
Caregivers' Perspectives on the Sensory Environment and Participation in Daily Activities of Children With Autism Spectrum Disorder

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The purpose of this phenomenological study was to obtain caregivers' perspectives on the impact of the sensory environment on participation in daily activities of their young children with autism spectrum disorders (ASD). Interviews were completed with 34 caregivers of children with ASD ages 3–7 yr. Results strongly suggest that parents and caregivers were pivotal in enabling participation for their children through the implementation of specific strategies and a parental decision-making process. The decision-making process considered amount of effort necessary to support participation and whether participation in a given activity was perceived as essential or nonessential. Strategies enabled participation and reduced the effort required to support the child's participation. Strategies either directly related to the sensory factors of the environment or focused on reducing behavioral responses associated with sensory factors. In this study, we identified important considerations to enhance participation in the home and community environments for children with ASD.

Pfeiffer, B., Coster, W., Snethen, G., Derstine, M., Piller, A., & Tucker, C. (2017). Caregivers' perspectives on the sensory environment and participation in daily activities of children with autism spectrum disorder. *American Journal of Occupational Therapy, 71*, 7104220020. <https://doi.org/10.5014/ajot.2017.021360>

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Participation in daily activities is the context in which children acquire valued life skills and competencies (Dunst, Hamby, Trivette, Raab, & Bruder, 2002; Law, 2002) and as such is an important factor in development, health, and quality of life (World Health Organization [WHO], 2001). Although participation in daily activities is considered routine for most young children and their families, it is often more challenging for children with autism spectrum disorder (ASD). Children with ASD and their caregivers face barriers in the environment because of unique characteristics of ASD that reduce the number and diversity of activities in which they participate (Bedell et al., 2013; Law et al., 2013). This reduced engagement may negatively affect the development and quality of life of the child with ASD.

ASD manifests in a range of symptoms. The number and type of symptoms can differ drastically and range from mild to severe with varying degrees of impact on participation in daily activity. A core characteristic of ASD, under the category of restricted, repetitive patterns of behaviors, interests, or activities, is hyper- and hyporeactivity to sensory stimuli in the environment (American Psychiatric Association, 2013). Research has estimated that up to 95% of people with ASD have unusual reactions to sensory stimuli in the environment (Ben-Sasson et al., 2009). Dunn's (2001, 2006) model of sensory processing helps conceptualize these reactions. The model describes a range of sensory thresholds from hyposensitivity to hypersensitivity. A *hyposensitive* response

indicates a high neurological threshold, meaning a more intense stimulus is needed for a behavioral response. In contrast, a *hypersensitive* response indicates a lower neurological threshold for sensory stimuli, meaning a less intense stimulus is needed for a behavioral response. Children whose thresholds are at the extremes of this range may respond in ways that interfere with their daily activities.

Researchers have identified differences in sensory processing as a risk factor for limitations in participation. Bar-Shalita, Vatine, and Parush (2008) found significant correlations among decreased enjoyment, performance, and frequency aspects of participation and increased indications of atypical sensory processing. In a study by Hochhauser and Engel-Yeger (2010), atypical sensory processing patterns in children with ASD were correlated with lower participation in social and physical leisure activities. In another study, sensory processing subtypes in children with ASD predicted competence in activity, social, and school performance (Reynolds, Bendixen, Lawrence, & Lane, 2011). Families with children with ASD have reported that their children's unusual responses to sensory stimuli restricted participation in daily living activities and created social isolation for both the parents and the child (Schaaf, Toth-Cohen, Johnson, Outten, & Benevides, 2011).

The *International Classification of Functioning, Disability and Health* (WHO, 2001) provides a framework for understanding the factors that may influence participation. Participation is related to three primary factors: (1) whether the person possesses the functional skills needed in that life situation; (2) person factors, including cultural factors, preferences, and values; and (3) environmental factors (WHO, 2001). Environmental factors include, but are not limited to, social, community, and structural resources (WHO, 2001). Researchers have identified that parents of children with disabilities report environmental factors as barriers to participation significantly more often than parents of children without disabilities (Bedell et al., 2013; Law et al., 2013). Accordingly, a primary factor influencing participation in daily activity by children with ASD is the fit between individual characteristics and the environment. A child's individual responses to stimuli in the environment may be a critical factor affecting his or her participation.

Without an understanding of the impact of the sensory environment on participation from the perspective of the family, professionals cannot effectively meet the unique needs of children with ASD to design interventions and environments promoting participation in natural contexts. At these young ages, which are also when the first signs and symptoms of ASD emerge, participation occurs

most extensively within the context of the family. Such early social participation is critical and transactional in nature; the child and family both respond to the child's participation restrictions, setting up a dynamic relationship and expectations for interaction that have far-reaching effects through childhood (Dunst et al., 2002; Swanson, Raab, & Dunst, 2011). This dynamic results in parents and caregivers providing the supports and modifications to the environment that facilitate participation, giving them unique insight into the influences of sensory environments. In studies of families with children with disabilities, researchers have described parents' efforts to accommodate their children's needs while trying to sustain important family routines (e.g., Gallimore, Coots, Weisner, Garnier, & Guthrie, 1996). However, there is limited information on how families with children with ASD approach this process, especially the challenges related to sensory reactions.

Therefore, the purpose of this study was to explore participation in daily activity among families with children with ASD and the perceived influence of sensory environments. Specifically, we investigated (1) the sensory environmental factors that enhance or limit participation and (2) the methods parents or caregivers use to support participation for their child.

Method

Design

A phenomenological approach was used for this qualitative study to understand the lived experiences of the parents and caregivers of young children with ASD. A key component of this approach is to understand phenomenon from the perspective of the people involved. Parental and caregiver experiences were viewed as central because caregivers typically engage in shared participation with the child and provide the supports that facilitate participation, giving them unique insight into the influences of sensory environments. Semistructured interviews were the primary source of data to ensure that results represented the viewpoints and experiences of caregivers.

Participants

Researchers recruited parents and caregivers between ages 20 and 59 yr who had children ages 3–7 yr with symptoms or a diagnosis of ASD (autistic disorder, pervasive development disorder—not otherwise specified, and Asperger syndrome) based on *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM-IV*; American Psychiatric Association, 1994) criteria. The children of

participants were all previously diagnosed with *DSM-IV* criteria rather than the more recently revised *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM-5*; American Psychiatric Association, 2013) criteria for ASD. All participants were either biological or adoptive parents or identified as full-time caregivers for the child. For inclusion in the study, caregivers had to have legal custody of the child. Confirmation of diagnosis and symptoms were obtained through school and medical reports.

In this qualitative study, the focus was to characterize the diverse experiences of parents and caregivers of children whose behaviors were indicative of autism. In such a study, generalization of specific findings is not the primary concern; therefore, researchers did not undertake further validation of the child's diagnosis.

For inclusion in the study, participants needed to be able to complete a recorded individual interview over the phone, in their home, or in a local community setting. A purposeful maximum-variation sampling strategy was used to obtain variance within the level of functioning typical across the ASD spectrum in the participant pool. Using this sampling strategy, researchers aim to select participants who represent a wide range of ASD symptoms and levels of support. Sampling was primarily accomplished through a review of demographic data collected before inclusion in the study. Participants were recruited through support groups and agencies that provide services to children with ASD. Information on the study was also posted on social media groups targeting families with children with ASD. Contact information was provided, and interested participants initiated contact with the researchers. Additionally, the primary investigators and consultants for the project had access to participants through ongoing or previous research and clinical relationships.

There were 34 participants in the study. All participants were English speaking and lived in Canada or the United States. There were 33 female participants and 1 male participant, with ages ranging from 20 to 59 yr. There were 15 participants who identified family caregiving as their primary role, 11 participants who worked full time, 7 participants who worked part time, and 1 participant who attended school full time. Annual family income varied, with most participants ($n = 29$) falling into middle to upper socioeconomic ranges ($\geq \$50,000$), with only 5 participants falling below this level ($< \$50,000$). Twenty-three participants completed some graduate school or had a graduate degree, and 9 participants completed some college or technical school. Two participants completed high school or part of high school. The mean age of the participants' children was 4.5 yr (standard deviation =

1.42). All the children were diagnosed with ASD. Of the participants' children, 6 were female, and 28 were male. Ten children were in regular education, 11 were in special education, and 3 were in a combination of both regular and special education. Seven children did not attend school, and school placement was not reported for 3 children.

Data Collection Procedures

When potential participants contacted the researchers, they were asked a series of questions to confirm inclusion in the study, including their children's ages and diagnosis or presenting symptoms. If the participants met the inclusion criteria, informed consent and permission to digitally record were obtained either in person or through secure electronic documents. Data were collected for the study through semistructured interviews, member checks, and demographic information. Participants completed interviews lasting between 45 and 90 min that were digitally recorded. Interviews were scheduled either over the phone or in person, depending on the preferred interview method of the participant. Two researchers trained in qualitative interview methods conducted the interviews.

Guiding questions developed by the researchers and refined through an iterative process were used during the interviews to obtain data related to the targeted research questions (Table 1). Specifically, questions were framed to elicit the perceived experiences and observations of the participants regarding how their children responded to sensory stimuli in the environment and how their reactions affected participation. Interviews were not limited to these guiding questions, but questions were expanded as needed to obtain the full perspectives and experiences of participants. Interviewers used steering probes when needed to guide participants' conversations back to the research process and depth probes to facilitate the expansion of descriptions of the experience.

Member checking was conducted with 5 randomly chosen participants to ensure trustworthiness of the data. The researchers met with these participants either in person or over the phone to share the interpretation of the data and determine its accuracy from the perspective of the participant. The participants were provided with a summary of the emerging themes for review before the scheduled interview. This follow-up interview allowed participants to discuss initial findings and to provide additional information or feedback. The interviews were recorded to review and integrate any new data provided as part of the analysis process.

Additionally, all participants completed a demographic form that was either mailed to them or available

Table 1. Guiding Questions

No.	Question
1.	Can you describe some of your child's responses to sensory characteristics and stimuli in the environment, such as noise, visual stimuli (e.g., lights), smell, taste, movement (e.g., playing on playground equipment and swings or driving in a car), touch, or how things feel?
2.	How do these stimuli affect his or her participation in daily activity? Can you provide some examples?
3.	What are some of the ways in which you support your child's participation in the daily activity?
4.	How do you know or what makes you believe that it is the sensory environment affecting these situations and daily activities? What behaviors have you observed that make you know it is the sensory environment affecting these situations and daily activities?

through an online link with Qualtrics Survey software (Qualtrics, Provo, UT). Demographic data collected for participants included age, gender, employment status, education, annual income, ethnicity, living environment, country, and state, as well as relationship to the child. Demographic data collected for children of the participants included age, gender, ethnicity, diagnosis, and classroom placement, if applicable.

Data Analysis

Research assistants transcribed all interviews, which were then cross-checked with the digital recording to ensure accuracy. Data analysis was initiated as soon as an interview was completed and transcribed. Two or more researchers analyzed each interview to enhance validity of the results. The researchers were different from those who conducted the qualitative interviews and member checks to better bracket contextual biases. All researchers who completed the analysis process were trained in qualitative methodology.

A relational content analysis process was used to analyze data. The creation of a codebook or use of descriptive labels guided data analysis. The primary researcher and a research assistant developed a codebook through exploration of the first three interviews. The coders independently read the transcripts and made brief notes (memos) related to research questions for the study. After the completion of these reviews, the coders met to discuss their perceptions and developed a codebook, including a coding scheme for each of the guiding questions. To ensure accuracy of the codebook and consistency of the coding process, these same coders independently coded three more transcripts using the codebook as a guide. The coders met to compare and discuss the results of coding efforts, and minor revisions were made to the codebook. All researchers involved in data analysis met two other times during the open coding process to discuss the coding and to revise the codebook. There was only one minor revision implemented in the codebook after the first of the two meetings.

After open coding was completed for all interviews, researchers met to discuss the results and to determine

agreement in the coding. In the few instances in which there was not agreement, the rationale for applying data to a code was discussed until consensus was obtained. After the completion of open coding, three researchers reviewed the analyzed data to identify broader categories and the links among categories in relationship to the research questions. Each researcher reviewed the completed codebook—which included words, text, and quotes categorized under descriptive labels—and completed memos of broader categories and links. This step was first completed independently, followed by a group discussion resulting in consensus. These broader categories represented the overall experiences across participants in the study and resulted in four major themes. NVivo qualitative data analysis software (Version 9; QSR International, Burlington, MA) was used throughout the analysis process for data organization.

There were no new codes or general themes identified after the analysis of Interview 14, indicating data saturation. Researchers continued to collect and analyze data to obtain rich descriptions of participants' experiences and for a different but related larger study. At least two different researchers analyzed each interview to obtain investigator triangulation. Each researcher used the same methodology to analyze data, and findings were compared to understand multiple perspectives. All researchers arrived at similar conclusions, enhancing validity of the results. IBM SPSS Statistics software (Version 20; IBM Corp., Armonk, NY) was used to complete a descriptive analysis of demographic data.

Results

The qualitative analysis showed reoccurring themes that described the impact of the sensory environment on participation for the young child with ASD and the methods participants used to support participation for their child. Results revealed the following two broader themes reflecting the impact of the sensory environment on participation: (1) sensory responses to the environment (sensory sensitivity and sensory seeking) and (2) impact of sensory responses on participation. Additionally, two

major themes were identified during analysis representing methods to support participation: (1) a participation decision-making process and (2) specific strategies to enable participation.

Sensory Responses to the Environment

Participants described two main types of responses of their children to environmental stimuli: (1) sensory seeking and (2) sensory hypersensitivity. These responses were perceived as affecting participation. As defined and described by the participants, *sensory seeking* included behaviors that demonstrated a craving for additional sensory stimuli above and beyond what would be typical in the current environment, such as excessive running, crashing into objects or people, and self-stimulatory movements. *Sensory hypersensitivity* was described as an overly sensitive or reactive response to stimuli in the environment. Descriptions of behaviors indicative of sensory hypersensitivity included holding his or her ears when there were loud noises, refusing to participate in certain grooming tasks because of the way they made him or her feel, and not wanting to be touched by another child during play interactions.

One of the concepts that emerged during the data analysis process was that it was the combination of the child's responses to stimuli in the environment and the sensory features in the environment that affected participation. For example, Participant 5 reported that "he's hyper anyway, but with the extra stimuli . . . he just completely shuts down" when she described the impact of the sensory environment on her child's participation. Another (Participant 12) identified that her child's auditory hypersensitivity results in being "set off by loud, unexpected noises [in the environment], such as a fire truck, ambulance, fireworks, and garbage truck," resulting in a tantrum and cessation of the daily activity. Participant 23 reported that he could only take his child shopping in "certain stores because of the lights" because the child had hypersensitive responses to bright visual stimuli.

Impact of Sensory Responses on Participation

The degree to which the sensory factors affected participation in daily activities varied, but the experience was reported by all the participants interviewed. There were numerous activities for which participants could clearly identify that the sensory features in the environment or activity were the main factor affecting participation in an activity. There were other activities in which participants reported that a combination of factors—which often included the sensory features of the environment or activity

but also included core and secondary features of ASD, such as social, language, motor, or cognitive skills— influenced participation in a daily activity. For example, Participant 29 reported that mealtime was not only affected by the limited types of foods that her child would eat because of sensory factors but also by the child's communication and social challenges that decreased engagement necessary to participate in mealtime interactions. Participant 7 identified that unusual fears affected her child's participation during toileting because he was afraid to sit on the seat, whereas Participant 13 identified "fixation with lining up toys" as a factor affecting play with other children.

Participants' Decision-Making Process

Participants described a decision-making process related to the amount of effort necessary to support participation and whether participation in a given activity was perceived as essential and meaningful or nonessential and non-meaningful (Figure 1). Those activities that were deemed nonessential or lacked meaning were avoided if there was not a fit between the child's sensory responses and the sensory environment. These decisions varied on the basis of the individual perception of the participants. Many of the participants identified daily activities involving self-care as essential, but the perceived meaningfulness of other daily activities varied. For example, activities such as tooth brushing, dressing, hair care, bathing, and toileting were identified as essential, and participants almost always expended effort to support participation. Participant 6 reported that 3–4 people were needed to help hold her child still to wash his hair. Participant 17 reported,

He's 4 now, so he doesn't have to get diaper changes, but that was the worst, whatever, 3 years, of our lives. He would not lie down for diaper changes. I don't know how many times I was kicked, bitten. I always looked like I was a battered wife until he was 3 and a half. I had bruises all over from him trying to get out of not just the diaper, but being changed and having clothes put on.

For other daily activities, the importance varied on the basis of the perceptions of the participant. For example, Participant 30 reported that she dreaded getting party invitations for her son and stated, "When I see the invitation coming, we've got to think of an excuse why we can't go. I don't know if he becomes overwhelmed with everything that's going on, he no longer hears us and that happens a lot." In contrast, Participant 4 identified that even though it is extremely effortful and at times not a successful experience, she continues to take her child to

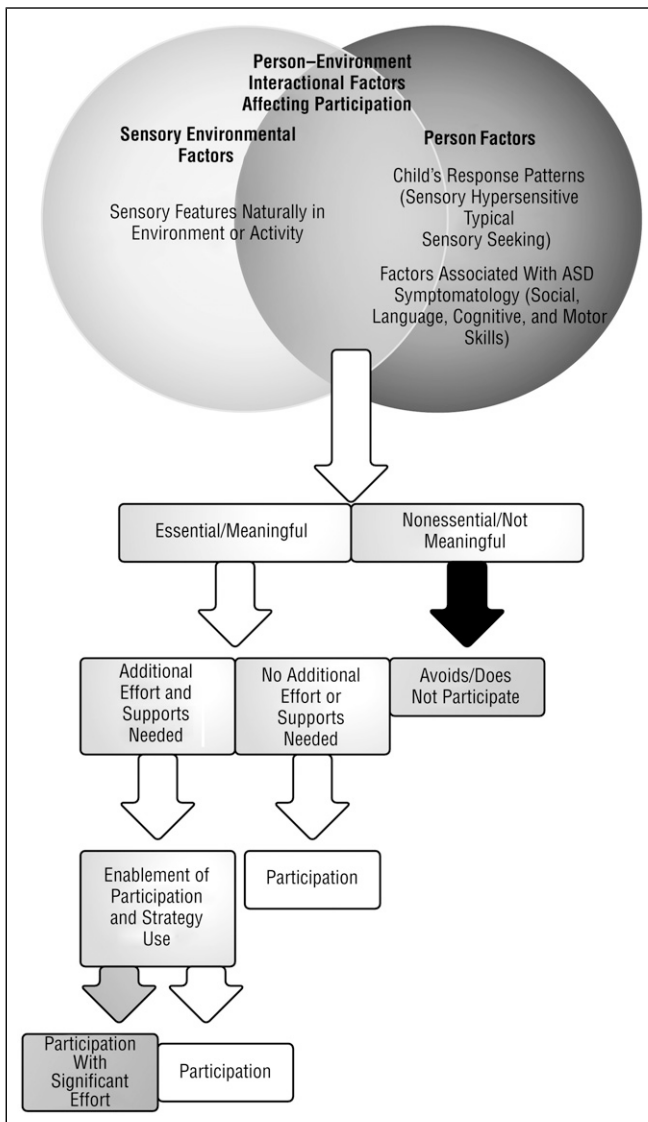


Figure 1. Caregiver decision-making process for enablement of essential or meaningful daily activities.

Note. ASD = autism spectrum disorder.

birthday parties because she does not want him to “miss out and this is an important part of his social development.” Participant 1 reported that she keeps attempting to have play dates because she “wants him to have friends,” although this activity is often challenging. Other participants reported feeling that their child was “missing out” but that it was too “hard” or “effortful” to participate in certain nonessential activities.

The activities perceived as essential and meaningful were pursued but often required additional strategies and supports implemented to enable participation. This concept of enablement emerged frequently throughout the interviews. When a child did not need any additional supports or strategies, participation was described as successful and requiring less effort. When supports and strategies were needed, participants reported that the activity required a great deal more effort for participation on

both the family and the child’s part. Overall, participants described a decision-making process regarding which daily activities to enable on the basis of the meaningfulness or essential nature of the activity and the amount of effort and strategies needed to support participation (see Figure 1).

Strategies to Enable Participation

In the final theme, strategies to enable participation, six consistent strategies were identified as supporting children’s participation in daily activity. These strategies enabled participation and reduced the effort required to support the child’s participation through an improved fit between the sensory environment and child characteristics. Some of the strategies directly related to the sensory factors of the activity or environment. Other strategies focused on reducing behavioral responses associated with the sensory factors through preparation, routine, and increasing the child’s perception of control. Participants reported that their child would demonstrate less intense and problematic behaviors when the daily activity was embedded into a routine or when the child was prepared for the sensory experience. Additionally, participants reported that when their child had control of the situation or was provided with choices to enhance the perception of control, the effects of sensory factors in the environment were reduced when compared with participation in those same activities without perceived control or choice. A description of each of the strategies is provided below:

1. *Maintaining or establishing routines:* Following an already established predictable routine or developing a new routine (e.g., keeping a consistent and predictable schedule that the child has done previously).
2. *Allowing the child to have more control and choice in the environment:* Enhancing the perception of control by the child of either how the activity is completed or the environment in which it is completed.
3. *Preparation and anticipatory planning:* Anticipating the unique needs of the child and preparing the child or other materials and strategies necessary for successful participation (e.g., using a social story to prepare the child, bringing snacks or favorite toys and objects, developing an alternate plan or environment if necessary).
4. *Ensuring the presence of certain sensory factors:* Sensory features that are naturally part of the environment or the activity (e.g., movement on the swings at the park, deep touch input from the foam at gymnastics, the feel and resistance of the water when swimming, darkness in the movie theater) that support or enable participation.

5. *Adapting the sensory features of the activity or environment:* Adaptations or modifications to the actual sensory features that are naturally occurring in the environment or the activity (e.g., reducing the noise in the environment, turning off the sound on a toy, taking the tags out of the child's clothing, turning down the lights).
6. *Implementing sensory strategies:* Using techniques that are implemented with the child to increase (e.g., firm hugs, use of fidget or oral-motor toys) or decrease (e.g., wearing noise-reducing headphones) stimuli on the basis of the child's needs and sensory responses to the environment or activity features.

Participants identified that some of the strategies were implemented with little effort and at times minimal awareness, whereas at other times they were perceived as effortful but necessary. The concept of effort permeated the interviews and reflected the dynamic interaction between the participant and the child's participation. The effort required was that of the participants in enabling or supporting participation for their young child with ASD. Participants identified that participation occurs most extensively within the context of the family for a young child. In this shared participation, participants responded to the child's participation limitations and used the various strategies to enable participation for their child.

Discussion

In this study, we sought to obtain parents' and caregivers' perspectives of the impact of the sensory environment on participation in daily activity by their children with ASD. On the basis of participants' perceptions, several implications for intervention and an understanding of important outcomes were gathered from this study. Specifically, we examined how families who have children with ASD define the sensory characteristics in the environment, and how the environment supports or limits participation throughout their daily lives. Results showed that a child's unique responses to particular stimuli that were present in the environmental context of a particular daily activity determined participation. Specifically, participants identified that their children demonstrated hypersensitive and sensory-seeking behavioral responses to environmental stimuli that affected participation.

These behavioral responses align with models of sensory processing described in the literature (Dunn, 2001, 2006) and suggest that the child's neurological threshold is a factor that affects reactions to environmental stimuli. A child with a high neurological threshold requires more intense environmental sensory stimuli, and a child with a

low neurological threshold requires less environmental stimuli to demonstrate similar responses. Results indicated that in some situations, participants could clearly identify that the sensory features in the environment or activity were the main factor affecting the child's participation, whereas in other situations, a combination of factors including the sensory and common features of ASD (social, language, motor, or cognitive skills) influenced participation. Although this finding seems obvious given the complexity of ASD, it suggests that researchers need to consider assessments and interventions that are multidimensional when supporting children's participation. Results strongly suggested that participants were pivotal in enabling participation for their children through the implementation of specific strategies and a decision-making process. Thus, parental and caregiver supports should be included as part of intervention processes to support them in this process.

A related finding concerned the parent and caregiver decision-making process, which was based on the perceived meaning or essential nature of the daily activity. Activities that were deemed essential or meaningful were pursued but often needed additional strategies and supports to enable participation for the child. Six primary strategies that enabled participation and reduced the effort required to support the child's participation were identified. Some of these strategies directly related to the sensory factors of the activity or environment, whereas others were intended to reduce behavioral responses associated with the sensory factors through preparation, routine, and increasing the child's perception of control.

Bedell, Cohn, and Dumas (2005) reported similar findings in a study of parents with children who had acquired brain injuries. Although several of the strategies were similar, the concept of anticipatory planning or preparation was central to both studies. *Anticipatory planning* is defined as "a finely developed advanced foresight of the requirements of the activities the child hopes to participate in along with a concomitant understanding of their child's potential success in doing the desired activity" (Bedell et al., 2005, p. 278). Similarly, in the current study, participants identified the importance of preparing the child for the specific daily activity and anticipating how participation would occur to develop a plan that would enable participation on the basis of the unique needs of their child and the sensory environment.

Gallimore et al. (1996) used the term *accommodation strategies* to describe a similar construct in families with children with developmental disabilities. They defined *accommodations* as "a family's functional responses or adjustments to the demands of daily life with a child who

has delays” to create and sustain daily routines (Gallimore et al., 1996, p. 216) and identified a relationship between the intensity of accommodations implemented and characteristics of the child that affected daily routines. They also found that families with children who had more problems and poor everyday competencies required more intensive accommodations and greater adaptive efforts. Although Gallimore et al. (1996) focused on a general population of children with global developmental disabilities, children with ASD commonly have pervasive developmental delays.

Similar to Gallimore et al. (1996), this study identified parental and caregiver effort as a central theme in enabling participation for children. Additionally, the need for supports and strategies was often associated with the concept of effort, suggesting that effort is an important outcome to consider when working with families with children with ASD. Results indicated that when supports and strategies were needed, the activity required more effort for participation on both the family’s and the child’s part. This concept of effort suggests a new avenue for evaluating the person–environment fit, which, according to ecological theory, reflects the relationship between a person’s functional capacity and the demands that are produced by the environment (Bronfenbrenner, 1979; Rosenberg, Bart, Ratzon, & Jarus, 2013). If the person–environment fit is improved, the effort necessary to support participation by the family is reduced. Specific interventions, such as environmental design, adaptations, and modifications, along with other interventions targeted at modifying extreme sensory responses, would likely improve person–environment fit and reduce parental and caregiver effort to enhance participation in the home and community environments.

Limitations and Future Research

Some limitations must be considered when interpreting the findings of this study. The sample was limited to parents and caregivers of children between ages 3 and 7 yr and therefore represents a limited age range of children. It is likely that areas of participation and participants’ perspectives would differ significantly on the basis of the age of the child. A further limitation of this study is the use of a convenience sample. We attempted to represent a range of children with ASD; however, the sample is skewed to a higher socioeconomic status (SES) and educational levels. The sample composition could have an impact on results because participants with lower SES and less education might report different experiences because of a variety of

factors. For example, limited resources could affect decision-making processes and the ability to implement strategies in sensory-laden environments.

In this study, we sought to obtain the perspective of parents and caregivers with children with ASD, but we did not compare the impact of the sensory environment on their participation with that of typically developing children. This area is an important consideration for future studies, as is descriptive research to investigate the impact of the degree or type of sensory issue, ASD symptoms, and demographic characteristics. Although in this study we did not specifically examine shared participation, this topic is important for future research because of the dynamic intersection of participation in daily activities for young children with ASD and their families.

Implications for Occupational Therapy Practice

Results of content analysis strongly suggested that participants were pivotal in enabling participation for their children with ASD through the implementation of specific strategies and a decision-making process. The findings of this study have the following implications for occupational therapy practice:

- Interventions targeting enhanced participation for young children with ASD should include strategies that parents and caregivers can implement throughout routines to enhance, adapt, or prepare their children for the sensory environment inherent in the daily activity. Strategies should specifically focus on enhancing the person–environment fit.
- When working with young children with ASD, occupational therapists need to incorporate multidimensional assessments that can be used to evaluate the child’s sensory processing patterns and environmental factors, as well as parental effort and strategy use.
- Parents incorporate a decision-making process that prioritizes daily activities they support for their children, which is an important consideration in the occupational therapy intervention process.

Conclusion

Results identified a decision-making process used by parents of children with ASD in which they distinguished between essential or meaningful activities and nonessential or nonmeaningful activities to enable their child’s participation. Six common strategies were implemented by caregivers to improve person and environment fit necessary to enable participation. Parental effort was key in

decision-making processes. This study identifies important considerations to enhance participation in the home and community environments for children with ASD. ▲

Acknowledgments

We thank all the families who participated in the study and the graduate students in the Autism Spectrum Disorder Lab in the Department of Rehabilitation Sciences at Temple University who helped with data collection. This study was supported by a pilot grant awarded to Beth Pfeiffer from the Boston Rehabilitation Outcome Center under Eunice Kennedy Shriver National Institute of Child Health and Human Development Grant 5R24HD065688-05 (A. Jette, principal investigator) as part of the Medical Rehabilitation Research Infrastructure Network. Additional funding was provided from a Temple University Interdepartmental Research Grant.

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