Post-Crisis Intervention for Individuals with Autism Spectrum Disorder

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When used within a comprehensive positive behavioral support program, the CPI Postvention model can serve as a facilitation tool, guiding staff through functional behavioral assessment for individuals with Autism Spectrum Disorder.

Challenging behavior is defined as behavior of such intensity, frequency, or duration that the physical safety of the person or others is placed in serious jeopardy and is likely to seriously limit or deny access to the use of ordinary community facilities (Emerson, 1995). Studies indicate that a range of perceived prevalence exists for the incidence of challenging behaviors among individuals with developmental disabilities, and individuals with limited communication skills are particularly at risk for developing challenging behaviors. For many years, it has been demonstrated that an inverse relationship exists between the frequency of behavior problems and the level of communicative skill that an individual possesses (Van Houten & Axelrod, 1993). "In the literature on developmental disabilities, individuals displaying more advanced verbal skills have been shown to exhibit less aggression (Talkington, Hall, & Altman, 1971) and less self-injury (Shodell & Reiter, 1968) than those who lack such skills" (Van Houten & Axelrod, 1993, pp. 231-232).

This communication hypothesis implies that “behavior problems are not random, bizarre acts but instead are purposeful in nature” (Van Houten & Axelrod, 1993, p. 232). And for individuals with Autism Spectrum Disorder (ASD), who typically have difficulties with verbal and non-verbal communication, behavior is a discrete action that has functional meaning and intent (Durand, 1993). As such, many of the behaviors displayed by people with ASD must be interpreted as sincere attempts to communicate by a person who otherwise may have no other means of doing so (Repa & Walker, 1983).

Unfortunately, once challenging behaviors have become an established part of an individual’s behavioral repertoire, the behaviors are not likely to decrease, and often worsen, without intervention (Horner et al., 2002). This leads to a variety of crisis situations that staff members must address. Examples of such crisis situations may range all the way from the anxiety level (withdrawal, vocalizations, lack of focus, self-stimulating behaviors, and an increase in stereotypes), to defensive behaviors (screaming, demanding, noncompliance, avoidance, and tantrums), all the way to physical aggression (hitting, kicking, biting, throwing, self-injurious behaviors, and destructive behaviors) (Crisis Prevention Institute [CPI], 2004).

According to a research synthesis examining children with ASD, the most common behaviors targeted for intervention are tantrums (76%), aggression (59%), stereotype [repetitive movement] (14%), and self-injurious behaviors (11%) with some individuals displaying more than one type of problem behavior (Horner et al., 2002). Such behavioral crises can be major barriers to effective education and social development as well as a serious obstacle to ongoing efforts to include children within school districts and communities. However, comprehensive behavioral intervention...
plans, especially those utilizing a functional approach, can result in an 80-90% reduction in challenging behaviors compared to traditional approaches to behavior modification (Horner et al., 2002).

**Traditional Approaches**

Traditional approaches to addressing challenging behavior were reactive in structure and focused on “fixing” behaviors through punishment. For example, if a child were to hit or push someone because she didn’t want to do something, a traditional approach might be to revoke privileges or spank her in order to stop the behavior. The problem with this approach is that although it may temporarily cause the behavior to cease (Nuzzolo-Gomez et al., 2002), the punishment fails to address the cause of behavior or to teach more appropriate means of communicating. Such reliance on negative consequences to gain control of the child bypasses the fundamental issue of, “Why is she hitting and how can we address those concerns?” (Durand, 1993). In contrast, the contemporary approach focuses on doing exactly that.

**Contemporary Approach: Positive Behavioral Support**

The cornerstone of the more contemporary approach is Positive Behavioral Support (PBS). “Over the past decade, the field of PBS has grown rapidly as a set of practices that focus on the function of problem behaviors in order to develop and teach functional alternatives” (Marshall & Mirenda, 2002, p. 2). It is based solidly on both a values base about the rights of people with disabilities and a functional approach that considers the contexts within which behavior occurs and attempts to identify outcomes that are acceptable to the individual, the family, and the supportive community (Marshall & Mirenda, 2002). Functional Behavioral Assessment (FBA) is at the heart of the positive behavioral support approach. It is the process of identifying the variables that reliably predict and maintain challenging behaviors in order to develop and implement interventions to prevent or reduce future occurrences (Horner et al., 2002). In a review of research from 1988-2000, Horner, Carr, Strain, Todd, and Reed (2002) reported that when an FBA was conducted prior to intervention: (1) the interventions were more positive rather than punitive, and (2) the interventions were more likely to result in significant reductions in problem behavior.

The demonstrated effectiveness of FBA led to its inclusion in the federal *Individuals with Disabilities Education Act of 1997* (IDEA, 1997; Chandler & Van Laarhoven, 2004). The law mandates the use of functional behavioral assessments and behavioral intervention plans prior to or immediately after disciplinary action. While the law does not provide specific direction for conducting an FBA, the process generally includes:

**STEP 1:** Identifying and defining the target behaviors

**STEP 2:** Gathering information and collecting data on the behaviors

**STEP 3:** Developing a hypothesis statement about the reason for behavior

**STEP 4:** Developing a behavior intervention plan

**STEP 5:** Choosing reinforcement strategies

**STEP 6:** Evaluating the effectiveness of the behavior intervention plan

(Ernsperger, 2003; Montgomery & Montgomery, 2004)

**The CPI Postvention Model and Functional Behavioral Assessment**

Both the CPI Postvention model and PBS are based on a dual-change process that recognizes the importance of staff adaptations as well as client adaptations in order to effect positive behavioral choices. This means: a) identifying alternative staff responses, and b) facilitating alternative client responses. It requires that staff be willing to adapt to new procedures and intervention strategies in order to support positive behavior and build positive environments. Prevention is the primary goal of both Postvention and PBS.

Postvention, as represented in the CPI COPING Model®, is an essential part of the Nonviolent Crisis Intervention® training program (CPI, 2004). Within the program, the CPI COPING Model® is utilized twice: once with the staff members, and then again with the client. The goal of using the CPI COPING Model® with staff is to assess current staff and organizational efforts and develop an effective plan for the future. This article will solely focus on its use...
with staff members and will identify how the CPI COPING Model℠ can serve as a facilitation tool to guide staff through functional behavioral assessment (FBA). The goal of using the CPI COPING Model℠ with a client is to focus on the internal processing of the individual and assist them in working toward positive change and growth. A subsequent article will focus on using the CPI COPING Model℠ to facilitate a comprehensive positive behavioral support program for individuals with ASD.

CPI COPING Model℠ for Staff

Control

The first step in the CPI COPING Model℠ is to allow opportunity for everyone to regain emotional and physical control of themselves before continuing with the remainder of the Postvention process (CPI, 2004). Staff can get frustrated by challenging behavior and should allow themselves time to calm down and take a break so that they are able to process the situation more objectively. They may need to remove themselves from the situation if necessary, and utilize other staff members and organizational support in order to regain their composure (CPI, 2004).

Orient

The second step in the CPI COPING Model℠ is to orient, or establish basic facts (CPI, 2004). This correlates to STEP 1 of the FBA process: Identifying and defining the target behaviors.

FBA STEP 1: Identifying and defining the target behaviors

Individuals may exhibit a spectrum of challenging behaviors, and, for the purposes of identifying which behaviors will be targeted for intervention, it will be important to develop a prioritized list, so that the most severe behaviors can be addressed first (Montgomery & Montgomery, 2004). Each behavior must then be clearly defined. It is important to specifically and objectively describe the behavior. The description should explain:

- What is being done (including information regarding the intensity and duration).
- Who is doing it.
- To whom it is being done.
- Where and when it is being done (McGowan, 2002).

The following is an example of a specific and objective description of behavior. “Sally bit the caregiver for 3 seconds on the left wrist when the caregiver attempted to put Sally’s seatbelt on in the car on the way to the dentist.” Objective descriptions of the behavior such as this will make it easier to identify patterns.

Patterns

The third step in the CPI COPING Model℠ is to look for patterns of behavior, identify triggers for behavior, and review patterns of staff responses to behavior. This correlates to STEPS 2 and 3 of the FBA process: (2) Gathering information and collecting data on the behaviors and (3) Developing a hypothesis statement about the reason for behavior.

FBA STEP 2: Gathering information and collecting data on the behaviors

According to functional assessment literature (Chandler & Van Laarhoven, 2004), there are two primary data collection methods for functional behavior assessment: indirect assessments and direct observation.

Indirect assessment

Indirect assessment refers to methods used for gaining information from individuals who have observed the behavior (family members, teachers, caregivers, and others who support the individual). Some of these methods include: Functional Analysis Interview (FAI) (O’Neill et al., 1990); Questions About Behavioral Function (QABF) (Matson & Vollmer, 1995); Functional Analysis Screening Tool (FAST) (Iwata, 1995); Functional Assessment Checklist for Teachers and Staff (FACTS) (March et al., 2000); and the Motivation Assessment Scale (MAS) (Durand & Crimmius, 1988). Because of the close relationship to the individuals involved, the unique perspective and input gained through indirect assessment methods can be extremely useful in developing a hypothesis about the function of behavior (discussed later). However, indirect assessments are best thought of as a screening tool because they are a good first step, but should not be the only step.

Direct observation

The use of direct observation systems is considered best practice in identifying the antecedents, setting
events, consequences, and functions related to challenging behavior (Chandler & Van Laarhoven, 2004). Direct observational systems include: Scatter plots (Touchette et al., 1985); Note card strategy (Carr, 1994); and A-B-C observations. According to Chandler & Van Laarhoven (2004), the A-B-C strategy is an anecdotal procedure that involves recording:

- **Antecedents**—conditions that occur before behavior which trigger or set the stage for behavior (e.g., task demands, activities, etc.).
- **Behaviors**—that immediately follow the antecedents (appropriate as well as problematic behaviors).
- **Consequences**—what happens after the behavior occurs as a result of or in response to the behavior (e.g., reprimands, praise).

In addition to the A-B-Cs, another variable that is often considered is:

- **Setting events**—factors that have an effect on how a person responds to antecedents (e.g., location, weather, noise levels, presence of unfamiliar people, change in schedule, hunger, etc.) (Chandler & Van Laarhoven, 2004).

The Functional Analysis Observation Form (O’Neill et al., 1997) combines the scatterplot and ABC observations onto one form along with ways to record the setting events, time intervals, frequency, intensity, and duration of target behaviors. Repeated observations identify patterns that are used to develop hypotheses regarding the function of the behavior (Chandler & Van Laarhoven, 2004).

**FBA STEP 3: Developing a hypothesis statement about the reason for the behavior**

According to Ernsperger (2003), once data has been gathered and reviewed, the function of the behavior should be apparent and a hypothesis statement can be written. Based on the gathered facts, a hypothesis statement identifies the target behavior and provides an informed guess as to the function of the behavior (Ernsperger, 2003). The following are some of the commonly identified functions of behavior:

- Attention
- Power or control of a situation
- Access to tangibles (food, activities, people, materials, etc.)
- Escape/avoidance of tasks or requests
- Communication
- Stress/frustration release
- Self-stimulation or sensory regulation (Ernsberger, 2003)

When an individual consistently gets a desired result from the use of the behavior, the behavior is then learned and maintained as a functional behavior (Chandler & Van Laarhoven, 2004). It is essential to use a highly individualized approach in hypothesizing function, due to the fact that what may be desired by one individual is aversive to another. For example, one individual might run away for attention, another might desire to be alone and run away for frustration release. Because hypotheses must be individualized, sufficient data and collaboration with all involved parties is needed to develop a hypothesis about the function of the target behavior based on the information gained during assessment.

According to Marshall & Mirenda (2002), the results of the assessment can be integrated into “summary statements,” which assist in developing a hypothesis regarding the function of the behavior. Summary statements may take the following form, “When (antecedent) occurs, he/she will (behavior) in order to (function of behavior or consequence). This is most likely to occur if (setting/event).” For example, “When the caregiver uses physical guidance to help Tom clean up his toys (antecedent), Tom hits the teacher on the nose (behavior) in order to continue playing (consequence) and avoid having to clean up (function). This is most likely to occur if (setting/events).” Well-formulated hypotheses provide the basic assessment information necessary for developing a behavioral intervention plan (BIP).

**Investigate**

The fourth step in the CPI COPING Model™ is to investigate alternatives to the challenging behavior as well as to investigate resources that could be helpful in making behavioral changes. It also involves looking for ways to strengthen individual and team responses and exploring ways to prevent similar situations in the future. This correlates to STEP FOUR of the FBA process, which is developing a behavior intervention plan.
FBA STEP 4: Developing a behavior intervention plan

Based on information obtained through the functional assessment and the hypothesized function of the target behavior, the behavioral intervention plan should investigate intervention methods that are conducive to learning and generalizing new behaviors. It should also focus on managing physical environments to support the direct teaching and shaping of appropriate behavior (Hefflin & Alberto, 2001).

There are two key areas that should be investigated by the staff members, and their decisions should be addressed in the behavior intervention plan:

- A list of replacement or alternative behaviors serving the same function that will be systematically taught to the individual (including functional communication skills)
- A list of modifications to the environment and/or schedule (Ernsperger, 2003)

Replacement or alternative behaviors

Replacement strategies aim to provide a systematic way to use functionally equivalent behavior to achieve the same outcome that was produced by challenging behavior. For example, if the function of Robert’s ear pounding is for sensory regulation, a functional equivalent may be to teach Robert to use headphones. The goal of teaching replacement or alternative behaviors is to decrease the current challenging behavior while increasing the appropriate behavior that will replace it. Replacement or alternative behaviors are most likely to be successful when they match the function of the challenging behavior (headphones may not be successful if the function of the ear pounding was for attention, for example). Avoid trying to reduce the challenging behavior without providing something that the person should do instead of the behavior. Without an alternative, another challenging behavior is likely to replace the original. Chandler and Van Laarhoven (2004) suggest that appropriate replacement behaviors should be:

- acceptable to caregivers
- appropriate to the setting
- within a person’s skill set or easy to learn
- to promote independence and maximize participation
- supported and understood by individuals in multiple environments
- incompatible with challenging behavior (e.g., when a person’s hands are occupied with another activity, he is less inclined to self-abuse)

Also, it is extremely important for staff members to consistently and immediately follow through with reinforcement/positive consequences if clients utilize the replacement behavior effectively. In fact, the new behavior should be MORE effective than the challenging behavior in accessing needs (e.g., requires less physical effort, less delay in gratification, etc.) (Marshall & Mirenda, 2002). Durand (1993) suggests that contexts that are receptive and supportive positively affect generalization and maintenance of new behaviors and that new behaviors acquired in this way have a better chance of being generalized to other contexts and with other people (Durand, 1993). However, mere reduction of the behavior should not be the only goal of teaching replacement and alternative behaviors. Rather, there should be an overall endeavor to teach new behavior that produces functional and durable lifestyle enhancements for the individual and those who interact with him (Marshall & Mirenda, 2002).

Functional Communication Training as replacement behavior

As previously noted, one of the primary functions of behavior is communication. Carr (1977) suggests that a key form of replacement behavior is to teach individuals appropriate ways to communicate their needs and allow them to achieve the same desired function through appropriate communication behavior. Investigating ways to provide an effective communication system that connects clients, staff members, family members, and even members of the general public is essential. A central element in this process is Functional Communication Training (FCT), which utilizes behavioral interventions to teach alternative ways of communicating in order to eliminate or minimize challenging behaviors (Durand, 1993). This method assumes that if an individual can gain access to desired consequences more effectively with the communication behavior, they will use the communication behavior and reduce their use of the undesirable behavior (Durand, 1993). Examples of alternative functional communication systems include: Picture Exchange Communication System (PECS), sign language (ASL), augmentative communication systems (e.g., pictures, icons, object cues, etc.), vocal output devices, or written words. The focus of choosing an appropriate communica-
tion system for an individual is to individualize the communication system to the appropriate level and preferences of the person and to maximize others’ ability to understand and respond to the communication system. If other people do not respond, the applicability of such tools in public settings is limited and may cause greater communication frustration. Research on FCT has shown that when individuals with ASD acquire new communication methods, there is a greater chance that the positive behaviors will generalize to other contexts and be maintained over time (Durand, 1993).

Environmental modifications

Environmental modifications should also be included in the BIP, with the goal of creating stable and predictable environments in order to prevent challenging behaviors. Structured Teaching, developed by TEACCH (Treatment and Education of Autistic and related Communication handicapped Children), provides one method of doing this. Based on an understanding of the characteristic difficulties of people with ASD and each individual’s strengths, skill levels, and needs (especially in the areas of visual supplements, structured environments, and other autism-specific supports), individualized systems are put into place in order to translate the expectations and opportunities of the world into concepts that people with ASD can understand and participate in. It involves two complementary goals: “1) increasing the individual’s skills and 2) making the environment more comprehensible and more suited to the individual’s needs” (Mesibov et al., 2005, p. 34). Structured Teaching strategies are taught to give people with ASD organizational strategies they can use at school, at home, and at work. The four components of Structured Teaching are: 1) Physical structure (eliminating distractions, providing visual organization, and enabling predictability); 2) Individualized schedules (to see order with minimal prompting/cueing and to help develop independence); 3) Work systems (to answer four key questions in advance: What work will I do? How long will I do it? How do I know when I’m finished? And what’s next?); and 4) Visual structure within tasks (visual reinforcements that help individuals organize tasks) (Schopler, Mesibov, & Hearsey, 1995). The Structured Teaching strategies used in the TEACCH program enhance learning and provide predictability, which results in minimizing anxiety and behavioral problems. One of the resources used to investigate ways to create a more structured environment is a list of “57 questions” (Love, 2004). The questions encourage staff members to examine their efforts in each of the key areas. For example:

- Can the physical environment be changed or made clearer?
- Have we set up a clear structure and schedule?
- Do we have clear and predictable routines?
- Do we build on the individuals’ strengths and interests to develop activities?
- Do we offer social, leisure, solitary, and exercise opportunities?

Negotiate

The fifth step in the CPI COPING Model is to negotiate changes that will improve future interventions. This correlates to steps 5 and 6 of FBA process:

STEP 5: Choosing reinforcement strategies

STEP 6: Evaluating the effectiveness of the behavior intervention plan

FBA STEP 5: Choosing reinforcement strategies

In order to positively support the established behavior intervention plan, family and team must select reinforcers that are meaningful and individualized. Most typically developing individuals are reinforced internally, but this is generally not the case with individuals with ASD who often need external motivation to maximize learning and increase appropriate behaviors. Selecting reinforcers is a process that is continuously negotiated. Not all individuals are motivated by the same things and, with time, even good reinforcers can lose their effectiveness (Ernsperger, 2003).

It is important to learn about a person’s strengths and interests in order to choose appropriate reinforcers (Johns, 2004). This allows staff members to know what types of reinforcement are most effective and provide individualized support for learning and behavioral efforts. For example, if Jack likes dinosaurs, it may be effective to put dinosaur stickers on his visual schedule and include opportunities within the schedule to play with the dinosaur toys. It may be useful to complete a reinforcement survey or interview others to find out what motivates an individual (Ernsperger, 2003). Also, continuously
observing the individual and collecting data will help staff members understand what reinforces positive behavior and what staff actions may unintentionally be contributing to the undesirable behaviors. For example, are staff members inadvertently reinforcing negative behavior by providing positive consequences or enabling the client to avoid an undesirable activity? Is the staff member’s response inadvertently fulfilling a sensory or attention goal?

Reinforcement puzzles are another way to support the use of new behaviors. The method involves using a photograph or picture of a good reinforcer that motivates the individual (e.g., a computer). The picture is cut into several pieces (approximately 2-10, appropriate to the skill level of the individual). Each time the individual uses the new behavior, she earns a piece of the puzzle. When all the pieces are earned, she receives a visual cue of the reinforcement. Reinforcement puzzles create an errorless learning method because pieces are never taken away; they are only earned when a client chooses appropriate behaviors or when the client refrains from a specific behavior for a specified amount of time.

FBA STEP 6: Evaluating the effectiveness of the behavior intervention plan

After the behavioral intervention plan has been tried over a period of time, it will be important to review data to determine if the target behavior has actually decreased and the alternative behavior has increased (Ernsperger, 2003). Patterns of data will also begin to show which strategies have worked and not worked in past interventions (Montgomery & Montgomery, 2004). Data will determine which elements of the behavior intervention plan need to be re-structured, and new plans should be negotiated amongst the staff members. For instance, does the intervention need to be paired with other modifications or rewards to increase its effectiveness? Do the interventions reduce the problem behavior? If not, what other strategies can be considered? Is it necessary to re-evaluate the hypothesis, or continue as planned and collect more information?

Give

The final step of the CPI COPING Model is to give support and encouragement to fellow staff members and the individual (which will be the focus of a subsequent article). Supporting individuals with challenging behaviors requires patience and teamwork. Keep in mind that problem behaviors may sometimes get worse before significant changes are observed (Ernsperger, 2003), but staff can always celebrate small successes and support each other along the way. It is also important to give time for new plans to take effect. As they do, reduce prompts and increase expectations gradually in order to encourage independence and give control back to the client to develop a sense of ownership over individual behavioral choices.

Successful prevention, intervention, and postvention require patience, creativity, a willingness to adjust staff strategies, and a commitment to an ongoing process of learning. Although positive behavioral support is often more time consuming and more creatively challenging, your contributions to this process are essential in providing the best Care, Welfare, Safety, and Security for you and the individuals for whom you care.

Summary

A wealth of studies have documented the effectiveness of preventing and remediating challenging behavior through positive behavioral support programs that include functional assessment and positive behavioral interventions (Chandler & Van Laarhoven, 2004). When used within a comprehensive positive behavioral support program, the CPI
COPING Model\textsuperscript{98} model can serve as a facilitation tool, guiding staff through functional behavioral assessment for individuals with Autism Spectrum Disorder, and provide effective ways to turn the post-crisis experience into preventive opportunities. A subsequent article will focus on utilizing the CPI COPING Model\textsuperscript{98} in post-crisis interventions with the client in order to establish therapeutic rapport and support positive behavior.

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