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Occupational Therapy's Role in Addressing the Sensory Processing Needs of Young Children with Trauma History

Abstract

Evidence shows that children impacted by trauma have unique sensory challenges. Sensory processing issues put children in this population at high risk for developmental delays, increased negative behaviors, and functional challenges. Unfortunately, many individuals who work and interact with these children lack knowledge of how to adequately address sensory processing issues and meet sensory needs. This prevents children from fully engaging in the meaningful occupations of childhood. The internship experiences of one occupational therapy student reveal that occupational therapists can help facilitate occupational performance by assisting organizations, professionals, and parents in meeting the sensory needs of children with trauma history.

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Keywords

Occupational therapy, sensory processing, trauma, early childhood

Subject Categories

Occupational Therapy

Occupational Therapy's Role in Addressing the Sensory Processing
Needs of Young Children with Trauma History

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Abstract

Evidence shows that children impacted by trauma have unique sensory challenges. Sensory processing issues put children in this population at high risk for developmental delays, increased negative behaviors, and functional challenges. Unfortunately, many individuals who work and interact with these children lack knowledge of how to adequately address sensory processing issues and meet sensory needs. This prevents children from fully engaging in the meaningful occupations of childhood. The internship experiences of one occupational therapy student reveal that occupational therapists can help facilitate occupational performance by assisting organizations, professionals, and parents in meeting the sensory needs of children with trauma history.

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When I started my journey to become an occupational therapist, I had limited knowledge of sensory processing. In order to expand my knowledge of sensory processing and occupational therapy's (OT's) role with children who have sensory processing challenges, I chose to complete my doctoral experiential internship at a therapeutic preschool in Portland, OR. This preschool serves young children in the community who have histories of abuse, neglect, or trauma and sensory processing difficulties along with their families. During my experience, I learned that preschool-aged children with trauma experiences have very unique sensory needs compared to their same-aged peers. During my direct interactions with the children, I observed the unique sensory issues these children experience and the daily obstacles they face that prevent them from engaging in healthy developmental activities. Practicing in this setting helped me realize that occupational therapists are uniquely qualified to support children with trauma histories and the teachers who work with them. It also helped me identify the many mechanisms by which occupational therapy practitioners can meet sensory specific needs in this setting.

Basic Needs of Children

The first step in developing a role for occupational therapists with children who have trauma history is to learn about their unique sensory needs. Research emphasizes the fact that children must have several basic needs met in order to develop appropriate social, emotional, cognitive, and motor skills, and has identified sensory stimulation as one of a child's basic needs (Daunhauer & Cermak, 2008; Nelson, 2007). In the typically developing population, children usually receive most of their sensory stimulation through interactions with their parent or caregiver (Purvis et al., 2013). Sensory information passes from an individual's surrounding environment into the brain via the sensory systems of the body. The five main sensory systems by which this occurs include the auditory, visual, gustatory (taste), olfactory (smell), and tactile

(touch) systems (Henry et al., 2010). There are two additional but less well-known ways in which children receive input. The first, the vestibular system, is related to the inner ear and the occipital region of the brain, more specifically the cerebellum. When the head moves or the body changes position, these areas of the brain work together to help produce a sense of balance or equilibrium (Henry et al., 2010). The second system, the proprioceptive system, receives stimulation from sensory receptors between the joints of the body. When these receptors are stimulated during pushing or pulling motions in the joints, muscles, tendons or ligaments of the body, information is sent to the brain provide a sense of body awareness (Henry et al., 2010).

Sensory Processing & Childhood Trauma

Stimulation through the sensory systems of the body has been shown to be absolutely essential for brain development (Haradon, 2001; Daunhauer & Cermak, 2008; McGuinness & Schneider, 2007). New sensory experiences help a child learn by facilitating the formation of new synaptic connections in the brain and thereby directly influence a child's ability to learn, adapt, and solve new problems (Zachary, 2014). A typical child's brain is naturally able to perform sensory integration: the process of taking in sensory information from the environment, interpreting it, organizing it, and then producing a behavioral response appropriate for the situation (Zachary, 2014). However, many children who have experienced abuse, neglect, or other traumas come from environments in which their sensory input needs are not adequately met. Inappropriate sensory stimulation or the absence of sensory stimulation during development places a child at a higher risk for developmental challenges (Haradon, 2001). For example, lack of sensory input in early childhood can contribute to difficulties developing healthy and secure attachments (Purvis et al., 2013). These same experiences may also result in challenges developing emotional regulation skills, in a compromised ability to process sensory information,

or delays in cognitive and motor development. This combination of issues can cause disorganization of signals received from the environment by the brain, which in turn prevents the brain from being able to integrate, modulate, or coordinate sensory stimuli appropriately (Purvis et al., 2013; Zachary, 2014). Unfortunately, this leads to a variety of maladaptive responses to sensory stimulation, including high or low sensitivity to stimuli, active avoidance of sensations, or high levels of sensory seeking behavior (Zachary, 2014; Henry et al., 2010).

Functional Implications

These maladaptive responses to sensory input are problematic because they create functional challenges. This ultimately prevents engagement in the basic tasks and roles of daily life (O'Donnell et al., 2012). Specific issues children with sensory challenges may have include difficulty learning and performing basic self-care tasks, such as brushing teeth, washing hands, and getting dressed. They also may have challenges engaging socially with both peers and adults. Participation in education may also be disrupted due to difficulties with sustained attention and underdeveloped cognition (Daunhauer & Cermak, 2008; O'Donnell et al., 2012). Play may also be limited to repetitive interactions with objects, lack of creativity, and minimal interaction with other children in joint playtime activities. Children with sensory processing challenges and a history of trauma remain at high risk for developmental delays in many different areas unless they receive appropriate interventions to address their sensory issues (Haradon, 2001).

Associated Behavioral Challenges

Service providers such as teachers and therapists are frequently challenged by the behaviors all children exhibit during the preschool years. These behaviors include aggression, noncompliance, and destruction of property (Ritz et al., 2014). However research shows that children with trauma history display more behavioral problems in addition to these. This is

because sensory processing difficulties in young children are often outwardly manifested as negative behaviors (O'Donnell et al., 2012). Some of these outward manifestations include irritability, lethargy, hyperactivity, repetitive behaviors, inappropriate language, trouble regulating emotions, lack of self-control and self-calming, poor arousal, mood dysregulation, and attention problems (Jaegermann & Klein, 2010; O'Donnell et al., 2012). Due to the many problem behaviors they exhibit, these children are often perceived as more challenging for teachers and other adults to manage than typical preschoolers. Due to the need to constantly manage behavior, service providers who work with this population would greatly benefit from education and training regarding how best to support and maximize the potential of children impacted by trauma and sensory challenges (O'Donnell et al., 2012).

Role of Occupational Therapy

Due to their educational background in both sensory processing and child development, occupational therapists can help address the sensory needs of children with trauma histories. Occupational therapy practitioners can provide intervention at both organizational and individual levels. They can offer education, training, and consultation with organizational staff, provide direct sensory-based intervention to individual children, and support families through education and hands-on training. By utilizing the range of skills and resources within their scope of practice, occupational therapists can help improve the occupational performance of organizations, families, and children impacted by trauma.

Doctoral Internship Experience

In my experience working in a community-based setting during my occupational therapy doctoral internship, I utilized both organizational and individual interventions to help meet the sensory needs of children served at the site. Prior to implementing interventions, I completed a

needs assessment. I investigated the organization's history, values, daily patterns and routines, needs, and interests as a whole. I also analyzed the occupational performance of the site, staff, and families through direct observation, informal interviews, and surveys. Based on the results of the needs assessment, I identified many sensory-related needs within the organization that could be addressed from an occupational therapy perspective. Areas of need addressed included staff education and training, parent education and training, and modification of site spaces.

Staff Education & Training

One of the most pressing needs identified during the assessment process was staff education on sensory processing. Most staff members and teachers at this site had limited knowledge of sensory processing, the impacts of trauma on the sensory system, or how to address sensory concerns within the classroom. To address this need I provided informal verbal education to teachers, therapists, and other site staff about the sensory system, sensory concepts, and specific sensory disorders. When teachers struggled to address the sensory needs of particular children or their class as a whole, sensory strategies to implement into the classroom routine were recommended. Strategies were also modeled during classroom activities to provide staff with concrete examples of how to implement recommendations.

To reinforce sensory concepts and strategies for teachers, I created sensory activity handouts. Each handout contained basic educational information on sensory processing, sensory processing challenges, and the purpose of the activities. The resources also included an extensive list of occupation-based sensory activities that teachers could implement as a part of their classroom routines, and were separated by activity category (e.g. inside play, outside play, job/helper activities). Three handouts were created in total, each focusing on a different type of regulating activity; one focused on heavy work activities, another on vestibular-based activities,

and the other on tactile-focused activities. Several staff members also expressed interest in obtaining more information about certain sensory-related topics (e.g. dyspraxia, effects of prenatal drug exposure on sensory processing). These staff members were provided with written summaries of current research findings or copies of current research articles.

To further support goals for educating staff at my internship site, a program-wide in-service was organized. During this in-service, teachers, therapists, and support staff were provided with detailed information regarding foundational sensory concepts, sensory processing challenges, signs of sensory processing challenges in young children, and sensory strategies for the classroom. Information was framed around the context of how trauma experiences impact sensory processing.

The needs assessment process revealed that staff also had limited knowledge of how to use a sensory resource available to them—a sensory processing screening tool. The tool, developed by the site’s previous occupational therapy intern, was designed to help the organization identify children at-risk for sensory processing disorder or challenges. It was clear that more support was needed to help program staff use the tool effectively. Gaps in staff knowledge included when to use the tool, how it should be used, why it should be used, and how to use it in the referral process. To help equip the organization in continuing to identify at-risk children via this tool, a training workshop was offered to site staff. Workshop discussion topics included uses of the screening tool, the process of filling out the form, interpreting scores, and what to do with the results. Detailed instructions about using scores to make referrals to early intervention and outpatient occupational therapy were also provided.

Parent Education & Training

Another need identified during the needs assessment process was parent education. Per report of facility staff, parents who were a part of the parent-infant class had very little knowledge of the importance of sensory input on child development and did not understand how to facilitate sensory input through daily activities. In response to this need, parents were educated on the human sensory system and the importance of sensory input for child development. Methods for how to incorporate sensory input during a mom's daily routine were also discussed and educational handouts with ideas of simple sensory activities were provided. Parents were also provided with opportunities to engage in occupation-based sensory activities with their children to practice facilitating healthy, developmentally appropriate sensory activities at home.

Teachers also expressed a need for sensory activity ideas for the parents they work with. They stated that most parents did not know how to implement sensory strategies or do developmentally appropriate sensory activities at home. In an effort to meet this need, educational resources were created for parents to use in the home. Handouts were created based on input from teachers regarding length, focus, and simplicity. Each handout included brief education on the sensory system, sensory processing challenges, and the purpose of the activities. The resources also included a list of ideas of sensory activities that parents could implement as a part of their daily routines, and were separated by activity area (e.g. play, mealtime, helper activities). Three separate handouts were created, each centered on a different type of regulating activity (e.g. proprioceptive, tactile, and vestibular activities).

Environmental Modification

During the needs assessment process it was identified that play spaces on site could promote greater sensory development opportunities. I consulted with program teachers to brainstorm ideas. One teacher stated that her classroom was too over-stimulating and needed

assistance in fixing this. Together we developed a more calming and less overwhelming space. Suggestions for this space included reducing unnecessary stimuli (e.g. taking down excessive art on walls, playing softer/quieter music), increasing the organization of the classroom, and providing a space for over-stimulated children to calm down and rest when needed. It was also discovered that more varied sensory opportunities were needed on the site's playground. In collaboration with teachers, management, and other site staff, a plan was developed to incorporate an interactive kitchen space. A kitchen area (including shelves, a stovetop, and two sinks) was constructed out of wood, kitchen tools (e.g. spoons, pots, pans) were purchased, and food items were created out of rocks and paint materials. The items were placed outside in the playground to facilitate more opportunities for children to play with objects with a variety of sensory properties (e.g. textures, weight, colors, and sounds).

Another space identified during the needs assessment process, was the site's sensory-motor room. The site was fortunate to have a dedicated sensory room with a wide variety of equipment. The challenge was that time students spent in the room appeared to be chaotic, dysregulating, and overstimulating. Using an informal interview approach, I evaluated how classroom teachers were using the room. Topics covered included how often, with which students, and for what purposes was the room being used. I discovered that teachers typically brought entire classes into the room, tended to use the room during inclement weather days, and did not have a structured approach to utilize the sensory equipment. In response, three written sensory activity plans were created to guide teachers' use of the room. The plans were posted on the sensory room wall and included instructions for implementing three types of regulating sensory activities (heavy work, vestibular, and tactile). Simple steps to facilitate these activities

were also included (e.g. providing verbal instruction, setting up stations, use of timers, ending with a calming activity).

Conclusion

Many healthcare professionals have the potential to positively influence the developmental trajectories of children who have trauma experiences. Due to expertise in sensory processing and background education in child development, occupational therapists are uniquely qualified to address the sensory-specific needs of these children. Occupational therapists can help build the capacity of professionals to identify and address sensory issues, give parents the tools and knowledge they need to facilitate healthy development through occupation, and help organizations optimize sensory elements of their spaces. By empowering staff, parents, and organizations in these ways and more, occupational therapists can help children with trauma histories more fully engage in the occupations of daily life. By doing this, they can ultimately help facilitate the health and well-being of children who without such interventions would be at risk for a lifetime of developmental delays and challenges.

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