Functionally Approached Body (FAB) Strategies for Young Children Who Have Behavioral and Sensory Processing Challenges

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INTRODUCTION

Helping young children with behavioral and sensory processing challenges is personal to me. I remember being called "clumsy, intense, and a nervous wreck" as a child and am beginning to hear my three year old son being called these names. I recently realized that to help my son address his behavioral and sensory processing challenges, I needed to address my own. Current challenges and adaptations, as well as the impact of past experiences, affect my son by impacting my parenting and the coping strategies I model. At the risk of losing my credibility as a researcher, occupational therapist, and passionate clinician I admit that I approach this subject more as a parent than as an expert. Because of this bias I include in this article a long list of research references so other parents can judge the credibility of my suggestions.

It is important that early childhood professionals help parents understand and comprehensively address their young children's behavioral and sensory processing challenges (Dunn, 1997; Foley & Hochman, 1997; Greenspan, 2003). Research has begun showing that young children who have both behavioral difficulties and hyperactivity are more likely to develop persistent behavioral problems (Stormont, 2001). When young children have behavioral and sensory processing problems these difficulties can interact to worsen the child's behavioral difficulties and negatively impact the functioning of the family. This problem is especially challenging for parents because they may have and/or had behavioral and sensory processing challenges themselves. Ghosts from the past can undermine affective parenting unless they are faced through peer and/or professional assistance (Main, 1993; Slade, 1999).

This article introduces the Functionally Approached Body (FAB) Strategies, clinical strategies developed by this author for understanding and addressing young children's behavioral and sensory processing challenges. The Functionally Approached Body Strategies are based on my training in the positive behavioral support and sensory integration model, experience as an occupational therapy and infant mental health coordinator, and humbling experience of fatherhood. These functional strategies are intended for transdisciplinary use by parents and early intervention professionals with young children who have behavioral and sensory processing challenges.

POSITIVE BEHAVIORAL SUPPORT MODEL

Positive Behavioral Support (PBS) involves a variety of strategies that improve social skills and prevent problematic behavior (Turnbull et al., 2002). PBS is strength based application of behavior modification providing effective group and individualized intervention strategies (Turnbull et al., 2002). PBS is best used through parents and early childhood professionals working together to improve the child's communication, problem solving, and social skills (Walker et al., 1999). The DECA (Devereux Early Childhood Assessment) Program provides a PBS curriculum for collaborative home and early childhood program use (Koralek, 1999; LeBuffe & Naglieri, 1998).

The DECA program measures progress through the (DECA) Devereux Early Childhood Assessment, a reliable and valid assessment of protective factors in children two to five years old. The three interrelated protective factors measured by the DECA program are attachment, self-control, and initiative. Attachment is a strong mutual relationship between a child and adults. Attachment is the fundamental protective factor supporting self-control and initiative, and the foundation for successful intervention. Self-control is the ability to experience and appropriately express a range of feelings. Self-control appears closely associated to the expression of behavioral concerns. Initiative is the ability to use independent actions to meet ones needs (Koralek, 1999).

The DECA is useful for documenting significant improvement in protective factors, supporting intervention efficacy. The DECA also screens for and addresses behavioral concerns. Both internalized (e.g., failing to show joy at a happy occasion) and externalized behavior concerns (e.g., touching others inappropriately) are addressed. The DECA program includes both parents and pre-school teachers (or other early childhood professionals) in the assessment and intervention process. This enables parents and early childhood professionals to cooperatively develop goals and strategies for promoting protective factors and reducing behavioral concerns. Environmental modification and activity suggestions are provided for the home and early childhood programs that specifically promote attachment, self-control, and initiative while reducing behavior concerns (Koralek, 1999).

SENSORY INTEGRATION MODEL

Sensory integration involves organizing and using sensory input to respond functionally to the environment (Ayres, 1979). Sensory integration is a developmental process requiring sensory processing skills. A young child with sensory processing challenges has significantly different sensory integration skills resulting in functional difficulties. Sensory processing challenges involve difficulties maintaining attention and engaging in goal-directed behavior. The sensory systems used in responding to the environment are tactile, proprioceptive (deep pressure processing through muscles and joints providing body and movement awareness), vestibular (movement), visual, auditory, and gustatory (taste). In daily life children constantly use their sensory systems to process, combine, and organize sensory information for functional use (Dunn, 1997; Williamson & Anzalone, 1997).

Sensory processing involves regulating and functionally responding to sensory events in daily life (Dunn, 1997). The Sensory Profile is a reliable valid assessment for all ages indicating how sensory processing skills affect daily functioning. The Sensory Profile uses parent report to compare a young child and/or the parents' sensory processing skills with others their same age. The Sensory Profile assesses the use of sound, sight, touch, pressure, and movement. The Sensory Profile also assesses whether an individual has an over-responsive and/or under-responsive sensory processing style. People are identified as having definite differences in sensory processing if they are among the most extreme 2% of scores in a category (Dunn, 1997; Dunn & Daniels, 2002).

Support for the theory of under-responsive and over-responsive sensory processing styles is provided by research showing significantly different galvanic skin response reactions and Sensory Profile scores in children with sensory integration problems (McIntosh et al., 1999), disabilities (Dunn & Westman, 1996), anxiety disorders (Erez et

al., 2004), pervasive developmental disorders (Dunn et al., 2002; Greenspan, 2003), and attention deficit hyperactive disorder (Dunn, 1997).

The sensory integration model teaches parents to understand and functionally adapt to their young child's sensory processing style (Dunn, 1997). Strong body sensations can influence a child's emotional, behavioral, and neurological development. Body sensations and emotional states interact strongly in young children. A young child who is tired or ill is more likely to become physically aggressive when experiencing anger or anxiety. It appears that aggressive behavior in parents and/or their children may be related to differences in processing body sensations related to early childhood trauma, pervasive developmental disorders (PDD), or attention deficit hyperactive disorder (ADHD). Recent research suggests there is a relationship between body sensations, feelings, and behavior that is especially strong in children with biological and environmental risk factors (Siegal, 2001; Teicher, 2003).

Research supports a relationship between sensory processing challenges, atypical neurological functioning, and behavior problems (Anderson et al., 2002; Diego et al., 2005; Siegal, 2001; Teicher, 2003). Research also suggests that an under-responsive sensory processing style with a tendency to seek out sensory input as a compensation contributes to violent behavior in young children (Field, 2002). Young children who were severely abused and neglected in infancy are described as frequently demonstrating aggressive, numbing, and/or hyperarousal behaviors (Gaensbauer & Siegel, 1995; Scheeringa & Zeanah, 2001).

Parent and caregiver understanding of how interpersonal relationships shape young children's responses to strong body sensations and emotions is an important foundation for responsive nurturing that promotes overall child development (Slade, 1999). Helping parents and their children understand and more appropriately express strong body sensations and aggressive feelings can positively affect behavior (Dunn, 1997; Neilson & McEvoy, 2004).

FUNCTIONALLY APPROACHED BODY (FAB) STRATEGIES

Functionally Approached Body (FAB) Strategies are designed for transdisciplinary family-centered intervention with young children who have behavioral and sensory processing challenges. The Functionally Approached Body Strategies are based on the author's clinical experiences and integrated use of the positive behavioral support and sensory integration model. Consistent with best practice recommendations for early intervention the functional strategies are intended for implementation by family members and transdisciplinary early childhood professionals working together to meet the child's overall developmental needs (Hemmeter et al., 2001; Interdisciplinary Council on Developmental and Learning Disorders, 2000).

Research supports the efficacy of family-centered intervention using the positive behavioral support (Boulware et al., 1999; Walker et al., 1999) and sensory integration model (Case-Smith & Bryan, 1999; Greenspan, 2003; Smith et al., 2005) with young children who have behavior and sensory processing challenges.

No research specifically supports the Functionally Approached Body Strategies, so it is important for parents to work with early childhood professionals to observe and document if these strategies help their child. The goal of the Functionally Approached Body Strategies is to prevent young children from developing behavioral problems by

understanding the functions of their inappropriate behaviors and redirection to appropriately express and meet their needs. When using functional strategies to help young children control their strong emotions and body sensations it is important to constantly observe and dynamically respond to the child's behavior. The young child is guided in actively recognizing and managing his or her sensory needs and taught to independently manage strong body sensations and emotions. Parents and early childhood professionals initially use the functional strategies to recognize and manage the child's inappropriate behavior, then gradually teach the child to use the strategies to appropriately express and manage their needs.

TRIGGER IDENTIFICATION STRATEGY

The DECA (LeBuffe & Naglieri, 1998) and Sensory Profile (Dunn & Daniels, 2002) can be used individually or combined to understand the child's behavioral and sensory processing challenges. It is helpful for parents and early intervention professionals to take the Sensory Profile themselves to promote self-understanding and their relationships with children who have behavioral and sensory processing challenges. For example, a parent who is over-responsive to auditory input may need to initially limit time spent with their child who is under-responsive and screams frequently.

The first step in developing strategies to control strong body sensations and emotions is noticing these sensations and emotions when they begin occurring through the trigger identification strategy. Young children with sensory processing disorders need caregiver assistance in recognizing and verbally labeling strong body sensations and emotions so they can be redirected into functional responses before aggressive behaviors occur. Young children with behavioral and sensory processing challenges show improved behavior and cognitive development when their parents also learn and model the redirecting of strong sensations and emotions (Scheeringa & Zeanah, 2001; Wacharasin et al., 2003).

The trigger identification strategy involves recognizing the individual body sign, environmental, and emotional triggers that sequentially occur before a person "goes off", becoming physically aggressive. Common body sign triggers include whining, rapid breathing, eyes widening, red facial coloring, hand fisting, body tensing, sweating, and a prickly feeling on the skin. Common environmental triggers include long sitting periods, open outdoor spaces, loud noise levels, strong emotional expressions by others, activity transitions (especially clean up time, nap time, or the conclusion of recess or television watching). Common emotional triggers occur when a young child is feeling extremely fearful, angry, sad, silly, tired, hungry, or disappointed. The trigger identification strategy may be useful in understanding factors contributing to a child's inappropriate behavior and identifying strategies to reduce inappropriate behavior.

For example, avoiding loud noise could contribute to physical aggression for getting removed from loud environments, and might be addressed through encouraging family members and class mates to lower the volume of their voices and music. Obtaining sensory information could also contribute to inappropriate behavior. Sometimes children who want deep pressure sensory input misbehave to obtain the deep pressure input of being physically restrained. It is often helpful to teach these children to request hugs, being wrapped in a blanket, or other functional methods for meeting their sensory needs and praise them for making the request. Anger meters are a simple strategy for helping

young children and their families identify the body sign, environmental, and emotional triggers of aggressive behavior.

The child constructs anger meters using cardboard paper to draw a half clock meter separated with numbers from 1 to 5. Each number is labeled and colored by the child to express their individual anger levels (e.g. from 1 gray "chillin" to 3 green "ready to work" to 5 red "off the wall tantrum"). The child also makes a yellow arrow and laminates the scale and the arrow, then cuts them out. A hole is punched through the meter and arrow and they are connected with a brad (Williamson & Shellenberger, 1996).

Using the trigger identification strategy throughout the day the parent with as much involvement as possible from the child notes the different states that the child is in. Notice is especially made of the body sign, environmental, and emotional triggers that occur sequentially before the young child becomes physically aggressive. When the child is upset it is especially important for adults to maintain a calm facial expression and voice tone and quietly redirect the child (Siegal, 2001). Later when the child is calm strategies including the anger meter, social stories (Gray, 2005), and labeling feelings through pictures (Williamson & Shellenberger, 1996) can be used to describe feelings and discuss the use of redirection activities rather than aggression in responding to body sign, environmental, and emotional triggers.

ENVIRONMENTAL STRATEGIES TO IMPROVE BEHAVIOR

Once the parent and young child have an initial understanding of the child's body sign, environmental, and emotional triggers they are assisted in modifying the environment to reduce the activation of these triggers. Environmental strategies may dramatically reduce inappropriate behaviors and provide the foundation for redirection activities. However, environmental strategies can be challenging to implement in natural environments.

Environmental context is an important consideration for children with behavior and sensory processing challenges that is often overlooked. Research suggests that their environment has a major influence on aggressive behavior in children (Watamura et al., 2003; Werner, 2004). Behavioral and sensory processing challenges can exacerbate the negative impacts of unresponsive environments (Greenspan, 2003).

One functional environmental strategy for children with sensory processing problems and inappropriate behavior is to change the level and type of environmental sensory input. The general environmental strategy is to initially reduce sensory stimulation and observe the child's dynamic response. If the child improves in reaching functional goals and reducing aggressive behavior with decreased sensory input this confirms that reduced sensory stimulation was appropriate for facilitating an adaptive response. If the reduction of sensory input does not result in a quiet alert state or goal attainment, gradually increase sensory stimulation in a socially acceptable manner, noting the sensory inputs that effectively result in goal attainment and a quiet alert state. Usually when a young child is upset it is best to choose one calming strategy and stay with it. Every additional attempt to calm the child is another change requiring sensory adaptation that is likely to cause further distress (Dunn, 1997; Williamson & Anzalone, 1997).

The most profound environmental influence on a young child is his or her parent's and teacher's behavior. When parents and teachers understand their environmental triggers and model use of a quiet voice and calm facial expressions when they or the child

is upset, this provides environmental support for the child. Staying calm when a child is upset is easier said than done, and much harder to do with your own young child than someone else's. Parents want and usually know how to do the right thing in child rearing, but their emotions can get in the way. Parents' own childhood experiences can cloud their otherwise sound parenting actions.

Another environmental strategy for reducing environmental input is redirection to an established quiet area. A pup tent at home or mat quiet area in pre-school can be used to reduce the level of light, noise, and visual stimulation. Selected cushions, stuffed animals, or books can be placed in the quiet area. Children are directed to go to the quiet area when they initially experience their body sensation, environmental, or emotional triggers of inappropriate behavior. Young children are encouraged to learn the trigger identification strategy and independently go to the quiet area when needed, and are praised for doing this (Williamson & Anzalone, 1997).

ACTIVITY STRATEGIES TO REDIRECT BEHAVIOR

Once environmental modifications have been made activity strategies are developed to redirect young children from inappropriate behavior (Stormont, 2001). Redirection activities are initially explored during play at home, day care, pre-school, occupational therapy sensory integration sessions, speech therapy, and play therapy sessions conducted by an early childhood mental health professional. Initially the parents and early childhood professionals assist the child in developing potential redirection activities using information from the DECA (LeBuffe & Naglieri, 1998), Sensory Profile (Dunn, 1999; Dunn & Daniels, 2002), and observations of sensory activities that appear to help the child maintain a quiet alert state and avoid aggressive behavior.

Functional environmental and activity strategies are introduced when mild body sign, environmental, or emotional triggers are initially identified. Parents and early childhood professionals observe and document the impact of the strategies on the child's adaptive responses, functional goals, and aggressive behaviors for a two-week period. Adaptive responses may include increased communication, attention, eye contact, calming, smiling, or the reduction of repetitive purposeless actions (Smith et al., 2005).

The sensory integration model rationale for assisting with environmental modifications and activities is that young children with behavioral and sensory processing challenges need help understanding and functionally meeting their sensory needs (Ayres, 1979; Dunn, 2003). Research indicates that sensitivity to young children's environment and sensory responses results in improved goal achievement and behavior (McIntosh et al., 1999; Smith et al., 2005). Examples of commonly successful redirection activities include taking a walk, slow deep breathing (Joseph & Strain, 2003), marching to music, jumping on a min-trampoline, pulling exercise tubing, and biting a chewey tube.

The most effective strategies for redirecting aggression are functional sensory activities integrated into the natural context of family life and early childhood programs (Dunn, 1997). It is important to assess how long activity strategies are effective in promoting functional goals and decreasing aggressive behaviors. Some activities like biting a chewey tube tend to effect mood for a short period while other activities like jumping on a mini-trampoline have longer effects (Smith et al., 2005; Wilbarger, 1995).

Often the nature of inappropriate behavior provides clues regarding activity development. For example if a child with is an over-reactive sensory style repetitively rubs his ear making a hole in his ear lobe, redirecting him to rubbing textured toys may meet the need for touch input. If that child chews on his hand and is harming his skin it may be helpful to keep a chewey made of plastic tubing with him at all times for him to bite on when needed. It is also helpful to incorporate activity strategies such as a chewey tube into behavior modification programs for young children with persistent pica or hand biting.

Deep pressure is the most consistently helpful strategy for modulating strong body sensations and emotions in young children with attention deficit hyperactive disorder or pervasive developmental disorders (Fertel-Daly et al., 2001; VandenBerg, 2001). Deep pressure activities are frequently helpful for young children who have behavior and sensory processing challenges, especially tactile defensiveness. Moderate pressure activities may especially calm and desensitize young children with a history of early trauma (Gaensbauer & Siegel, 1995). Moderate pressure activities that push together or pull apart the joints (e.g., providing joint compression and traction, respectively) give proprioceptive sensory input. Activities promoting child initiated joint compression and traction include: stomping and jumping (with hand held assistance as needed), play wrestling, and pulling apart or pushing together pop-beads.

Linear vestibular input modulated with proprioceptive deep pressure is another frequently helpful sensory activity for young children with behavior and sensory processing challenges. Activity strategies involving combined proprioceptive deep pressure and linear swinging include: rocking forward and back using both open hands against the floor while supported on the stomach over a therapyball, and propelling on a playground swing while pushed firmly on the back from behind.

Activity strategies most helpful for children with a history of severe early child abuse and neglect promote body image, increase self-control, and address sensory modulation problems. Helpful activity strategies include hugs, cuddly comfort objects, a bedtime routine of rocking and singing to the child, songs during activity transitions, and movement songs teaching body awareness e.g., Head, shoulders, knees, and toes; Put your finger on your nose (Gaensbauer & Siegel, 1995).

Activity strategies for teaching self-control include purposely braking rules or making mistakes to see if the child notices. Shared control can be used in providing firmly structured alternating activity choices with the child e.g., “my pick, then your pick, my pick, and then your pick” (Bailey & Wolery, 1992). Helpful activities providing practice with self-control as well as active proprioceptive and linear vestibular sensory input include having the child: help set table, pass out books, set up mats, play Simon Says, and do the Row-your-boat movement song (Dunn, 2003).

Young children need sensitive moderate pressure touch for optimal behavioral development (Field, 2002). Young children with behavioral and sensory processing challenges need sensitively contingent touch input to meet their sensory processing needs (Smith et al., 2005). While the goal of parents and professionals is to help the child learn to use activity strategies that meet his needs for touch pressure, some young children with behavioral and sensory processing challenges significantly benefit when provided with firm pressure by their parents and early childhood professionals. Experimental research indicates that moderate pressure massage significantly improves neurological calming

and functional behavior in infants with developmental delays (Diego et al., 2005) and children with psychiatric disorders (Field et al., 1992; Khilnani et al., 2003). Clinical research of firm pressure applied through brushing as an initial component of sensory integration intervention found significantly improved behavior in children who had autism and mental retardation (Smith et al., 2005).

Parents are best able to consider diverse professional opinions and their child's unique needs and select the best intervention strategies for their child. Touch intervention is an important component of strategies to improve children's behavioral and sensory processing skills. Options include massage (Field, 2002), intensive brushing (Wilbarger, 1995), and progressive deep pressure (Pagano, 2005).

SUMMARY

This article describes Functionally Approached Body (FAB) Strategies parents can consider with their early childhood professional if their young child has behavioral and sensory processing challenges. The Functionally Approached Body Strategies described include trigger identification, environmental, and activity strategies. The functional strategies provide an integrated approach to promote early childhood mental health, learning, and development for children with behavioral and sensory processing challenges. Theoretical support for the functional strategies is provided through the positive behavioral support and sensory integration model for intervention with young children who have behavioral and sensory processing challenges.

Research consistent with the Functionally Approached Body Strategies is provided, but research does not specifically support the efficacy of the Functionally Approached Body Strategies with young children who have behavioral and sensory processing challenges. It is important that parents work with their early childhood professional to individualize the Functionally Approached Body Strategies for their child, then systematically document whether the strategies help their child and modify them accordingly. Remember that the ultimate goal is for parents and eventually the child to independently integrate the strategies into daily life. Behavioral and sensory processing problems are challenges and children can be helped to learn successful coping.

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