change strategies to address Jacob's problem behavior, which included: a) teaching Jacob to raise his hand and request help from the teacher or a break from work when he becomes frustrated, b) reminding him to use these skills at the beginning of independent work time, c) providing 20 minutes of additional 1:1 instruction in writing and math daily, and d) checking Jacob's work every 5 minutes and reminding him that for every 20 minutes that he stays on-task, he will be allowed to take a 5-minute break from the classroom to go to the sensory-motor lab, a preferred environment.

Two weeks later, Ms. Sparks received a message from Jacob's principal stating that Jacob's problem behavior was escalating. In addition to verbally refusing to work, he had started crying, tearing up his worksheets, and pushing materials off his desk. As a result, his teacher was requesting that a change of placement be considered. When Ms. Sparks contacted Jacob's teacher to discuss why the BSP strategies were not effective, Mrs. Trocki said that she was having considerable difficulty implementing the plan. Mrs. Trocki felt that the BSP was not "reasonable," stating that, "with 21 other students in my classroom, I just do not have time to check Jacob's work every 5 minutes." Mrs. Trocki went on to explain that without additional staff it was impossible to provide 1:1 instruction and frequent breaks outside of the classroom. She also did not agree that Jacob should be allowed to ask for breaks "instead of completing his work."

The next day, Ms. Sparks met with Mrs. Trocki, the school psychologist, Jacob's parents, and the school principal to develop a new action plan. Together, the team decided that to prevent the problem behavior from occurring, Jacob would be given modified assignments that more closely matched his current skill set. He would also receive small group pull-out math and writing instruction three times per week for 20 minutes. Instead of Mrs. Trocki checking Jacob's work every 5 minutes, the team developed a plan for teaching Jacob to monitor his own behavior and give himself points for staying on-task. Ms. Sparks agreed to develop the self-monitoring materials for Jacob and the school psychologist would meet with Jacob to teach him how to use the materials. Mrs. Trocki agreed to continue to prompt Jacob to raise his hand at the beginning of independent work and check Jacob's work every 10 minutes during independent work time to provide descriptive praise and help with any questions that Jacob might have. Ms. Trocki would receive a detailed written plan from Ms. Sparks, as well as coaching and feedback from the school psychologist, on how to fade this support as Jacob becomes more successful. Additionally, the team agreed that as an alternative to engaging in problem behavior Jacob would be taught to raise his hand and ask for help or for an easier assignment, and for every 3 points that Jacob earned (i.e., 15 minutes on-task), he would earn 5 minutes for reading a book on a preferred topic or drawing at his desk.

In addition to the behavior change strategies, the team developed specific implementation and evaluation plans, detailing: a) who would be responsible for implementing each part of the plan and by when, and b) how to determine if the BSP was being implemented and if it was having the desired effect. Mrs. Trocki would be provided with a fidelity checklist to rate the extent to which she was implementing the different pieces of the BSP in the classroom. The school psychologist agreed to check-in with Mrs. Trocki twice weekly during the first month of

implementation to answer any questions or address any issues that might arise. The team members also selected a time that they would all meet again at the end of the first two weeks of implementation to evaluate how the plan was progressing and determine if any modifications needed to be made.

At the first plan review meeting, Mrs. Trocki and the school psychologist were happy to report to the school team and Jacob's parents that his problem behavior had improved significantly, with only three incidents of task refusal and no occurrences of tearing up worksheets or pushing materials off his desk for the past two weeks. Mrs. Trocki stated that she found the new strategies to be "doable" as part of her typical classroom schedule. She also expressed that she appreciated having the opportunity to check-in regularly with the campus-based school psychologist, and found the fidelity checklist to be a helpful reminder for keeping track of the different steps of the BSP. Mrs. Sparks, the district behavior specialist, agreed to check-in with the school psychologist every two weeks by e-mail, and to provide future assistance on an as-needed basis, although Mrs. Trocki reported feeling comfortable implementing the revised plan on her own at that point.

Amanda and Her Family

Amanda was an eight-year old girl who lived at home with her mother and father and older sister. She attended a general education classroom in her neighborhood public elementary school with the support of an educational assistant and resource room teacher. At the age of six, Amanda was diagnosed with a moderate intellectual disability. The family was Taiwanese and immigrated to Canada in 1998. The family was referred for family centered PBS services due to severe problem behavior in the home, including noncompliance and defiance, disruptive and destructive behavior, self-injury, and physical aggression. A family ecology assessment revealed

several strengths as well as challenges. Amanda's parents were very caring, willing to make sacrifices for their children, and had a strong marriage characterized by positive reciprocity. Amanda's strengths included her deep affection for her family and strong interest and curiosity in people. The family, however, was socially isolated, largely due to Amanda's problem behavior, and the parents experienced an inordinate level of chronic stress. Neither parent worked outside of the home, with the father choosing to work from his home to protect Amanda's mother from any aggressive behavior. Both parents reported feelings of sadness and frustration. In addition to behavior support, the family expressed an interest in receiving respite care and counseling support.

The functional assessment indicated that the primary function of Amanda's problem behavior was obtaining attention; that is, when Amanda was momentarily alone and her parents were occupied, she engaged in problem behavior to get positive or negative attention. Based on the results of the family ecology assessment and functional assessment, a technically sound and contextually appropriate multicomponent PBS plan was designed in collaboration with her parents for two problematic home routines: a) child free time in family room while a parent prepared supper in the adjacent kitchen; and b) going to bed in her bedroom. The multicomponent plan included strategies and supports aimed at rendering problem behavior irrelevant, ineffective, and inefficient in regard to the function of problem behavior (see Table 1).

To empower the family to implement positive behavior supports with Amanda, an implementation plan also was developed that included routine-specific implementation checklists, *in vivo* coaching, and problem solving meetings. During implementation support, the interventionist focused on teaching Amanda's parents to use PBS strategies to: (a) improve Amanda's behavior and participation in the two target routines; (b) build constructive patterns of

parent-child interaction (e.g., parent busy → child positive behavior → parent positive attention → child positive behavior), and (c) diminish coercive patterns of interaction (parent busy → child problem behavior → negative attention → child terminates problem behavior). To create a host environment for this transformation, family-centered supports also were put into place. These supports included a) counseling support, b) culturally responsive adaptations (e.g., slower pace for training, mother helping to train father), c) stress management training from the intervention team, and d) respite care (from a hired care provider).

Plan implementation occurred across a 2-4 year period of initial training, maintenance support, and follow-up. Direct observation results across the two routines showed stable decreases in problem behavior to near zero levels and an increase in Amanda's ability to successfully participate in the routines, with all improvements maintaining at one-year follow-up. In addition, over the course of intervention and follow-up, the family reported a cascade of positive collateral effects. Once Amanda's parents were able to successfully support her in the home, they took measured forays into the local community. In doing so, they found that they could successfully support their daughter during walks in the neighborhood, visits to city parks, and shopping trips to grocery and clothing stores. With newfound confidence, the parents began to see a new horizon of possibilities for themselves and Amanda. Both parents sought and secured gainful employment outside of the home, greatly improving their family's financial circumstances. These successes then led to the parents attempting and successfully completing day and weekend trips with Amanda and her sister to Seattle, Washington, 116 miles from their home. The ease and success of these trips then fueled summer vacation excursions to the Oregon Coast, to Disneyland, and finally to a 7-week tour of Asia including Japan, Thailand, and their native Taiwan. In summarizing her family's experience, Amanda's mother reflected that

“through this process of positive behavior support, we were empowered...we can go anywhere and do anything with [our daughter] now.”

New Directions in Building Supportive Environments

In addition to the benefits described above, current efforts in building supportive environments have focused on integrating disparate systems to provide a coordinated, integrated services framework for individuals. Although it is becoming more common to consider interventions within host environments, it is still also common for support to be arranged into silos that treat the problems of individuals separately (McIntosh, Goodman, & Bohanon, 2010). Yet research shows that academic, behavioral, and mental health problems may have common origins (Biglan et al., 2012; McIntosh, Sadler, & Brown, 2012), and their effective treatments share common features (Filter & Horner, 2009; Preciado, Horner, & Baker, 2009). In some school systems, academic and behavior support systems have been integrated into multi-tiered systems of support (Ervin, Schaughency, Goodman, McGlinchey, & Matthews, 2006; Sadler & Sugai, 2009). In community and family support, the concept of systems of care (Stroul & Blau, 2008) describes how different interventions across agencies can be linked to provide coordinated support to individuals and families. The primary goal of redesigning systems into integrated services frameworks is to create a seamless support structure that delivers a range of effective interventions. Such efforts are not easy—they require establishing common vision and goals, often returning to an overarching goal of improving outcomes for individuals. With attention to altering the host environments, implementation and sustainability of behavior support for individuals can be optimized.

References

- Albin, R. W., Lucyshyn, J. M., Horner, R. H., & Flannery, K. B. (1996). Contextual fit for behavioral support plans: A model for "goodness of fit." In L. K. Koegel, R. L. Koegel & G. Dunlap (Eds.), *Positive behavioral support: Including people with difficult behavior in the community* (pp. 81-98). Baltimore, MD: Brookes.
- Baker, S., Gersten, R., Dimino, J. A., & Griffiths, R. (2004). The sustained use of research-based instructional practice: A case study of peer-assisted learning strategies in mathematics. *Remedial and Special Education, 25*, 5-24.
- Benazzi, L. R., Horner, R. H., & Good, R. H. (2006). Effects of behavior support team composition on the technical adequacy and contextual fit of behavior support plans. *Journal of Special Education, 40*, 160-170.
- Biglan, A. (1995). Translating what we know about the context of antisocial behavior into a lower prevalence of such behavior. *Journal of Applied Behavior Analysis, 28*, 479-492.
- Biglan, A., Flay, B.R., Embry, D.D., & Sandler, I.N. (2012). The critical role of nurturing environments for promoting human well-being. *American Psychologist, 67*, 257-271.
- Binnendyk, L., & Lucyshyn, J. M. (2009). A family-centered positive behavior support approach to the amelioration of food refusal behavior: An empirical case study. *Journal of Positive Behavior Interventions, 11*, 47-62.
- Bradshaw, C. P., Koth, K., Bevans, K. B., Ialongo, N., & Leaf, P. J. (2008). The impact of school-wide positive behavioral interventions and supports on the organizational health of elementary schools. *School Psychology Quarterly, 23*, 462-473.

Bradshaw, C. P., Waasdorp, T. E., & Leaf, P. J. (in press). Effects of School-wide Positive Behavioral Interventions and Supports on child behavior problems and adjustment.

Pediatrics.

Bradshaw, C.P., Waasdorp, T.E., & Leaf, P.J. (2013). Examining variation in the impact of school-wide positive behavioral interventions and supports.

Manuscript submitted for publication, and reported in House Subcommittee

Hearings, February 8, 2013.

Coffey, J., & Horner, R. H. (2012). The sustainability of school-wide positive behavioral interventions and supports. *Exceptional Children, 78*, 407-422.

Cornell, D. G. (2006). *School violence: Fears vs. facts*. Mahwah, NJ: Lawrence Erlbaum.

Cummings, J. G., Pepler, D. J., Mishna, F., & Craig, W. M. (2006). Bullying and victimization among students with exceptionalities. *Exceptionality Education Canada, 16*(193-222).

Dishion, T. J., & Dodge, K. A. (2006). Deviant peer contagion in interventions and programs: An ecological framework for understanding influence mechanisms. In K. A. Dodge (Ed.), *Deviant peer influences in programs for youth: Problems and solutions* (pp. 14-43). New York: Guilford.

Doll, B., Song, S., Champion, A., & Jones, K. (2011). Classroom ecologies that support or discourage bullying. In D. L. Espelage & S. M. Swearer (Eds.), *Bullying in North American schools* (2nd ed., pp. 147-158): Routledge.

Domitrovich, C.E., Bradshaw, C.P., Poduska, J.M., Hoagwood, K., Buckley, J.A., Olin, S., . . . Ialongo, N.S. (2008). Maximizing the implementation quality of evidence-based

- preventive interventions in schools: A conceptual framework. *Advances in School Mental Health Promotion, 1*, 6-28.
- Dunlap, G., Iovannone, R., English, C. L., Kincaid, D., Wilson, K., Christiansen, K., & Strain, P. S. (2009). *Prevent-Teach-Reinforce: The school-based model of individualized positive behavior support*: Brookes.
- Dunst, C. J., Trivette, C. M., & Deal, A. G. (1988). *Enabling and empowering families: Principles and guidelines for practice*. New York: Brookline Books.
- Elswick, S., & Casey, L.B. (2011). The Good Behavior Game is no longer just an effective intervention for students: An examination of the reciprocal effects on teacher behaviors. *Beyond Behavior, 21*(1), 36-46.
- Ervin, R. A., Schaughency, E., Goodman, S. D., McGlinchey, Margaret T., & Matthews, Amy. (2006). Merging research and practice agendas to address reading and behavior school-wide. *School Psychology Review, 35*, 198-223.
- Filter, K. J., & Horner, R. H. (2009). Function-based academic interventions for problem behavior. *Education and Treatment of Children, 32*, 1-19.
- Fixsen, D. L., Naoom, S. F., Blase, K. A., Friedman, R. M., & Wallace, F. (2005). *Implementation research: Synthesis of the literature*. Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, The National Implementation Research Network (FMHI Publication #231).
- Gallimore, R. (2005). Behavior change in the natural environment: Everyday activity settings as a workshop of change. In C. R. O'Donnell & L. A. Yamauchi (Eds.), *Culture and context in human behavior change: Theory, research, and applications* (pp. 207-231). New York: Peter Lang.

- Gallimore, R., Goldenberg, C. N., & Weisner, T. S. (1993). The social construction and subjective reality of activity settings: Implications for community psychology. *American Journal of Community Psychology, 21*, 537-560.
- Gersten, R., Chard, David J., & Baker, Scott. (2000). Factors enhancing sustained use of research-based instructional practices. *Journal of Learning Disabilities, 33*, 445-457.
- Greenberg, M. T. (2004). Current and future challenges in school-based prevention: The researcher perspective. *Prevention Science, 5*, 5-13.
- Gresham, F. M. (1989). Assessment of treatment integrity in school consultation and prereferral intervention. *School Psychology Review, 18*, 37-50.
- Hemphill, S. A., Toumbourou, J. W., Herrenkohl, T. I., McMorris, B. J., & Catalano, R. F. (2006). The effect of school suspensions and arrests on subsequent adolescent antisocial behavior in Australia and the United States. *Journal of Adolescent Health, 39*, 736-744.
- Hieneman, M., & Dunlap, G. (2000). Factors affecting the outcomes of community-based behavioral support: I. Identification and description of factor categories. *Journal of Positive Behavior Interventions, 2*, 161-169, 178.
- Hieneman, M., & Dunlap, G. (2001). Factors affecting the outcomes of community-based behavioral support: II. Factor category importance. *Journal of Positive Behavior Interventions, 3*, 67-74.
- Horner, R. H., Sugai, G., Smolkowski, K., Eber, L., Nakasato, J., Todd, A. W., & Esparanza, J. (2009). A randomized, wait-list controlled effectiveness trial assessing school-wide positive behavior support in elementary schools. *Journal of Positive Behavior Interventions, 11*, 133-144.

Kame'enui, E. J., Simmons, D. C., & Coyne, M. D. (2000). Schools as host environments:

Toward a schoolwide reading improvement model. *Annals of Dyslexia, 50*, 31-51.

Kelm, J. L., & McIntosh, K. (2012). Effects of school-wide positive behavior support on teacher

self-efficacy. *Psychology in the Schools, 49*, 137-147.

Lannie, A.L., & McCurdy, B.L. (2007). Preventing disruptive behavior in the urban classroom:

Effects of the good behavior game on student and teacher behavior. *Education and*

Treatment of Children, 30, 85-98.

Latham, G. (1988). The birth and death cycles of educational innovations. *Principal, 68*, 41-43.

Lewis, T. J. (2007). *Functional assessment & positive behavior support plans*. Paper presented at

the Office of Special Education Programs Forum, Washington, DC.

Loman, S., & Borgmeier, C. (2010). *Practical functional behavioral assessment training manual*

for school-based personnel. Portland, OR: Portland State University.

Lucyshyn, J. M., Albin, R. A., Horner, R. H., Mann, J. C., Mann, J. A., & Wadsworth, G. (2007).

Family implementation of positive behavior support with a child with Autism: A

longitudinal, single case experimental and descriptive replication and extension. *Journal*

of Positive Behavior Interventions, 9, 131-150.

Lucyshyn, J. M., & Albin, R. W. (1993). Comprehensive support to families of children with

disabilities and behavior problems: Keeping it "friendly." In G. H. S. Singer & L. E.

Powers (Eds.), *Families, disability, and empowerment: Active coping skills and strategies*

for family interventions (pp. 365-407). Baltimore, MD: Brookes.

Lucyshyn, J. M., Albin, R. W., & Nixon, C. D. (1997). Embedding comprehensive behavioral

support in family ecology: An experimental, single-case analysis. *Journal of Consulting*

and Clinical Psychology, 65, 241-251.

Lucyshyn, J. M., Binnendyk, L., Fossett, B., Cheremshynski, C., Lorhmann, S., Elkinson, L., & Miller, L. D. (2009). Toward an ecological unit of analysis in behavioral assessment and intervention with families of children with developmental disabilities: Conceptual and empirical foundations and implications for assessment and intervention. In W. Sailor, G. Dunlap, G. Sugai & R. H. Horner (Eds.), *Handbook of positive behavior support*. New York: Springer.

Lucyshyn, J. M., Fossett, B., Binnendyk, L., Cheremshynski, C., Lorhmann, S., Miller, L. D., . . . Irvin, L. K. (2012). Transforming coercive processes in family routines: A longitudinal, single subject, sequential, and multivariate analysis with 10 families of children with developmental disabilities and problem behavior. *Manuscript in preparation*.

Lucyshyn, J. M., Irvin, L. K., Blumberg, E. R., Laverty, R., Horner, R. H., & Sprague, J. R. (2004). Validating the construct of coercion in family routines: Expanding the unit of analysis in behavioral assessment with families of children with developmental disabilities. *Research & Practice for Persons with Severe Disabilities, 29*(104-121).

Luiselli, J. K., Putnam, R. F., Handler, M. W., & Feinberg, A. B. (2005). Whole-school positive behaviour support: Effects on student discipline problems and academic performance. *Educational Psychology, 25*, 183-198.

Maag, J. W. (2001). Rewarded by punishment: Reflections on the disuse of positive reinforcement in schools. *Exceptional Children, 67*, 173-186.

Mayer, G. R. (1995). Preventing antisocial behavior in the schools. *Journal of Applied Behavior Analysis, 28*, 467-478.

- McIntosh, K., Bennett, J. L., & Price, K. (2011). Evaluation of social and academic effects of School-wide Positive Behaviour Support in a Canadian school district. *Exceptionality Education International, 21*, 46-60.
- McIntosh, K., Chard, D. J., Boland, J. B., & Horner, R. H. (2006). Demonstration of combined efforts in school-wide academic and behavioral systems and incidence of reading and behavior challenges in early elementary grades. *Journal of Positive Behavior Interventions, 8*, 146-154.
- McIntosh, K., Goodman, S., & Bohanon, H. (2010). Toward true integration of academic and behavior support. *NASP Communique, 39*(2), 1, 14-16.
- McIntosh, K., Horner, R. H., Chard, D. J., Dickey, C. R., & Braun, D. H. (2008). Reading skills and function of problem behavior in typical school settings. *Journal of Special Education, 42*, 131-147.
- McIntosh, K., MacKay, L. D., Hume, A. E., Doolittle, J., Vincent, C. G., Horner, R. H., & Ervin, R. A. (2011). Development and initial validation of a measure to assess factors related to sustainability of school-wide positive behavior support. *Journal of Positive Behavior Interventions, 13*, 208-218. doi: 10.1177/1098300710385348
- McIntosh, K., Mercer, S. H., Hume, A. E., Frank, J. L., Turri, M. G., & Mathews, S. (2013). Factors related to sustained implementation of school-wide positive behavior support. *Exceptional Children, 79*, 293-311.
- McIntosh, K., Predy, L. K., Upreti, G., Hume, A. E., Turri, M. G., & Mathews, S. (in press). Perceptions of contextual features related to implementation and sustainability of school-wide positive behavior support. *Journal of Positive Behavior Interventions*. doi: 10.1177/1098300712470723

- McIntosh, K., Sadler, C., & Brown, J. A. (2012). Kindergarten reading skill level and change as risk factors for chronic problem behavior. *Journal of Positive Behavior Interventions, 14*, 17-28. doi: 10.1177/1098300711403153
- McIntosh, K., Ty, S. V., & Miller, L. D. (2012). Effects of school-wide positive behavior support on internalizing problems: Current evidence and future directions. *Manuscript submitted for publication.*
- Nelson, J. R., Martella, R. M., & Marchand-Martella, N. (2002). Maximizing student learning: The effects of a comprehensive school-based program for preventing problem behaviors. *Journal of Emotional and Behavioral Disorders, 10*, 136-148.
- Patterson, G. R. (1982). *Coercive family process*. Eugene, OR: Castalia Publishing.
- Preciado, J. A., Horner, R. H., & Baker, S. K. (2009). Using a function-based approach to decrease problem behavior and increase reading academic engagement for Latino English language learners. *Journal of Special Education, 42*, 227-240.
- Ross, S. W., & Horner, R. H. (2006). Teacher outcomes of school-wide positive behavior support. *Teaching Exceptional Children Plus, 3*(6), Retrieved from <http://escholarship.bc.edu/education/tecplus/vol3/iss6/art6>.
- Ross, S. W., & Horner, R. H. (2009). Bully prevention in positive behavior support. *Journal of Applied Behavior Analysis, 42*, 747-759.
- Ross, S. W., Romer, N., & Horner, R. H. (2012). Teacher well-being and the implementation of School-wide Positive Behavior Interventions and Supports. *Journal of Positive Behavior Interventions, 14*, 118-128.

- Sadler, C., & Sugai, G. (2009). Effective Behavior and Instructional Support: A district model for early identification and prevention of reading and behavior problems. *Journal of Positive Behavior Interventions, 11*, 35-46.
- Singer, G. H. S., & Irvin, L. K. (1991). Supporting families of persons with severe disabilities: Emerging findings, practices, and questions. In L. H. Meyer, C. A. Peck & L. Brown (Eds.), *Critical issues in the lives of people with severe disabilities* (pp. 271-312). Baltimore, MD: Brookes.
- Skiba, R. J., & Peterson, R. L. (2000). School discipline at a crossroads: From zero tolerance to early response. *Exceptional Children, 66*, 335-347.
- Stroul, B. A., & Blau, G. M. (Eds.). (2008). *The system of care handbook: Transforming mental health services for children, youth, and families*: Brookes.
- Sugai, G., & Horner, R. H. (2002). The evolution of discipline practices: School-wide positive behavior supports. *Child and Family Behavior Therapy, 24*, 23-50.
- Sugai, G., & Horner, R. H. (2009). Defining and describing schoolwide positive behavior support. In W. Sailor, G. Dunlap, G. Sugai & R. H. Horner (Eds.), *Handbook of positive behavior support* (pp. 307-326). New York: Springer.
- Sugai, G., Horner, R. H., Algozzine, R., Barrett, S., Lewis, T., Anderson, C., . . . Simonsen, B. (2010). *School-wide positive behavior support: Implementers' blueprint and self-assessment*. Eugene, OR: University of Oregon. Available at http://pbis.org/pbis_resource_detail_page.aspx?Type=3&PBIS_ResourceID=216.
- Tobin, T., Horner, R. H., Vincent, C. G., & Swain-Bradway, J. (2012). *If discipline referral rates for the school as a whole are reduced, will rates for students with disabilities also be reduced?* Eugene, OR: Educational and Community Supports.

- Tobin, T., Vincent, C. G., Horner, Robert H., Dickey, C. R., & May, S. A. (in press). Fidelity measures to improve implementation of positive behavioural support. *International Journal of Positive Behaviour Support*, 2(2), 12-19.
- Todd, A. W., Horner, R. H., Newton, J. S., Algozzine, R. F., Algozzine, K. M., & Frank, J. L. (2011). Effects of Team Initiated Problem Solving on meeting practices of schoolwide behavior support teams. *Journal of Applied School Psychology*, 27, 42-59.
- Turnbull, A. P., & Turnbull, H. R. (1991). Understanding families from a systems perspective. In J. M. Williams & T. Kay (Eds.), *Head injury: A family matter* (pp. 37-63).
- Turnbull, A. P., Turnbull, H. R., Erwin, E. J., Soodak, L. C., & Shogren, K. A. (2011). *Families, professionals and exceptionality: Positive outcomes through partnerships and trust*. (6th ed.). New York: Pearson.
- Waasdorp, T. E., Bradshaw, C. P., & Leaf, P. J. (2012). The impact of Schoolwide Positive Behavioral Interventions and Supports on bullying and peer rejection. *Archives of Pediatrics & Adolescent Medicine*, 166, 149-156.
- Walker, H. M., Horner, R. H., Sugai, G., Bullis, M., Sprague, J. R., Bricker, D., & Kaufman, M. J. (1996). Integrated approaches to preventing antisocial behavior patterns among school-age children and youth. *Journal of Emotional and Behavioral Disorders*, 4, 194-209.
- Wandersman, A., & Florin, P. (2003). Community interventions and effective prevention. *American Psychologist*, 58, 441-448.
- Whitted, K. S., & Dupper, D. R. (2005). Best practices for preventing or reducing bullying in schools. *Children and Schools*, 27, 167-173.

Figure 1. Contextual strategies to enhance implementer fidelity of implementation

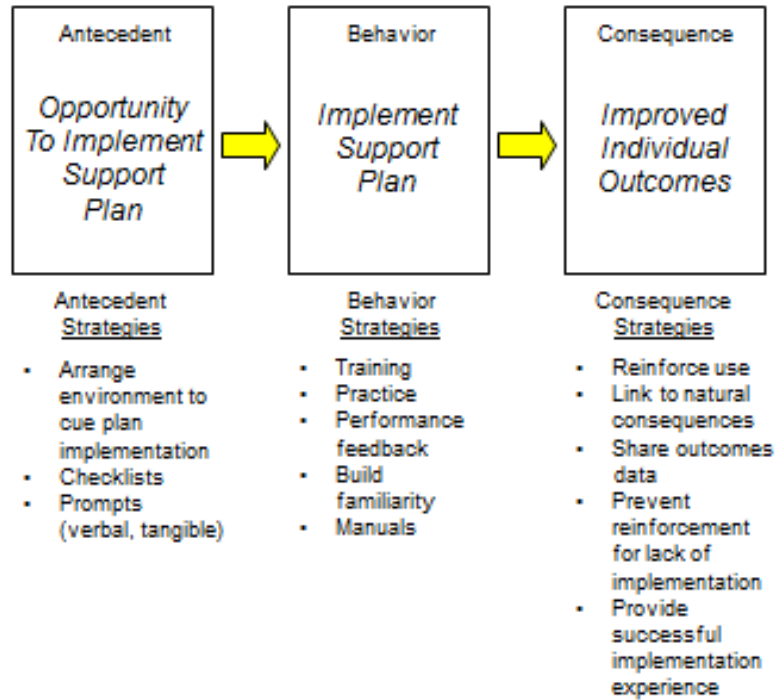


Table 1.

Positive behavior support plan for Amanda

Preventive strategies

1. Use visual supports to increase the predictability of routine expectations and parental attention:
 - a. social story about child free time while parent busy routine and for bedtime routine
 - b. visual sequence of task steps for child free time/ parent busy routine and for bedtime routine
 - c. countdown timer to predict length of time until parent returned attention
2. Use “first-then” visual positive contingencies to motivate desired behavior (e.g., a picture of Amanda playing independently, followed by a picture of parent playing together with Amanda)
3. Offer choices to encourage cooperation

Teaching strategies

1. Use safety signals to teach endurance by gradually increasing latency to parent attention
2. Teach Amanda to ask for attention or help

Consequence strategies

1. Provide praise and rewards contingent on routine-related desired behavior
 2. Honor appropriate requests for attention or help
 3. Actively ignore and redirect minor problem behavior
 4. Remove adult attention for 30 sec to 1 min contingent on major problem behavior
-