

Sensory Integration: Improving Participation, Behavior, and Learning in Individuals with
Sensory Processing Disorder

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Many children receive occupational therapy service to address sensory processing differences. The prevalence of sensory processing disorder accounts for approximately 5-16% of typically developing individuals and 30-80% of individuals with developmental disabilities (Miller et al., 2012). Sensory processing disorder also affects 5-16% of school-aged children leading to deficits in cognitive and social development (Owen et al., 2013). The founder of sensory integration, A. Jean Ayres defined sensory integration as “the process by which people register, modulate, and discriminate sensations received through the sensory systems to produce purposeful, adaptive behaviors in response to their environment.” (Ayres, 1979, as cited in AOTA, p.1). Research also shows that issues with sensory processing decreases an individual’s ability to attend to tasks, carry out coordinated motor movements, plan and sequence new tasks, form social relationships, manage demands in the classroom, complete self-care tasks, and engage in family activities (AOTA, 2008). Difficulties related to sensory processing and sensory integration interfere with a child’s ability to engage in daily occupations. In addition, when a child has sensory processing difficulties, it can impact the family unit. The sensory processing of a child impacts the choices a family unit makes on the occupations in which they chose to engage. Sensory processing also impacts the interaction between family members (Bagby et al., 2012). Sensory processing of a child has also been reported to restrict the engagement of the family in daily activities and contributes to parent stress (Ben-Sasson et al., 2013). Sensory processing difficulties limit participation and can lead to negative effects on child development, quality of life, and enjoyment in daily activity (Pfeiffer et al., 2017).

Sensory integration therapy (SIT) is an intervention designed to help children improve sensory processing. Sensory integration therapy has been shown to improve goals related to

function and participation, decrease impairment, and decrease caregiver assistance (Schaaf et al., 2018). While issues with fidelity remain, interventions defined as SIT are widely used across pediatric practice with good effectiveness to improve outcomes in play, participation, and sensory processing (Adenlin et al., 2021; Phoebe et al., 2022). Children exist as part of a family unit, with many of their routines and occupations being influenced by the family. Yet, there is little research to examine the impact of SIT on the family unit. The purpose of this study was to examine the lived experiences of caregivers of children who have received SIT.

Methods

The researchers utilized a qualitative phenomenological approach to examine the lived experiences of participants regarding the impact of sensory integration therapy on the family dynamics. Participants were recruited through purposive and convenience sampling and by posting flyers in high traffic areas in the three pediatric therapy sensory integration clinic locations, posting on parent social media groups that focused on children with sensory processing disorder and children with disabilities, posting on the researcher's social media pages, and word of mouth. Participants in this study included parents/caregivers residing in the United States that had a child under the age of 18 who had received occupational therapy services using a sensory integration framework within the last five years. All interviews were conducted in English, therefore participants needed to be English speaking to participate.

Researchers used semi-structured interviews with 14 pre-determined questions and 2-3 probing questions each to guide the interview process. Questions were developed based off of current literature on sensory integration, family dynamics for families of children with special needs, the impact of therapy on family dynamics, etc. Researchers designed the questions to capture the lived experiences of participants and understand how sensory integration intervention

has influenced their family dynamics. Interviews were conducted in person or via Zoom, were audio recorded, and transcribed.

Data Analysis

Coding followed Moustakas (1994) procedures for phenomenological approach to qualitative research in systematic steps, procedures, and guidelines to identify themes. The researcher analyzed the data using open coding, a line-by-line analysis process, and created codes based on significant statements of the lived experiences within the data. Each transcript was reviewed, analyzed, and coded by three individuals, who were each blinded to the other coders' results. Additionally, each transcript was reviewed 2-3 times by each individual to ensure accurate codes and themes were created and used. Following individual analysis, the coders came together and discussed and compared the analyzed data in order to identify consistent and accurate themes and achieve investigator triangulation, which is important in qualitative research as it checks for validity. Researchers trained in qualitative methodology completed the data analysis.

Results

Sixteen eligible participants completed a short demographic survey that allowed the researchers to collect data on and better understand various characteristics of the population that this study targeted.

Participants

Table 1. Demographics.

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Age of Child	
0-5 years	8
6-12 years	7
13-18 years	1
Gender of Child	
Male	11
Female	5
Ethnicity	
White	12
Black or African American	1
Hispanic	2
Asian	1
Birth Order of child	
Youngest	8
Middle	4
Oldest	4
OT Services	
Last appointment was less than a month ago	15
Last appointment was more than one year ago but less than five years ago	1
State	
Arizona	14
Illinois	1
North Dakota	1
Community	
Rural	4
Urban	12
Marital Status	
Married	13
Never Married	3
Number of Children	
1	3
2	7
3	2
4	1
5	1
6	2
People in Household	
2	1
3	1
4	7
5	3
6	2
8	2
Education (Parent 1 & 2)	
Less than high school degree	2
High school degree or equivalent (i.e. GED)	5
Some college but no degree	4
Associate degree	3
Bachelor's degree	10
Graduate degree	7
Household Income	
\$25,000 - \$50,000	4
\$50,000 - \$100,000	3
\$100,000 - \$200,000	8
More than \$200,000	1

Biological, Adoptive, or Foster

Biological	13
Adoptive	3

Themes

Four themes emerged explaining the lived experience of participants describing how sensory integration has influenced their family dynamics.

1. Family Routines: Family routines were modified based on the child's sensory needs and specific occupations that were impacted include parent social participation, mealtime participation, and sleep.
2. Parent Response/Reaction to Sensory Needs: Participation in sensory integration therapy helped parents better understand their child's sensory needs which impacted their interaction with other family members.
3. Modified Participation in Family Activities: Parents indicated a change in participation in various family activities.

4. Improved Regulation Leading to Increased Family Participation Outside the Home: As a result of sensory integration therapy, parents reported a change in their child's behavior which led them to participate in more activities as a family outside the home.

Overall, participants reported significant benefits of occupational therapy using a sensory integration approach on their child's behavior, learning, and participation, impacting the overall family dynamic. Participant 13 reported "occupational therapy, especially since sensory integration, were kind of like, magical for us", and also stated "I credit it with just changing the trajectory of her life, like she's a totally different kid now than she was before she started sensory integration". Participant 13 also reported that "almost everything in her life has been improved", and "it seemed like everything got so much better and quickly, like it was staggering really". Participant 14 reported "he's been able to learn skills really quickly" and "the rapid catching up that he's done has been totally due to OT". Participant 1 noted "between where he was ... as a 3-year-old versus now, huge progress" and participant 7 stated "all I can say is ... [my child] has just improved tremendously with the time that he's been here [in OT]". Participant 11 reported "she's come a long, long, long, long way with OT" and participant 2 stated "we feel it's very, very beneficial for him and for us as a family". Additionally, participant 6 reported "who knows where he would be if we never did occupational therapy" and participant 16 stated "I don't want to know where we would be without occupational therapy".

Conclusion

Overall, participants reported a variety of ways in which sensory integration has impacted the family dynamic. The participants identified an impact on the overall family routine, parent response to their child's sensory needs, modified participation in family events, and improvements in family participation outside the home as a result of therapy.

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