EDUCATIONAL SERIES ON SENSORY PROCESSING DIFFERENCES AND SENSORY-RELATED RESPONSES: AN OCCUPATIONAL THERAPY PERSPECTIVE TO PROMOTE CAREGIVER UNDERSTANDING

By

Jessemae Delarmente

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Jessemae Delarmente

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Donnamarie Krause, Ph.D.
Graduate Coordinator

Jefferson Kinney, Ph.D.
Graduate Program Chair

Alyssa Crittenden, Ph.D.
Vice Provost for Graduate Education & Dean of the Graduate College

Abstract

The objective of this doctoral capstone was to create and conduct a five-part online educational series for caregivers of children ages 0-5 about the impact sensory processing differences (SPD) has on occupational participation and performance, as well as how to navigate sensory-related responses (SRRs) on a daily basis. SPD and SRRs are complex topics commonly talked about on a graduate level as it requires knowledge of the nervous system and child development. Caregiver resources on SPD and SRRs are difficult to obtain and may not present the information appropriately for varying health literacy levels. This leads many caregivers to have little to no knowledge about SPD and how it affects their child across their daily occupations. This often leads to difficulties with navigating their child's SRRs to daily sensory stimuli, or even mistaking their child's responses as misbehavior.

Through formal educational PowerPoint lectures, caregivers were educated on varying occupational domains, the impact SPD on their child's occupational performance and participation, and strategies to navigate their child's SRRs related to these occupational domains. Caregivers reported that they valued learning more about SPD, about their child through a sensory processing perspective, and strategies to help support their child through daily occupations. Pre- and post-course scores indicated an increase in caregiver understanding for this particular sample at this outpatient clinic; however, due to a small sample size and other limitations, further research is warranted in order to fully understand the efficacy and effectiveness of this educational series.

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Section One: Introduction

Caring for a child can be simultaneously rewarding and challenging. Parents take on countless amounts of responsibilities as they care for, love, guide, and teach their children through various stages of life. A parent's occupations are inexplicably tied to their child's. Much of a child's occupations become co-occupations, or an occupation that requires two or more people and, in the case of caregiving, have a high level of physical and emotional connection (AOTA, 2020). These occupations include activities of daily living (ADLs), such as dressing, feeding, bathing, grooming, and toileting. Occupations also include play, sleep, education, and more. The presence of a disability, such as sensory processing differences (SPD), can affect a child's performance in any of these occupations, often requiring additional support and resources from the caregiver. Thus, parents caring for a child with a disability face a unique set of challenges as they promote and maintain their child's health and well-being throughout these occupations.

SPD includes difficulty with detecting, integrating, and responding to sensory stimuli in the environment (Chiang et al., 2019). It is most often seen in children with autism spectrum disorder (ASD); however, it may present in children with diagnoses such as attention deficit hyperactivity disorder (ADHD), learning disabilities (LD), mental health diagnoses, and some genetic syndromes (Kranowitz, 2022). Commonly measured by the Sensory Profile-2, individuals with SPD present sensory features amongst the sensory seeking, sensory avoiding, sensory sensitivity, and low registration quadrants (Dunn, 2014). These sensory features include high sensitivity to everyday stimuli, a diminished response to stimuli, or increased pleasure from certain stimuli (Kirby et al., 2015). In addition, atypical responses to sensory stimuli may also be called sensory-related responses (SRRs). These responses may present in a child as difficulty

with self- and emotional- regulation, decreased safety awareness, unsafe sensory seeking behavior, inattention, aggressive or dysregulated behavior, and restrictive diets (Bulkeley et al., 2016; Cohn et al., 2014).

Individuals with SPD often demonstrate participation differences in a variety of occupations, such as ADLs, education, play, and leisure (Miller-Kuhaneck & Watling, 2018). As stated by the American Occupational Therapy Foundation (AOTF), there is an important connection between occupations and health. Caregivers play a significant role in facilitating everyday participation for their children and can increase participation through the use of sensory strategies (AOTF, n.d.; Pfeirrer et al., 2017). However, it is common for parents to have little to no knowledge about what SPD is and how much of their child's behavior is explained by SPD due to the information being difficult to obtain and not presented at an appropriate health literacy level (Leslie & Crehan, 2020; Miller-Kuhaneck & Watling, 2018). It is also common that parents misinterpret their child's actions as "naughty behavior" or that they were caused by their own parental actions (Miller, 2014). In reality, SPD is a physiological difference in the body's response to sensory stimuli and is not simply behaviors caused by poor parenting (Kranowitz, 2022).

With most information on the subject being written at a graduate education level, parents cannot fully understand their child and are left struggling on how to navigate day-to-day challenges that SPD brings (Gee & Peterson, 2016; Leslie & Crehan, 2020). Increasing caregiver knowledge of SPD and sensory strategies specific to their child allows parents to increase their child participation in daily occupations, which overall benefits their health and development (Eşkisu & Pakçi, 2021; Little et al., 2018; Pfeiffer et al., 2017). Thus, the focus of this doctoral

capstone and paper was to create an online caregiver educational series to increase caregiver understanding about SPD and strategies to navigate daily SRRs.

According to AOTA's 2025 vision, it is within the role of occupational therapists (OTs) to facilitate solutions in everyday living (AOTA, 2021). This project is significant to the occupational therapy (OT) profession because caregivers of children with SPD have to navigate daily life through the way their child takes in the world differently around them. This can be extremely challenging to do without proper guidance or knowledge, and there should be appropriate support available for caregivers to navigate SPD and SRRs with their child (Pfeiffer et al., 2017). Group parent education can be one such avenue to increase knowledge about SPD and SRRs in a more in-depth way than during the timeframe of a typical therapy session, and doing so through a group setting can provide foundational knowledge to a wider range of people. Facilitating this through an online format provides flexibility for caregiver schedules and decreases the demands of having to find specialized child-support to attend educational opportunities. The creation of in-depth PowerPoint slides and recorded sessions on this topic may also serve as future resources for caregivers, family members, friends, and other parties that are involved in working with children who have SPD and SRRs.

Overall, parent education is a key component of OT services, and it is an integral part of providing family-centered care. Providing family-centered care focuses on the family's goals to promote their ability to engage in meaningful activities together (Freese et al., 2016). This supplemental education opportunity can serve as a resource for caregivers and can be complementary to one-on-one therapy, further supporting the ability for caregivers to support their children through a sensory processing lens.

Section Two: Statement of the Problem

It is estimated that five to 16% of children in the United States have SPD (Miller et al., 2017). While SPD can stand alone, it often co-occurs with many other diagnoses, specifically ASD, ADHD, and LD. SPD has the highest comorbidity with ASD, with an estimated one in 54 children having ASD and about 95 percent of them also having SPD (Kranowitz, 2022). With such a high prevalence in the population, as well as a high likelihood of its comorbidity with other diagnoses, it is important that caregivers are equipped with how to navigate the difficulties that come with SPD. However, in the current edition of *The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5),* SPD is not included as a diagnosis. The debate goes that SPD should not be diagnosed, as there are no universally accepted diagnostic frameworks, and diagnosis could run the risk of diagnosing something that may resolve as the child matures. However, children can present with significant difficulty in sensory processing without meeting the criteria of other disorders (McArthur, 2022). Without its establishment into the DSM-5, SPD remains less well-known and less understood amongst professionals, families, and clients.

It was found that parents often had little to no knowledge about SPD and how SPD leads to SRRs in their children (Gee and Peterson, 2016). This limited knowledge leads to decreased competence and/or confidence in carrying out strategies if they do not have a therapist to support them, which can then lead to the use of ineffective strategies (Gee and Peterson, 2016). It can also contribute to the stress and strain seen by caregivers caring for children with disabilities, further decreasing quality of care (Kirby et al., 2015; Kirby et al., 2019). Caregivers play a pivotal role in enabling participation for their children across all occupations, and empowering caregivers with knowledge that can increase their own self-confidence and self-efficacy is important for their children achieving positive outcomes (Damen et al., 2015; Kirby et al, 2021).

According to Pfeiffer et al. (2017), an improper fit between a child's personal sensory characteristics, the task, and the environment can influence what SRRs are seen in children, further affecting their participation in necessary and desired occupations. In addition, using sensory strategies is often needed for children with SPD to participate in developmentally appropriate occupations (Pfeiffer et al., 2017). The ability to successfully participate in these occupations contributes to the development of self-worth and self-efficacy (Kannenberg et al., 2016). These factors can lead to improved decision making, skill development, and self-determination, which are critical components that can aid children not only through adolescence but also as they transition into adulthood (Paradiz et al, 2018). The development of life skills are needed to support employment and community living without requiring significant support or residential placement, and caregivers are at the forefront of supporting their children with learning opportunities (Kirby et al, 2021). Thus, to aid their children in achieving positive outcomes throughout their life, it is important that there are available resources to support caregivers in explaining what SPD is, how their child's atypical responses to sensory stimuli are explained by SPD, and strategies they can use to navigate everyday SRRs.

Problem/Population, Intervention, and Outcome (PIO) Question

Is an educational series effective in increasing caregiver understanding about sensory processing differences (SPD) and sensory-related responses (SRRs)?

Definitions

Caregivers

- Conceptual definition: A person who tends to the needs or concerns of a person with short- or long-term limitations due to illness, injury, or disability (John Hopkins Medicine, n.d.).

- Operational definition: An individual who contributes to the growth and development of a child, including parents, family members, and guardians. This was recorded through the use of a demographic questionnaire.

Caregiver Understanding

- Conceptual definition: Knowledge about a subject, situation, etc. or about how something works (Cambridge Dictionary, n.d.)
- Operational definition: The ability for a caregiver to report with confidence that they understand the concepts as it relates to SPD and SRR. This will be measured through a pre- and post-course caregiver survey questionnaire.

Sensory Processing Differences

- Conceptual definition: Difficulty with detecting, integrating, and responding to sensory stimuli (Chiang et al., 2019).
- Operational definition: Challenges in receiving, integrating, and using information from any of the eight senses to function smoothly in everyday life. This was measured through the use of the Toddler Sensory Profile-2 or the Child Sensory Profile-2 as appropriate for the child's age.

Sensory-Related Response

- Conceptual definition: Observable response to sensory features in the environment (Bulkeley et al., 2016).
- Operational definition: An observed behavior that is a reaction to sensory stimulus due to differences in sensory processing that may lead to decreased function and adaptation in everyday participation. This will also be measured through the use of the Toddler Sensory Profile-2 or the Child Sensory Profile-2 as appropriate for the child's age.

Section Three: Literature Review

The following literature reviews describes what exists in the literature about caregivers, SPD, and SRRs. First is a review of the impact SPD has on families, specifically about caregiver stress and mental health. The need for this project is further supported by delving into current studies on group caregiver education classes about SPD and SRRs, followed by a section on the important role caregivers play in supporting their child's development. The last section will discuss parent's hopes for outcomes when they receive OT services.

Sensory Processing Differences and Impact on Families

The role of a caregiver is a challenging one, but caring for a child with a disability often contributes to an increased level of parental stress or strain (Kirby et al., 2015). Parenting stress is stress or discomfort that can result from the interaction between a parent and their child. Increased parenting stress can lead to a host of negative consequences, including harsher discipline, absence of warmth, and less responsiveness during interactions with their child (Chiang et al., 2019). In the following sections, the discussion will explore how SPD affects families – specifically in terms of caregiver mental health and family functioning.

Kirby et al. (2015) utilized a descriptive study design to explore the impact that their child's sensory patterns had on different caregiver strains for children with ASD and other developmental disabilities (DD). 107 children and their caregivers were recruited via convenience sampling from various schools, clinics, and parent support groups. The Sensory Experiences Questionnaire (SEQ) and a modified Caregiver Strain Questionnaire (CGSQ) was used to ask caregivers about the frequency of their child's sensory reactions to environmental stimuli, as well as the impact of various feelings related to their child's sensory-related behavior problems. The SEQ is reported to be reliable and valid, with these measures not reported for the

modified CGSQ. Across all groups, the study results showed an increased presence of subjective internalized strain (negative feelings), followed by objective strain (negative occurrences of caregiving). Specifically for the ASD group, high levels of hyporesponsiveness and hyperresponsiveness were linked to high levels of objective strain, while sensory seeking was associated with a lower levels in objective strain. Sensory features were not found to be a significant contributing factor within the DD group, possibly due to decreased prevalence of sensory features in children with DD (Kirby et al., 2015). Critiques include potential bias of self-reports and limited generalizability due to differences in the ASD and DD group size. Additionally, the third type of caregiver strain, subjective externalized strain (negative feelings towards the child), was only measured by four items on the CGSQ, which may not have been enough items to fully capture the caregiver experience as compared to the other two types of strain. Regardless, the study was valuable in that it highlights specific types of caregiver strain that is tied to sensory features, especially for those caring for children with ASD.

Chiang et al. (2019) utilized a cross-sectional, correlational design to compare 101 preschool children and 61 school-aged children with ASD to explore whether SPD and parenting stress were associated with the problem behaviors in children. Participants were recruited from different clinics, centers, and hospitals to fill out a variety of questionnaires. The Child Behavior Checklist – Chinese version (CBCL-C), the Short Sensory Profile – Chinese version (SSP-C), and the Parenting Stress Index – Chinese Short Form was used to measure problem behaviors, sensory processing dysfunction, and stress in the parent-child system respectively. These instruments were reported to have good reliability with no report of their validity. The results showed that SPD was significantly associated with externalizing and internalizing problem behaviors in preschool children, while general parenting stress was significantly associated with

externalizing and internalizing problem behaviors in both age groups (Chiang et al., 2019). All participants being Chinese is a significant limitation to this study in terms of generalizability to other demographics, as norms and beliefs vary between cultures with such context influencing results. The study also contained uneven comparison groups which may skew the results, and it lacked definitions of what externalizing and internalizing problems looked like for the participants. Nonetheless, the results of this study illustrate the effects sensory processing dysfunction as well as parenting stress can have on the frequency and severity of problem behaviors in children with ASD.

Suzuki et al. (2018) examined the association between specific sensory processing difficulties in children with ASD and the mental health of primary caregivers, specifically mothers. 707 mothers and their children were divided into two support groups for ASD. One support group provided learning support, social skills training, an ASD summer camp opportunity, and lectures on ASD relevant for the families. The second support group was a nationwide network that provided social skills training and learning support specifically to the children's individual characteristics. The General Health Questionnaire (GHQ12) was administered to measure caregiver's health status, and the Short Sensory Profile (SSP) was used to assess sensory features; both were reported to have good psychometric properties. The results showed that differences in auditory filtering in older children (ages 11-18 years old) were associated with poor caregiver mental health, while differences in auditory filtering and tactile sensitivity in younger children (ages 4-10 years old) were associated with poor caregiver mental health (Suzuki et al., 2018). Critiques for this study include a general lack of information towards the study's design and process, such as the method of participant recruitment, the purpose of using support groups, the duration of the support groups, and when the instruments were

administered. Participants receiving support from either support group will affect the results as opposed to the mental health of caregivers whose children are not receiving services through a support group. Additionally, the exclusion of other primary caregivers such as fathers and other disabilities such as attention-deficit/hyperactivity disorder (ADHD) limits the population and contexts these results apply to. Despite this, the study supports that certain sensory features have a negative impact on caregiver mental health across different age groups.

Kirby et al. (2019) used a longitudinal study design where data was collected from children and their caregivers with the purpose of determining longitudinal associations between early sensory features in children with ASD and other DD and later family outcomes (home and community participation and caregiver strain), as well as if educational and therapy service usage over time had an effect on these findings. 81 children (50 with ASD and 31 with DD), ages 2-12 years old, were recruited through a variety of schools, clinics, and parent advocacy groups to participate in an evaluation consisting of diagnostic, developmental, and sensory measures at two time points. The Sensory Experiences Questionnaire and the Sensory Profile were used to measure frequencies of sensory patterns across different routines and contexts, while the Sensory Processing Assessment for Young Children and the Tactile Defensiveness and Discrimination Test–Revised were used to look at sensory constructs of interest, including tactile hyperresponsiveness and discrimination. The CGSQ was used to measure three types of strain among caregivers (subjective internalized strain, subjective externalized strain, and objective strain), and the Home and Community Activities Scale (HCAS) was used to measure the frequency of participation in a spectrum of home and community experiences. A structured parent interview was used to collect data on the amounts and types of services their children were enrolled in. The results showed that higher sensory scores were associated with less

participation and increased caregiver strain across all strain types (Kirby et al., 2019). While the assessments were administered by trained staff, the nature of parent self-report and questionnaires presents a possibility for bias. This study illustrates the effect increased sensory patterns have on caregiver strain and even participation in the home and in the community. It also shows how the interaction between sensory behaviors, differing diagnosis, and family context can affect these particular results.

In summary, the literature suggests that sensory processing differences lead to decreased caregiver mental health, increased caregiver stress, and increased caregiver strain – including negative feelings such as worry or unhappiness, and negative occurrences in caregiving like financial strain or disruption in routines (Chiang et al., 2019; Kirby et al., 2015; Kirby et al., 2015; Suzuki et al., 2018). Even with increased services to address sensory features, this leads to decreased participation in the home and the community for both the parent and the child, especially for ASD diagnoses (Kirby et al., 2019). The presence of sensory features also leads to increased frequency of problematic behavior in children, with Chiang et al. (2019) suggesting a bidirectional effect where problematic behavior leads to increased parent stress. This increase can lead to harsher discipline or less consistent parenting, further increasing problem behavior in children (Chiang et al., 2019). SPD can significantly impact the family's health and well-being and even how well the family unit functions. With caregivers being the driving force of a family, poor caregiver mental health has a ripple effect to other aspects of their own life, as well as their child's. More efforts need to be done to reduce the overall stress and strain experienced by families to improve the caregiving experience.

Caregiver Education About Sensory Processing Differences

It is common for parents to have limited knowledge about their child's SPD and how to navigate SRRs on a daily basis (Gee & Peterson, 2016). Without this knowledge, parents have less understanding about their child's reactions to sensory stimuli. They may perceive their responses to be something that it is not, such as being "naughty behavior" (Miller, 2014). Providing education about how a child's brain with SPD is wired differently can help caregivers better understand their child, which can encourage caregivers to implement changes in the home and community to best support their child's sensory processing. The following section highlights studies that have explored the positive and beneficial results of caregiver education regarding sensory processing.

Gee and Peterson (2016) utilized a pre-test and post-test, single group design on a six-week educational course with the purpose of increasing caregiver knowledge on their child's SPD and their perceived competency with navigating undesired behavior stemming from their SPD. Ten participants consisting of parents and teachers of children with ASD were recruited from outpatient rehabilitation clinics and schools to attend one-hour educational sessions regarding sensory processing and the eight sensory systems. The Sensory Processing Learning Tool (SPLT), the Sensory Processing Knowledge Assessment (SPKA), and a modified version of the Caregiver Self-Efficacy with Sensory-Related Behavior in ASD Questionnaire was administered during the first and sixth week of the program to measure knowledge of sensory processing concepts and self-perceived competency about sensory-related behaviors. The reliability and validity of these measures have not been formally assessed but were chosen for their face validity and alignment with the research question. The results showed an increase in sensory-related knowledge and self-perceived efficacy in caring for their child with SPD but did

not find significant results for navigating sensory processing related behaviors (Gee & Peterson, 2016). A critique towards this design includes that the results of the participant's confidence with navigating challenging behavior may have been affected due to the concept being taught on the same day the post-testing measures were administered. The study also had a small sample size and has potential for self-report bias. Regardless, this study was the first of its kind to explore how providing parent education can have a positive impact on increasing knowledge about sensory processing differences and how this can then affect caregiver confidence within their care.

Farmer and Reupert (2013) also utilized a six-week group parent education program with the purpose of educating them about ASD, the differences on a variety of different factors such as sensory processing, and strategies they can use at home. Through ten program sessions held over a six-year time span, a total of 98 family members were referred to the program by educational and health providers. The program spanned six weeks with two-hour long sessions consisting of presentations, an informational manual, and an opportunity for parents to speak on their experiences. On the first and sixth week, a self-constructed pre/post questionnaire consisting of 15 questions rated by a 0-5 Likert scale was administered to evaluate participants' knowledge of ASD in regard to their child and confidence in managing behavioral issues, as well as a few open-ended questions asking what was learned and what was the most beneficial aspects of the program. The results showed an increase in parental knowledge of ASD and parental confidence, as well as a decrease in parental anxiety. Parents valued having the opportunity to learn but also be in small groups where they can gain mutual support. The most valued content according to parent responses was understanding their child's behavior through a sensory processing lens and receiving strategies to use to support their child (Farmer & Reupert, 2013).

A limitation to this study includes the lack of standardized assessments to evaluate outcomes, as well as the likelihood of response bias that may come from self-report questionnaires as a whole. This study supports how group parent education can be a valuable resource in helping caregivers better understand their child in many different aspects, as well as being an opportunity to bridge mutual support in the community.

Parent education and reframing problematic behavior through a sensory processing lens was emphasized in a single case experimental design by Bulkeley et al. (2016) where they explored the effectiveness of a sensory-based, family-centered coaching approach to changing problematic routines for their children with ASD. Three families were recruited through two child development clinics to receive two weeks of one-hour sessions consisting of sensory-based interventions, including parent education about sensory processing, environmental or activity modifications to limit adverse sensory input, managing the activity, and promoting their child's choice when responding to sensory challenges. A Visual Analog Scale was used for the participant to reflect on their perceptions of their child's behavior through the day, with the authors stating its significant reliability and concurrent validity. The results showed that all the participants showed some degree of positive response to the sensory-based intervention, and that educating parents on problematic behavior through a sensory perspective was an important step in supporting family interventions to better engage in family occupations (Bulkeley et al., 2016). Critiques for this study include the small sample size affecting generalizability and the study's short duration not being significant enough to show any long-lasting effects from the intervention. Despite this, this study supports the importance of parent education regarding sensory processing differences and sensory-based behaviors on an individualized basis.

The literature reviewed supports parent education as a beneficial modality to increasing caregiver knowledge about sensory processing and sensory-related responses (Bulkeley et al., 2016; Farmer & Reupert, 2013; Gee & Peterson, 2016). This can have an impact on decreasing caregiver anxiety, as well as being an important step to increase participation in meaningful family occupations (Bulkeley et al., 2016; Farmer & Reupert, 2013). Providing this education through a small group setting also shows to have some benefits, as it is an opportunity to gain mutual support in the community (Farmer & Reupert, 2013). While there is parent education on how sensory processing leads to SRRs, more research needs to be done on how to best support families on navigating those responses.

Caregiver's Role in Supporting Participation

Caregivers play an important role in supporting their child's occupational participation, especially as many of a child's daily occupations are considered co-occupations (Brown et al., 2019; Pfeiffer et al., 2017). For a child with SPD, personal sensory characteristics and the sensory features in an environment can dictate what SRRs may occur, further affecting occupational performance (Pfeiffer et al., 2017). Thus, caregivers would benefit from having knowledge and skills that support raising a child with sensory differences. The following sections highlight the importance of positive parenting and skills supporting child participation.

Pfeiffer et al. (2017) performed a phenomenological qualitative study on 34 caregivers to understand how they believed the sensory environment had an effect on the participation of their children with ASD. Researchers utilized a purposeful maximum-variation sampling strategy to recruit the sample from support groups and agencies providing services to children with ASD. 45-to-90-minute semi-structured interviews were conducted to collect data, as well as member checks and collection of demographic information. As a result of completing the relational

content analysis on the interview data, four themes were identified. The first two themes were related to how sensory seeking and sensory hypersensitivity affected participation, and how it is a combination of these sensory related responses and the sensory features in the environment that affected participation. The third theme described a common decision-making process that allowed caregivers to know which activities were avoided due to an improper fit between a child's sensory related responses and the sensory environment. Activities that were seen as necessary were pursued; however, strategies were needed to support participation in these activities. The last theme identified six strategies that helped support participation in daily activities, including: maintaining/establishing routines, promoting control and choice, preparation and anticipatory planning, ensuring the presence of certain sensory factors, adapting the sensory features in the environment or activity, and establishing sensory strategies (Pfeiffer et al., 2017). Critiques for this study include that the majority of participants were female, of high SES, and have attained higher education. Alongside these demographics, the sample was recruited through support groups and agencies providing services to children with ASD, leading to a lack of perspective of caregivers and families who may not have access to these resources. This study strongly shows the important role that parents play in facilitating their child's participation through the knowledge and skill of implementing specific sensory strategies.

Little et al. (2018) used a pre/post design to see whether a 12-week occupation-based coaching intervention through telehealth was effective in increasing parent efficacy and child participation in families who had ASD. 17 families, with children up to six years old, were recruited via convenience sampling through early intervention and early childhood programs in rural and underserved areas. Occupation-based coaching, which fosters positive child-caregiver interactions and child-learning opportunities in their everyday activities and settings, was used to

target two goals chosen by each family. Identified goals included focus on social interaction, self-regulation, eating, toilet training, sleeping, bathing, transitions between activities, and safety in the home and community. Descriptive analyses and paired sample T-tests were used to analyze results from the Parenting Sense of Competence Scale (PSOC), Assessment of Preschool Children's Participation (APCP), Canadian Occupational Performance Measure Second Edition (COPM-2), and the Goal Attainment Scaling (GAS) for any changes in parent efficacy and child participation pre and post intervention. The results was a significant increase in parent efficacy as well as child participation, including in play activities and diversity of activities (Little et al., 2018). Critiques for this study include the lack of description on the strategies used to accomplish these goals, which would have provided valuable specific information for supporting child participation. As the intervention used in this study focused on fostering positive child-caregiver interactions, this study supports the importance of parents' positive involvement in enabling their child's participation, as well as education on strategies to support caregiver-identified goals. In addition, the use of telehealth supports that it can be an effective avenue for delivering services, especially to rural or underserved areas.

Eşkisu and Pakçi (2021) used a parallel embedded design to look at the efficacy of a 12-session Parenting Support Program (PSP) that focuses on decreasing problematic behavior and increasing adaptive behaviors in children three to 6 years old through effective parenting skills and building positive parent-child interactions. 18 families were recruited via convenience sampling at a random select of 28 preschools to attend the 12- session program, nine of which revolved around positive behavior support, behavioral management, and supporting family interaction. Non-parametric statistical analysis was used to analyze quantitative data collected from the Conners' Rating Scales (CRS) and Adaptive Social Behavior Inventory (ASBI), which

were used to evaluate child behavior problems and gauge adaptive social behaviors of children. Family interactions were recorded and coded using the Family Assessment Task (FAST) to evaluate family interactions and parenting skills, and semi-structured interviews were used to see how attending PSP affected family interactions and children's behaviors at home. Researchers used a two-cycle coding method to analyze the qualitative data collected. The results showed that compared to the control group, those who attended PSP saw an increase in adaptive, positive behavior and emotion regulation skills such as listening to others, following instructions, and staying calm (Eşkisu & Pakçi, 2021). A critique for this study is that since the participants were mostly mothers parenting boys, there is a lack of input on the role of fathers and the effects of this intervention on girls. Nonetheless, while the program used in this study does not revolve around specific education around SPD or SRRs, it does support how the obtainment of parenting skills such as positive behavior support, behavioral management, and positive parent-child interactions via an educational program can have a positive influence in adaptive behavior and emotional regulation in children.

The studies reviewed here illustrate the influence parents have on supporting their child in a variety of different ways. It was suggested that positive parent involvement and positive child-parent interactions supported child participation, emotional regulation, and adaptive behavior (Eşkisu & Pakçi, 2021; Little et al., 2018). Personal sensory characteristics, task, and the environment all play a role in what SRRs a child may have, and an improper fit between these three factors can influence whether a family decides to pursue an activity (Pfeiffer et al., 2017). The obtainment and use of sensory strategies and other parenting skills was beneficial in supporting child's occupational participation in general and in activities that may have an improper fit between personal characteristics, task, and environment (Eşkisu and Pakçi, 2021;

Little et al., 2018; Pfeiffer et al, 2017). This information emphasizes the parent's role in enabling participation for their child and how caregiver education in strategies and other parenting skills may support these endeavors.

Caregivers' Hopes for Outcomes

Providing family and client-centered care within service delivery is an essential part of the OT process (AOTA, 2020). People with ASD, ADHD, developmental delays, learning disabilities, and more often experience sensory differences, and SPD affects daily participation (Kirby et al., 2015; Kranowitz, 2022). Collaborating with families is vital to understand what their primary concerns are and what they hope to gain from receiving OT services. Doing so will ensure that family concerns are being addressed and that OT practitioners can tailor their services, such as caregiver education, to aid and empower families.

Schaff et al. (2015) completed an exploratory analysis of 160 OT parent goals for children with ASD, identified sensory aspects underlying each goal, then categorized them with the purpose of identifying participation challenges and parent-identified hopes for intervention outcomes. Goals were first developed and reviewed in collaboration with 32 caregivers of children with ASD, ranging from 4-8 years old, who were recruited from a previous randomized controlled study by Schaaf et al. (2014). With 5 goals per each child, the Data Driven Decision Making (DDDM) process was used to create hypotheses pertaining to the sensory features influencing performance in each goal and were then categorized using the Occupational Therapy Practice Framework: Domain and Process (OTPF) and the International Classification of Functioning, Disability, and Health (ICF). The results showed that parents hope sensory integration OT services will help their child's skill development towards activity and participation levels per the ICF framework, as well as, ADLs play, and social participation as the

top three goals per the OTPF (Schaaf et al., 2015). Critiques towards this study include the exclusion of self-regulation goals liked improved ability to transition and less tantrums. Parents have limited knowledge or strategies for managing sensory-related responses, and increasing their knowledge or addressing these responses may be an important goal that was not included in this study (Gee & Peterson, 2016). The study's results nonetheless highlight areas that this educational series can tailor its education towards with the goal of increasing children's participation and performance that align with caregiver hopes.

Cohn et al. (2014) used a secondary analysis design to analyze data collected over nine years from a total of 275 parents seeking intervention for their children with SPD, ages 4-11, in a private OT practice clinic specializing in sensory integration. The purpose of this was to identify parents' hopes for outcomes through explanatory models (EMs), a framework by Kleinman (1987) that describes the meanings and beliefs clients give to a diagnosis and desired treatments and outcomes, which contribute to their explanation of their health problems. As part of the child's intake form before an initial evaluation with the clinic, parents responded to three open-ended questions about their hopes for their child in therapy. This included asking their most significant concerns about the child, what they hope to see after gaining treatment, and what specific skills they would like to see from their child in the next six-months. Content and comparative analyses were used on the parents' responses, followed by identification of broad categorical codes and EMs that described the parents' hopes after receiving sensory integration OT therapy. The results showed that parents' primary concerns were in one or more of the following categories: self-regulation, social participation, skill development, and confidence. The General Self-Regulation EM, Frustration Tolerance EM, and the Impulse Control EM describe how poor performance in either of the four categories can affect one another (Cohn et al., 2014).

Critiques for this study include a mostly White and middle-upper class sample size affecting generalizability to different backgrounds, no mention of training for the OT student identifying the initial codes, and the exclusion of children with other diagnoses such as ADHD or ASD – which could have provided more information about parent hopes for different diagnoses that often experience sensory processing differences. This study was valuable in that it illustrates primary parents' concerns and hopes, which can be used when delivering interventions or parent education strategies for home or in the community. It emphasized the importance of understanding family's main concerns so that interventions can remain family and child centered.

Overall, SPD can lead to difficulties in self-regulation, confidence, social participation, and skill development. These difficulties are intertwined together, as challenges in one can affect the other (Cohn et al., 2014). Challenges in areas such as these have a direct effect on activity and participation level, specifically in occupations such as ADLs, play, and social participation. These domains of occupation are some of the most significant in a child's life, especially when at a younger age. With these occupations often being co-occupations, or occupations that involve more than one person (Brown et al., 2019), it can be beneficial to provide parents strategies they can use at home or in the community. Understanding family concerns is important for making sure strategies, interventions, and parent education resonate with their desired outcomes.

Conclusions of Literature Review

This critical review of the literature illustrates a picture of the hopes that caregivers have for their children with SPD, the impact SPD has on caregivers' mental health, and the benefits of receiving caregiver education on SPD and SRR. Overall, caregivers hope that their children will improve in their abilities to participate in important meaningful occupations, such as ADLs, play,

and social participation (Schaff et al., 2015). They hope that their children will be able to develop critical skills such as how to self-regulate, and that obtaining these skills will allow their children to feel more confident in themselves (Cohn et al., 2014). While these are goals caregivers hope their child will achieve when receiving OT services, caregivers themselves play a significant role in fostering these outcomes through positive parent involvement and child-parent interactions (Eşkisu and Pakçi, 2021; Little et al., 2018). It can be beneficial for caregivers to be educated on sensory knowledge, sensory strategies, and other positive parenting skills that allow them to better support their child at home and out in the community, especially when the environment or tasks present challenges towards a child's sensory differences (Eşkisu and Pakçi, 2021; Little et al., 2018; Pfeiffer et al, 2017).

Alongside common experiences of poor mental health and stress, caregivers of children with SPD also experienced higher levels of caregiver strains including subjective internalized strain (negative feelings), subjective externalized strain (negative feelings towards the child), and objective strain (negative occurrences of caregiving) (Kirby et al. 2015; Kirby et al., 2019; Suzuki et al., 2018). A component adding to this increased burden and stress include not being able to understand their child, and it is common that parents have decreased knowledge about SPD and SRRs (Farmer & Reupert, 2013; Gee & Peterson, 2016). Group caregiver education, such as the one being proposed in this capstone, can become a resource opportunity for caregivers to better understand their child with SPD. While there are currently not many studies regarding this modality, present literature has shown the positive effects group caregiver education has on decreasing parental anxiety and increasing knowledge and self-perceived efficacy during care (Bulkeley et al., 2016; Farmer & Reupert, 2013; Gee & Peterson, 2016). The

existing literature reviewed provides some support for the development of a group educational series as a beneficial resource for the community.

Section Four: Statement of Purpose

This capstone serves to answer the PIO question, "Is an educational series effective in increasing caregiver understanding about sensory processing differences (SPD) and sensory-related responses (SRRs)?" In order to answer this PIO question, the purpose of this doctoral capstone was to create an online five-part caregiver educational series about SPD across occupational domains and navigating SRRs. Challenges in occupational participation may differ from one child to another as SPD and SRRs are influenced by factors such as context and personal differences (Miller, 2014). Because of this, information presented in this series was categorized into the domains of occupation with the intention that caregivers could begin to identify how and why their child may struggle in these different domains. By providing occupation-specific strategies, the hope was that caregivers could have a better direction on ways to help support their child, especially as they can take the presented information and consult with their attending OT provider about how to best personalize these strategies. The conduction of this series was also done to educate parents that they have the ability to modify the task or environment to best fit their child's individual differences and sensory needs.

Objectives

The following objectives were created to meet the aforementioned intended purposes:

- To research and create educational PowerPoints about the impact SPD may have on a child's performance or participation in ADLs, IADLs, sleep, education, health management, play, and social participation.
- To research and create PowerPoints about sensory strategies that caregivers can try at home in collaboration with their OT provider to navigate SRRs pertaining to those occupational domain(s).

- To present created PowerPoints online through Zoom on a biweekly basis.
- To provide caregivers and TMG staff with PDF copies of the PowerPoints and recorded copies of the presentation sessions to keep as resources.

Hypothesis

By following these objectives, it was hypothesized that caregivers would have an increase in understanding about SPD and SRRs after attending sessions in this educational series, as demonstrated by an increase in rating scores from the pre- and post-course survey questionnaire.

Section Five: Theoretical Frameworks

Andragogy and The Person-Environment-Occupation-Performance (PEOP) was used to frame this project's execution and creation of materials. Andragogy is a type of adult learning theory with principles including learner's need to know, the self-concept of the learner, previous experience of the learner, readiness to learn, orientation to learn, and motivation to learn. Andragogy uses adults' existing knowledge and experience to aid their learning. It focuses on teaching adults who are self-motivated to learn and who want to apply that learned knowledge to their real lives (Recigno & Kramer, 2022). In this case, caregivers who attended this educational series were motivated by their readiness to learn and wish to know more about SPD so that they can apply their new, obtained knowledge to life with their children. Thus, it was important that the information remained relevant and applicable to the learners attending this class when creating the material for this series.

The PEOP model considers how occupational performance is influenced by interactions between characteristics of the person, environment, and occupation or task (Baum et al., 2015). The model was used to educate and empower parents that they have the ability to make changes to any of these three dimensions to improve occupational performance for their child. SPD is a spectrum, and it can present in children through one or more of the three different patterns: sensory modulation, sensory discrimination, or sensory-based motor differences (Kranowitz, 2022). These patterns affect how children receive and react to environmental stimuli. In addition, regardless of severity or pattern, context plays a significant role in how symptoms present, including environment, time of day, level of stress or fatigue, and the specific sensations involved (Miller, 2014). Thus, occupational performance is affected by a child's unique context and their unique sensory processing patterns. In this educational series, caregivers learned more

about how their child's SPD may present and how the environment or task allowances can play a role in occupational performance. Sensory strategies were provided on ways to change the environment or task to best suit their child's personal sensory needs and patterns.

Section Six: Methodology

Agency Description

Therapy Management Group

This project was implemented in collaboration with Therapy Management Group (TMG) at their Las Vegas location. TMG is a company that offers pediatric outpatient and EI OT services, among other services. They provide services to children ages birth to 18 years old, accepting insurances such as Culinary, Hometown Health, Tricare, and all Medicaid providers (Therapy Management Group, n.d.). Therapists address a variety of diagnoses such as ASD, ADHD, global developmental delays, cerebral palsy, plagiocephaly, and more.

Target Population

The chosen target population for this project was children with SPD who are ages 0-5. As this caregiver education series was implemented with TMG, the accessible population was caregivers of children ages 0-5 who currently receive services from TMG in Las Vegas, Nevada. Caregivers live all across the Las Vegas valley; ages range from 21 to 60 years old with degree attainment varying from bachelor to graduate degrees, with a majority having a bachelor's degree. The specific age range of children 0-5 was chosen because it is important to provide caregivers with education early in their child's formative years (Graybill et al., 2014). When a child is 0-3 years old, families have the right to receive EI services. The OT practitioner's role within this setting is to identify and address family concerns regarding their child's development, including sensory development (Clark et al., 2017). The combination of EI services in collaboration with this educational series provides caregivers the opportunity to ask their current OT specific questions regarding the series' content, such as specific sensory strategies they would like to try at home and in the community. Thus, the educational series may act as a

valuable supplemental resource in addition to their current OT services. Additionally, the age range was specifically chosen to encapsulate the knowledge within the similar contexts of occupations around this age range. The occupations of a child entering first grade and beyond will look different than those ages five and below.

Sampling Design and Recruitment

A convenience sampling method was used in order to recruit caregivers of children with SPD. The contents of the flyer included the purpose of the education series, basic informational details, the topics to be covered, and the duration of the series. First, eligible participants were identified through a review and verification process of the Toddler and Child Sensory Profiles on file. If the caregiver fit the inclusion criteria, the informational flyer was sent out to them via email; physical copies were distributed by outpatient OTs to qualifying participants at the TMG clinic (See Appendix A). The demographic survey and pre-course survey questionnaire were sent out to interested participants and access to the Zoom link for classes was provided upon completion of the two surveys.

Participants

The participants for this project were caregivers who met the following inclusion criteria below. A total of eight caregivers attended one or more of the educational sessions within the series; however, only three filled out the post-course survey questionnaire. The demographics of the caregivers (n=3) as well as their children (n=3) are listed in Table B1 and B2.

Inclusion Criteria

- Caring for a child with SPD as measured by a score of "less/more than others" on the Sensory Profile (including parents, family members, or guardians).
- Cares for a child with SPD who is currently receiving OT services.

- Ability to complete pre- and post- questionnaire survey

Exclusion Criteria

- Unable to understand and speak English fluently.
- Caring for a child over five years of age.
- Are not receiving OT services from TMG.
- No access to a device with internet access.

Project Design

The following capstone was designed to be an educational series offered with TMG in the Las Vegas community. A total of five sessions were conducted on a bi-weekly basis online through Zoom so that information was broken down into digestible sessions for ease of learning. Educational sessions were presented in the format of PowerPoint lectures and the sessions were recorded. Participants received a copy of the PowerPoint slides and access to the session recordings digitally through email so that they may keep them as resources and future references. Providing the presentations online rather than in-person was chosen as the most feasible option as it eliminates having to drive to a physical location and minimizes the amount of time caregivers had to take away from their children and daily routines.

Topics presented included an introductory session to sensory definitions and OT; ADLs; IADLs and sleep; education and health management; and play and social participation (See Figures C1, C2, C3, C4, and C5, respectively). Interested participants could take as many or as few classes as they would like based on their interest in the topics for that week but attending the introductory session was required. Each session discussed the occupational domain(s) of the week, how SPD may affect their child's performance or participation in the domain(s), and strategies they could try at home to navigate SRRs pertaining to those occupational domain(s).

The material was always reviewed in order to ensure that the information was presented in a caregiver-friendly manner. Information to create these five educational sessions was gathered through an extensive review of the literature, online resources, published resources, and input from the project's mentor. As the strategies to navigate daily SRRs were suggested general strategies, caregivers were repeatedly advised to consult their OT practitioner about which ones they would like to try in order to ensure that they were done appropriately and safely for their child.

Methods of Data Collection

Data collection consisted of a demographic form, a screening tool, and a pre- and post-post survey questionnaire. First, a demographic form was electronically delivered to participants interested in attending the educational series (See Appendix D). The Toddler Sensory Profile-2 and the Child Sensory Profile-2 were used as a screening tool to measure presence of sensory features in a child (See Appendix E). As this is often part of TMG's initial evaluation process, caregiver eligibility was verified by a review of the records by TMG's clinic director. Lastly, a modified pre- and post-survey questionnaire was used to measure caregiver understanding before and after taking the series (See Appendix F). Open-ended questions were added to the post-course survey questionnaire to understand what the participants found most valuable about taking the educational series, if/why they found it a helpful resource, and what they would like to see added again if the course were done again.

Instruments

A demographic form was used to collect basic characteristic data of the participants, such as age, race, gender, education level, caregiver role (mother, father, guardian, or other family member), what experience do they have with any other education resources, and how helpful

were those resources. It also included questions about their child, such as what OT service they are currently receiving (EI or outpatient), how long they have been receiving services for, and their diagnoses (if applicable).

The Toddler and Child Sensory Profiles, depending on the child's age, were used as a screening tool prior to beginning the educational series as a way to confirm that caregivers were caring for a child who had some degree of SPD. Through this assessment, caregivers answered questions based on how their child reacts to sensory stimuli on a one to five Likert scale, with one being "almost never" and five being "almost always" (Dunn, 2014). Children can score as much less/more than others, less/more than others, or just like the majority of others in sensory and behavioral sections. It also provides scores for the sensory seeking, sensory avoiding, sensory sensitivity, and low registration quadrants (Dunn, 2014). This instrument is valid, reliable, and considered to be the gold standard for assessing sensory processing skills (Neil et al., 2017).

A pre/post survey questionnaire was used to evaluate caregiver understanding of SPD and SRRs before and after the series had ended, regardless of the number of sessions families attended. Four questions using a five-point Likert scale were used with 1 = very unknowledgeable, 2 = knowledgeable, 3 = somewhat knowledgeable, 4 = knowledgeable, and 5 = very knowledgeable. The survey questionnaire utilized was a modified version that Farmer & Reupert (2013) used in their "Understanding Autism and Understanding My Child with Autism" program. Questions that were irrelevant to the project's purpose of looking at caregiver understanding were removed, and the term "autism spectrum disorder (ASD)" within the survey questionnaire was replaced with "sensory processing differences (SPD)" and "sensory-related responses (SRRs)." This survey questionnaire would allow caregivers to reflect before and after

the series whether the educational series was effective in improving their understanding about SPD; however, due to the original survey questionnaire being self-constructed by Farmer & Reupert (2013), the validity and reliability has not been identified.

Procedures of Project

1. Obtain IRB exemption from University of Nevada, Las Vegas
2. Identify eligible participants through a review process of TMG's records, including child age and Sensory Profile eligibility
3. Recruit project sample by sending out informational flyer to qualified participants via email and through physical flyers at the TMG clinic
4. Obtain demographic and pre-course survey information from interested participants
5. Provide Zoom link to participants that complete the demographic survey and pre-course survey
6. Create 5/5 PowerPoint presentations on a biweekly schedule
7. Present 5/5 educational sessions to caregivers online through Zoom on a biweekly schedule
8. Email 5/5 session recordings and copy of PowerPoint materials to participants after each session on a biweekly schedule
9. Gather post-course data using the post-course survey questionnaire after the final educational session
10. Provide $15 incentive eGift Card to participants who filled out post-survey questionnaire
11. Calculate average mean scores per Likert scale questions and before and after class total
12. Identify themes within open response answers
13. Analyze, interpret, and write results

14. Disseminate findings to TMG program director

Data Management and Analysis

This project's data management and analysis was completed on Microsoft Excel. Participants' information, including demographic information and survey results were collected and inputted into a Microsoft Excel spreadsheet to ensure that all information were accounted for. In order to calculate the mean average between each close-ended Likert style question and the total mean average difference, data points were inputted and calculated through Microsoft Excel. The open-ended post survey questions were reviewed for what the participants valued the most from the class, if and why they found the class helpful for understanding their child, and what they would like to see added if this educational series were to be conducted again.

Section Seven: Ethical and Legal Considerations

As this project was strictly education using non-experimental education methods with adults, the UNLV Institutional Review Board (IRB) approved this project as exempt from further IRB review. Other considerations have been listed to protect patient safety:

- Participants had the right to leave a session at any time.
- Participants could attend as many/few sessions as they would like.
- Participants had the right to refuse answering any questions they did not want to answer.
- Participants had the right to turn off their cameras during the Zoom session if they wanted.
- The presenter would always preface before, during, and after each session that participants should consult with their OT provider about any strategies they wished to try with their own child to ensure safety and individualized application.
- Information with identifying-information was stored within a password protected computer.

Section Eight: Results

Although eight participants attended at least one of the educational sessions, the results discussed here represent the three participants who filled out both the pre- and post-course survey questionnaires. Each of these three participants attended 4/5 sessions within the series. As shown in Table 1, four close-ended Likert style questions were used to measure caregiver understanding of SPD, SRRs, and the impact SPD has on their child's sensory processing and behavior. The pre-course average for each question ranged from 1.67 to 2.67, with the after-course average raising from 3.00 to 4.00. The pre-course and post-course averages for each question were subtracted to find the pre- and post-course average difference. Questions regarding how much caregivers knew about the general nature of SPD and the impact SPD has on their child's behavior had the most increase in scores, with both scores increasing by 1.67. Figure 1 is a visual demonstration of the increase in scores before and after the educational series

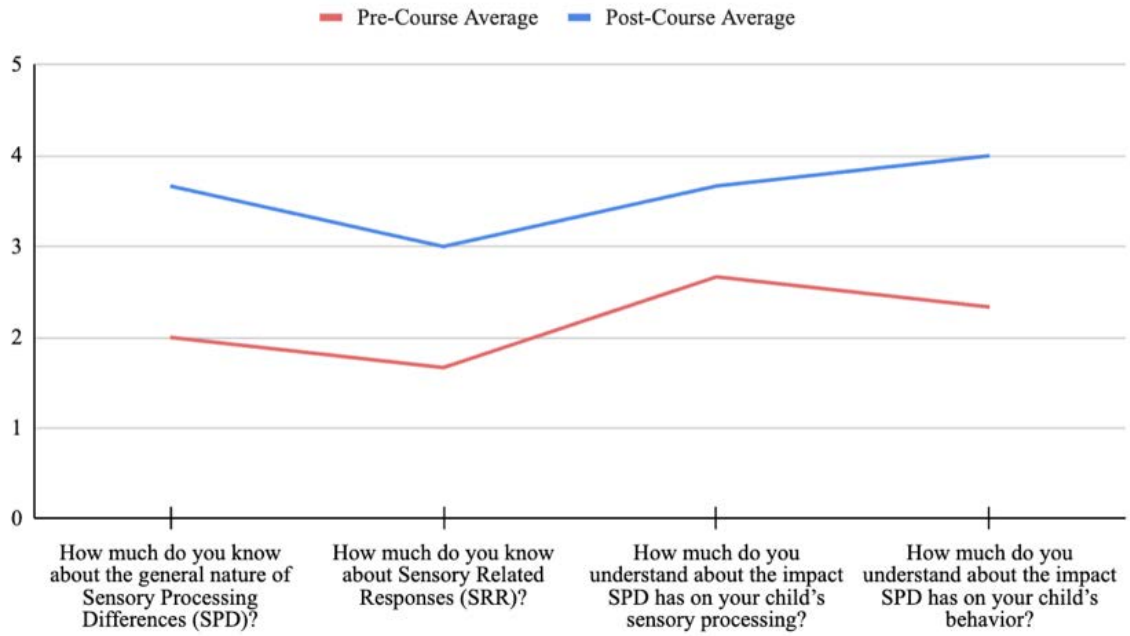
Table 1

Average Difference Between Each Pre- and Post- Course Survey Questions

	Questions			
Average	Q1. How much do you know about the general nature of Sensory Processing Differences (SPD)?	Q2. How much do you know about Sensory Related Responses (SRR)?	Q3. How much do you understand about the impact SPD has on your child's sensory processing?	Q4. How much do you understand about the impact SPD has on your child's behavior?
Pre-Course Average	2.00	1.67	2.67	2.33
Post-Course Average	3.67	3.00	3.67	4.00
Pre- and Post-Course Average Difference	1.67	1.33	1.00	1.67

Figure 1

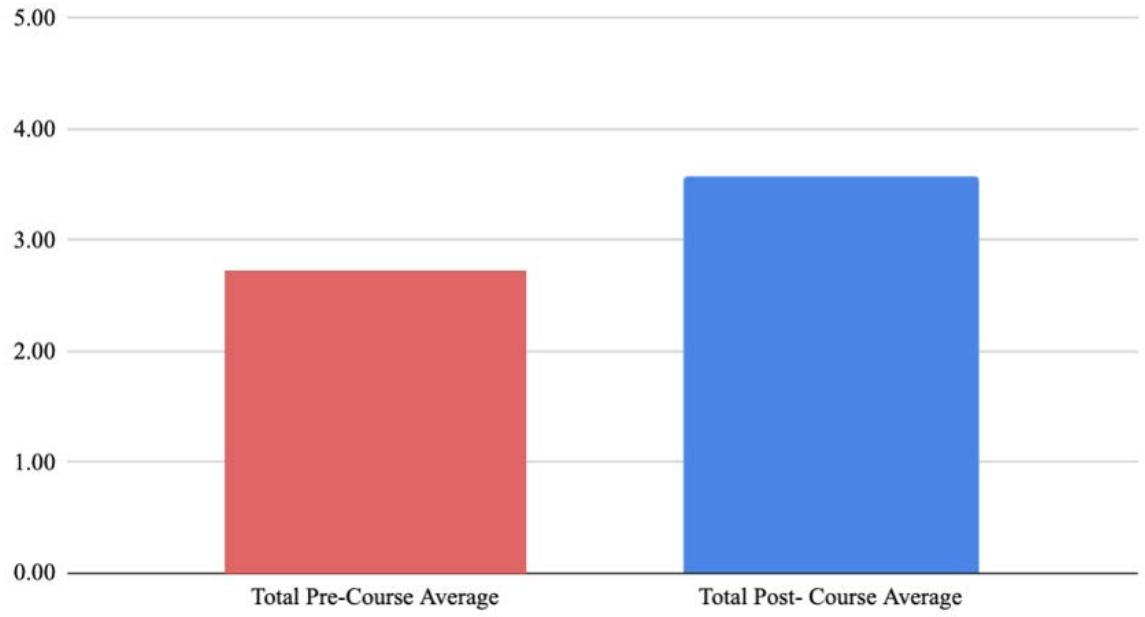
Average Results of Pre- and Post- Course Survey Questions



The total mean of all questions pre- and post-course for each participant was also calculated, with the total pre-course average being 2.17 and the post-course average being 3.58 (See Figure 2). This data illustrates that caregivers reported an increase in knowledge about SPD and SRR after taking sessions in the educational series.

Figure 2

Total Pre-and Post-Course Average of Survey Questionnaire Results



Note: The total pre-course average score was 2.17 and the total post-course average score was 3.58.

Section Nine: Discussion

The purpose of this doctoral capstone was to see whether an online group educational series would increase caregiver understanding about topics such as SPD, SRRs, and the impact SPD has on their child's sensory processing and behavior. A comparison between the pre- and post- average data showed that there was at least a one-point increase for each of these topic questions. When calculating the difference between total understanding before and after the series, scores increased from 2.17 to 3.58. These positive increases illustrate an improvement in caregiver understanding about SPD and SRRs. This resonates with the literature in that group caregiver education, even provided through telehealth, can be an effective way to provide services and have a positive impact on caregiver understanding (Gee & Peterson, 2016; Little et al., 2018).

Additionally, caregivers were able to share whether they found the educational series helpful and what they valued most from attending the sessions. This included additional feedback that was provided by caregivers who attended the first introductory class but did not complete the post-course survey questionnaire. Overall, caregivers commonly reported that they appreciated learning more about SPD, such as the three additional sensory systems (vestibular, proprioception, and interoception), the different types of SPD patterns, and the different sensory features they may see in their child. There was a substantial number of comments expressing how this information helped them learn more about their child through a sensory processing lens, specifically learning the "why" behind their child's daily actions. Both the literature and caregiver feedback identified substantial value in understanding their child through a sensory processing lens (Bulkeley et al., 2016; Farmer and Reupert, 2013). Caregivers also reported an appreciation towards learning strategies that can help support their child with SPD. In terms of

what the caregivers reported wanting more of, one caregiver requested to have the materials translated to Spanish so that she may share the information with her spouse and mother, who are also caregivers to her child. Additional comments included potty training resources, play ideas for specializing in communication, and more information on the next steps after their child turns three.

These results may have occurred for a few reasons. First, participants were required to attend the introductory session, which included essential definitions and information that would lay a foundation for all upcoming sessions. Participants started the educational series with limited knowledge on the topics, also stating that they had no prior experience with resources about SPD and SRRs. This aligns with the literature that one reason caregivers commonly have decreased knowledge about SPD is due to difficulty obtaining the information (Miller-Kuhaneck & Watling, 2018). Having the information laid out in-depth through an audio and digitally written format serves as a resource for caregivers moving forward. In addition, SPD and SRRs are complex topics typically discussed on a graduate education level; materials containing professional jargon can be inappropriate for some caregivers' health literacy levels (Leslie & Crehan, 2020). In order to accommodate for varying health literacy levels, information, definitions, and examples were simplified and elaborated on as much as possible. All educational materials were always reviewed and approved by the project mentor, a registered pediatric OT practitioner, to ensure that the material was presented in a caregiver-friendly manner.

Second, an important focus of this educational series was providing general sensory strategies that caregivers could implement within their child's daily occupations to navigate everyday SRRs. As children with SPD have challenges participating in different occupations, caregivers need support in facilitating everyday participation for their children through sensory

strategies (AOTF, n.d.; Miller-Kuhaneck & Watling, 2018; Pfeirrer et al., 2017). Strategies such as ensuring the presence of certain sensory factors, adapting sensory features of an activity or environment, and implementing sensory strategies are important in supporting child occupational participation (Pfeiffer et al, 2017). These sensory strategies alongside other positive parenting skills are beneficial in supporting child participation, especially when there is an improper fit between personal characteristics, task, and environment (Eşkisu and Pakçi, 2021; Little et al., 2018; Pfeiffer et al, 2017). In line with this project's theoretical frameworks, andragogy and the PEOP model, essential information and common examples were used to educate caregivers about the different ways they could modify these three dimensions in order to create a better fit and improve their child's occupational performance and development.

OT practitioners have a specialized knowledge base in assessing and treating sensory issues (Miller, 2014). This puts practitioners in the prime position to ensure that caregivers have sufficient knowledge that will allow them to understand their child through a sensory processing lens and have effective strategies that can help enable their child's occupational participation. Practitioners can create and utilize quality caregiver education resources such as this that can supplement therapy services, especially when teaching complex topics like SPD and SRRs to clients with varying levels of health literacy levels and learning styles.

Assumptions and Limitations

Despite an increase in scores, there are assumptions and limitations impacting these results, specifically in its design, instruments, and sample. First, caregivers had the option to choose as many or as few sessions as they were interested in. All three participants attended four classes in total, but the topic sessions they attended varied (See Table B3). Thus, these results are under the assumption that all the educational sessions were effective enough to increase

caregiver understanding, despite caregivers attending varying topic sessions. In addition, conducting this series online was chosen as the most convenient option for caregivers as it eliminated the burden of driving to a physical location, making significant room in caregivers' schedules, and finding childcare if needed. However, despite initial interest to join (n=27), the number of actual participants dropped significantly (n=8) with only three participants having completed the post-course survey despite several reminder emails and an incentive of a $15 gift card.

Providing the post-course survey questionnaire online also provided challenges for data collection. The initial design for this course was that the post-survey would be provided after each educational session through SurveyMonkey to understand whether the material provided in each session was beneficial in increasing understanding about SPD and SRRs. However, the post-survey was instead provided after the series ended due to a lack of responses. By increasing the time between taking the first session and taking the survey after the last session, the perception of how much understanding caregivers gained during that time may be different than if they took the post-survey right after each class. In addition, there is the likelihood for response bias or social desirability bias on the caregiver survey questionnaires due to the nature of self-report questionnaires in itself. For example, participants may rate their understanding to be higher than it is or may respond to the survey questionnaire in a hurried or disingenuous manner.

Lastly, the inclusion criteria for joining the educational series were that caregivers were caring for a child under five years old who had some degree of SPD and was receiving OT services from TMG. As the participants were already receiving or have received EI services, it is possible that the information or strategies provided in this series was not new information and thus not as beneficial. Taking this educational series may be more beneficial for families who are

not receiving EI services yet or who may be new to EI services, at a stage where they possibly have more questions and/or less knowledge.

Implications for Future Research

According to the AOTA/AOTF research agenda, it is vital that practitioners consider what makes an intervention effective (AOTA & AOTF, 2011). Future study considerations should examine additional strategies to increase survey participation in order to collect feedback data after each class session. Gaining this feedback after each session will provide future researchers with information about the effective and ineffective components of the educational series, which will be important for the improvement of the caregiver material. Increasing survey participation can be done by making survey completion part of the inclusion criteria during recruitment and sign-up process. Hosting the class in-person may also aid in increasing survey participation, and it would also add an opportunity for socialization and support amongst caregivers. Additional research should be done on whether telehealth or in-person sessions are more effective in increasing caregiver understanding.

As the content in this series already contains information that OT providers could have educated long-term clients on, it could be beneficial for this series to be offered to clients who have newly signed up for EI or outpatient services, when a caregiver may be the most unknowledgeable about SPD and SRRs. The recruitment process may also be widened to other clinics in the area in order to gain a larger and more diverse sample population to assess generalizability and effectiveness of the series. In addition, caregivers and teachers could also benefit from the acquisition of this information, specifically about sensory strategies that can help children with SPD in the classroom. School-based OT providers can help with individualizing the strategies for specific classrooms and the students within.

Lastly, this educational series focused on the context of occupations for children under five. Future research should consider research on information and strategies that could benefit parents and older individuals, especially adolescents and those transitioning into adulthood. Caregivers commonly report uncertainty about their child's future, which can lead them to unintentionally limit their child's choices after high school, which ultimately takes away opportunities for the child's growth (Kirby et al., 2021). It can be beneficial to provide caregivers information and strategies on how to support their child's confidence and skill development for independent living, post-secondary education, and/or employment.

Implications for Practice

Due to the project's small sample size, general implications for practice require more data and research. Potential implications for practice are that this educational series, as digital copies and as recorded sessions, can serve as resources that OT providers can provide to caregivers as a supplement to therapy. The material can also be translated to different languages so that information can be shared with other caregivers who do not speak English. Materials that are not in an individual's preferred language decreases the accessibility of resources (Leslie & Crehan, 2020).

Materials can also be used as a way to complement therapy services. OT providers can identify therapeutic goals prior to caregivers taking the educational series, which allows them to identify which sessions would best fit the family's goals and the child's needs. During the educational sessions, caregivers can identify which sensory strategies they would like to try with their child so that they may consult their OT provider at their next upcoming therapy session. This allows OT providers to further assist clients by individualizing the sensory strategies to each client after taking into consideration challenging occupations, contexts, performance patterns,

performance skills, and client factors (AOTA, 2020). OT providers may also guide caregivers on how to safely use the sensory strategies in their everyday routine.

Section Ten: Conclusion

Experience in the community and a review of the literature highlighted a need to increase caregiver understanding about SPD and SRRs as it relates to children and occupations so that caregivers can better support their child's positive developmental and health outcomes. To meet this need, the purpose of this doctoral capstone was to create an online caregiver educational series about SPD in the context of what it looks like across occupational domains, as well as providing sensory strategies they can use for navigating SRRs at home and in the community. While there were limitations impacting the final results, there was an improvement in caregiver understanding for those who attended this specific educational series at TMG. It was also valuable to learn that caregivers appreciated learning more about SPD despite its complexity, learning more about their child through a sensory processing lens, and learning more about different ways they can support their child in everyday occupations. These positive caregiver reports highlight just how beneficial caregiver resources can be for the community and how OTs can emphasize this in future caregiver education.

Future research should consider gathering data and feedback after each class session, utilizing a larger and more diverse sample size, and researching and developing a similar educational series for parents of adolescents and individuals transitioning into adulthood. There is potential for OT providers to use this educational series to supplement and complement therapy services. According to AOTA's Centennial Vision, OT providers should always work closely with clients to produce effective outcomes (AOTA, 2017). As such, OTs should continue to support clients by providing education on SPD and SRRs so that caregivers may best understand, care, and support their child and their sensory needs at home and in the community.

Appendix A

Recruitment Flyer

Please join us for an educational series on...

UNDERSTANDING

SENSORY PROCESSING DIFFERENCES

IN EVERYDAY LIFE

ABOUT THE SERIES

Would you like to learn more about sensory processing differences (SPD) and how this may affect your child's everyday participation and routines? Would you like to learn strategies on how to navigate your child's sensory-related responses (SRR) on a daily basis? Join us for a five-part educational series to gain more information and strategies that can help you understand, care, and support your child and their sensory needs! This series was created to help you and your children feel supported and empowered. Through informational presentations and handouts, learn how your child's strengths and challenges may be differences, but not deficits!

CLASS DETAILS

Classes are held at 6PM for approximately 30-60 minutes on Zoom during the following dates. Participants are welcome to join as many classes as interested but are **required to attend the introductory session.**

- **February 2 (Required Introductory session):** Definitions of Sensory Processing Differences and Occupational Therapy
- **February 16:** SPD + Activities of Daily Living
- **March 1:** SPD + Instrumental Activities of Daily Living & Sleep
- **March 15:** SPD + Education & Health Management
- **March 29:** SPD + Play, Leisure, & Social Participation

ELIGIBLE? WE'D LOVE YOU TO JOIN!

Are you parent, family member, or caregiver of a child:

- ages 0-5 with SPD as measured by the Sensory Profile with a score of less/more than others?
- who is currently receiving occupational therapy services at TMG?

Participants also will be asked to complete:

- A short demographic questionnaire
- An online survey questionnaire about their understanding of the topic **before and after** each class session. This information will be used to improve the educational materials moving forward!

If you are interested or have any further questions, please contact us!

Jessemae Delarmente
UNLV, OT Doctoral Student
delarj2@unlv.nevada.edu • (702) 882-7561

Under supervision of Alicia Messing
MS, OTR/L
amessing@tmgnv.com

Appendix B

Demographic Characteristics of Participants

Table B1

Demographic Characteristics of Caregivers

Demographic information	Caregiver
Sex	
Male	0
Female	3
Age	
30-39 Years Old	3
Race	
White	2
Other	1
Highest Level of Education	
Bachelor's degree	1
Associate's degree	1
High school degree or equivalent (e.g., GED)	1
Caregiver Role	
Mother	3
Father	0
Experience with any other educational opportunities (e.g., seminars, classes, etc.)	
Yes	0
No	3

Note. n=3 participants

Table B2

Demographic Characteristics of Caregivers' Child

Demographic information	Child
Sex	
Male	3
Female	0
Age	
2 Years Old	2
3 Years Old	1
Diagnosis	
Developmental Delay	3
Sensory Processing Disorder	1
Current OT Services	
Early Intervention	2
Outpatient Therapy	1
Length of Time Receiving Services	
Less Than a Year	2
1 year	1

Note. n=3 children of the participating caregivers.

Table B3

Participant Attendance

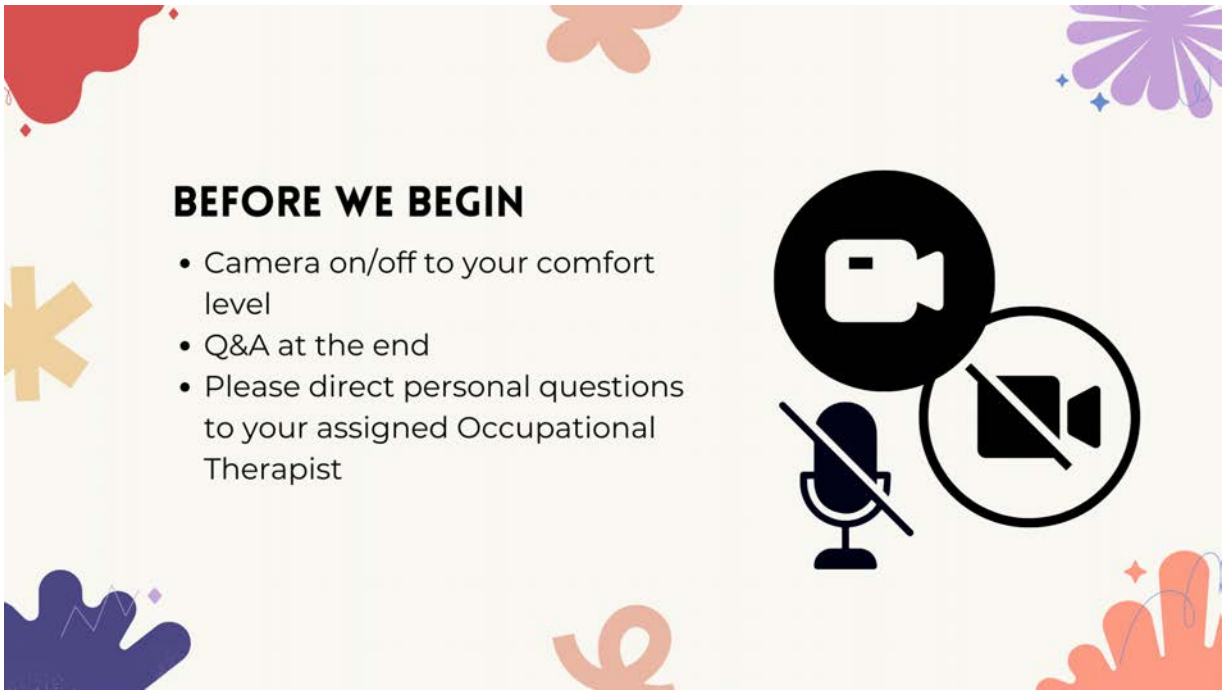
Educational Sessions Offered	Participant 1	Participant 2	Participant 3
Session #1: Definitions of Sensory Processing Differences (SPD) and Occupational Therapy	✓	✓	✓
Session #2: SPD + Activities of Daily Living	✓		✓
Session #3: SPD + Instrumental Activities of Daily Living & Sleep	✓	✓	
Session #4: SPD + Education & Health Management		✓	✓
Session #5: SPD + Play & Social Participation	✓	✓	✓

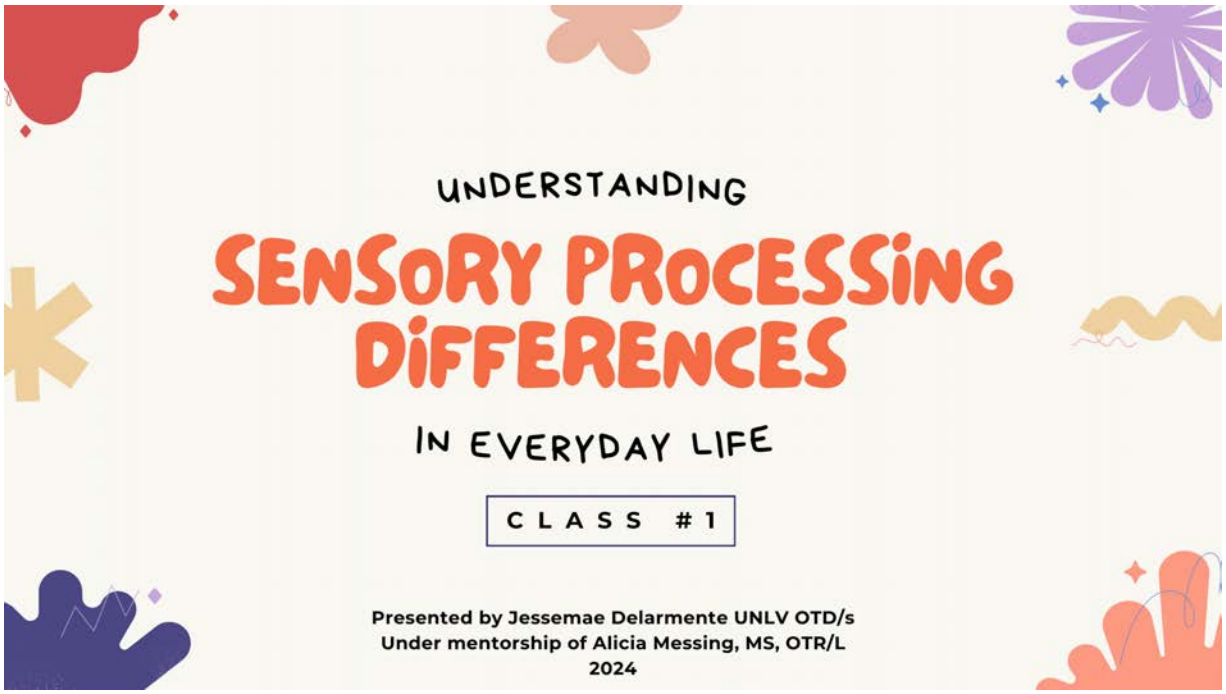
Appendix C

Caregiver Educational Materials

Figure C1

Intro to Sensory Processing Differences and Occupational Therapy PowerPoint





LIST OF CONTENTS

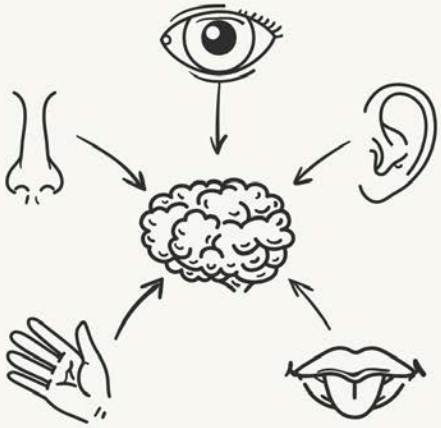
INTRODUCTION

"Sensory Processing Differences (SPD) is neurological – not parental, not behavioral."

Lucy Jane Miller, PhD, OTR

THE EIGHT SENSES

All 8 senses helps us survive, feel safe, and be active and functioning in our world.



1. Tactile (Touch)
2. Oral (Taste)
3. Visual (Vision)
4. Olfactory (Smell)
5. Auditory (Hearing)

THE EIGHT SENSES

6 Vestibular (Direction & Movement)

Tells us where our head and bodies are in relation to the Earth's surface, and the movement of our head, neck, eyes, and body. This tell us whether we're moving or not, and which direction we're moving – this goes hand in hand with our balance and coordination.

7 Proprioception (Body Awareness & Deep Pressure)

Tells us about our body position and movements of our body parts. This tells us where our bodies are in space, how our body parts relate to one another, the timing of our muscles, how fast we're moving, and how much force our muscle is putting out.

8 Interoception (Internal State)

Tells us what's happening inside our body. This tells us if we feel hungry, thirsty, hot, cold, in pain, need to use the restroom, etc. It also gives us information on our emotions and mood (nervous, happy, sad, etc.)

(Kranowitz, 2022)

SENSORY PROCESSING

The way that our nervous system receives sensory messages and turns them into appropriate responses

SENSORY PROCESSING DIFFERENCES (SPD)

Difficulty receiving and organizing sensory signals into an appropriate response, leading to atypical responses.

SENSORY-RELATED RESPONSES (SRR)

Atypical way of responding to sensory stimuli because of differences in sensory processing that affect daily living.

(Kranowitz, 2022; Miller, 2014))

SENSORY-RELATED RESPONSES (SRR)

Way of responding to external stimuli due to differences in sensory processing that may lead to decreased function in everyday life.

- Examples may include but are not limited to
  - Difficulty with self and emotional regulation
  - Decreased safety awareness
  - Unsafe sensory seeking behavior
  - Inattention
  - Aggressive or dysregulated behavior
  - Restrictive diets

(Bulkeley et al., 2016; Cohn et al., 2014)

SENSORY PROCESSING DIFFERENCES (SPD)

- Can stand alone or with other diagnoses
- SPD is a spectrum

3 Patterns

1. Sensory Modulation
2. Sensory Discrimination
3. Sensory Based Motor Differences

Sensory Discrimination

Challenges with **telling the difference** between incoming messages within one sense, as well as being **unable to tell what is important and not important**.

- Often need extra time to process sensory information because of trouble interpreting what they perceive as quickly as others

Sensory Based Motor Differences

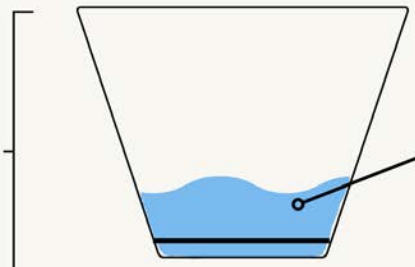
Challenges with taking in, understanding, and using sensations from the environment to **make an appropriate physical response** (e.g., sit, move, write, eat, play, and more)

(Kranowitz. 2022)

MEETING YOUR CHILD'S NEEDS

Imagine each sensory system as a cup (8 in total). **Filling our sensory cups is a neurological need.**

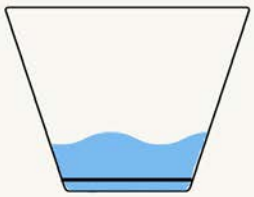
Cup Size (aka neurological threshold): This is how much sensory input is needed



Liquid: Sensory input coming in from the environment

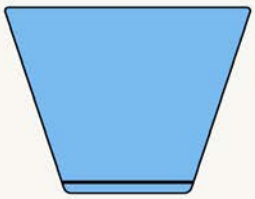
THE SENSORY CUPS

FILLED TOO LITTLE



A child's focus and behavior will be directed towards meeting that sensory need – even if that means making unsafe behaviors (e.g., climbing on the countertops) or tuning out things around them.

FILLED JUST RIGHT



A child feels safe and more regulated in their body, allowing them to better attend to the world around them. This is what we call a **ready to learn** state.

FILLED TOO MUCH

A child may become overwhelmed and upset, leading to possible tantrums or meltdowns. This is what we call a **dysregulated state.**

Everyone's cup sizes are unique to them. Your cup sizes are different from your child's cup sizes.

For kids with SPD, their cups may be much smaller or much bigger.

RESPONSE VS BEHAVIOR

- **SPD is neurological** – not parental, not behavioral
- Research shows that the brain of a child with SPD is **wired differently.**
  - Microstructural abnormalities in the white matter in the back of the brain
    - These areas connect the auditory, visual, and tactile systems involved in sensory processing
  - Too much sympathetic activity and/or too little parasympathetic activity leads to highly reactive behaviors in children with sensor over-responsivity
    - Sympathetic Nervous System: Responsible for "fight-flight-freeze"
    - Parasympathetic Nervous System: Responsible for restoring calm in the body

(Owen et al., 2013; Schaff et al., 2003)

TODDLER SENSORY PROFILE

Standardized method involving a caregiver questionnaire that gathers information related to your child's **sensory processing patterns** in the home, school, and community. This assessment allows you and your OT to better understand your child, and it provides an opportunity to collaborate on sensory strategies to meet your child's sensory needs

Your child may score "much more than others" in one, none, or more than one of the four quadrants.

Seeking/ Seeker	Avoiding/ Avoider	Sensitivity/ Sensor	Registration/ Bystander

SEEKING/SEEKER

The degree to which a child **obtains** sensory input. A child that scores "much more than others" means they **seek** sensory input at a higher rate than others.

This may look like

- Being "always on the move" – running, climbing, jumping, crashing
- Engaging in self-stimulatory behavior to regulate their emotions (e.g., banging their head, pinching, etc.)
- Craving deep pressure (e.g., asking for hugs, crawling under cushions)
- Taking out all their toys to look at
- Making their own loud noise (e.g., clapping, singing, banging, shouting)

(Kranowitz. 2022)

AVOIDING/AVOIDER

The degree to which a child is **bothered** by sensory input. A child that scores "much more than others" means they **move away** from sensory input at a higher rate than others and prefer rituals in their daily routines.

This may look like

- Resisting being touched or cuddled
- Becoming upset if their skin or clothes are messy
- Avoiding messy play or playing with others
- Being picky with their food

(Kranowitz. 2022)

SENSITIVITY/ SENSOR

The degree to which a child **detects** sensory input. A child that scores "much more than others" means they **notice** more sensory input at a higher rate than others.

This may look like

- Becomes easily upset or startled at loud or unexpected noises
- Needs a routine to stay content or calm
- Dislikes swinging or being placed on their back
- Pulls at clothes or resists getting changed

(Kranowitz. 2022)

REGISTRATION/ BYSTANDER

The degree to which a child **misses** sensory input. A child that scores "much more than others" means they **miss** sensory input at a higher rate than others.

This may look like

- Missing eye contact
- Paying attention only if you speak loudly
- Not responding their own name or themselves in the mirror
- Bumps into things or people in their way
- Seems "clumsy" or accident-prone

(Kranowitz. 2022)

SPD AND CONTEXT

Regardless of the pattern or severity of SPD, context can play a significant part in the symptoms

- Time of day
- Setting
- Level of stress or fatigue
- Specific sensation involved

Context explains why the same child may be fine in context but not in other ones.

(Miller. 2014)

OCCUPATIONAL THERAPY (OT)

Enables people of all ages to participate in daily living.

PEDIATRIC OCCUPATIONAL THERAPISTS

Helps children engage in their daily and meaningful occupations

(AOTA, n.d.)

OCCUPATIONS

The everyday activities that people do to occupy time and bring meaning and purpose to life

CO-OCCUPATIONS

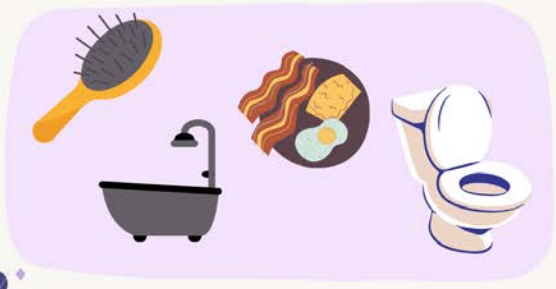
When 2 or more individuals share engagement in an occupation.

(Brown et al., 2019)

8 DOMAINS OF OCCUPATION

ACTIVITIES OF DAILY LIVING (ADLS)

Routine, everyday activities revolving taking care of one's own body



INSTRUMENTAL ACTIVITIES OF DAILY LIVING (IADLS)

Activities to support daily life within the home and community

(AOTA, 2020)

8 DOMAINS OF OCCUPATION (CONT.)

HEALTH MANAGEMENT

Activities related to creating, managing, and maintaining healthy routines

- EDUCATION
- REST AND SLEEP
- PLAY
- LEISURE
- SOCIAL PARTICIPATION
- WORK

(AOTA, 2020)

PLEASE JOIN US AGAIN!

February 16: SPD + Activities of Daily Living

March 1: SPD + Instrumental Activities of Daily Living & Sleep

March 15: SPD + Education & Health Management

March 29: SPD + Play, Leisure, & Social Participation

UNDERSTANDING

SENSORY PROCESSING DIFFERENCES

IN EVERYDAY LIFE

QUESTIONS?

Please type your question in the chat!

THANK YOU

Please fill out the "After-Class" Survey!

Next Class is **February 16 (SPD + Activities of Daily Living**

delarj2@unlv.nevada.edu

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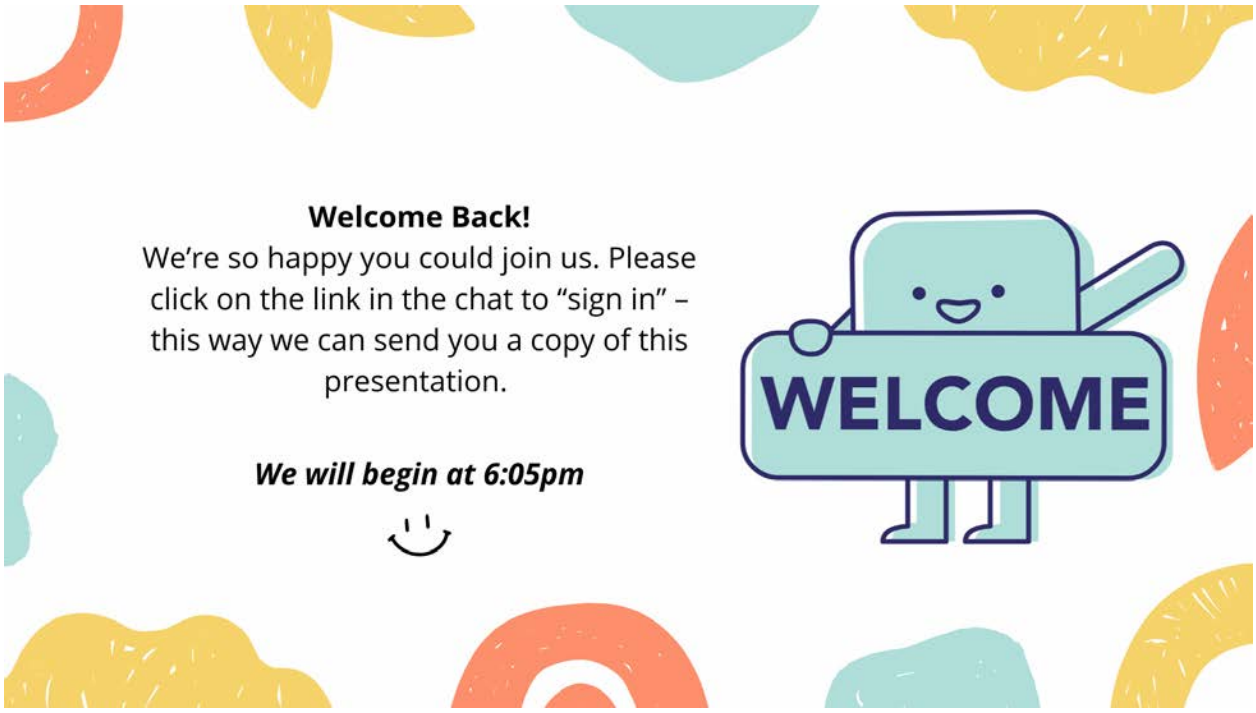
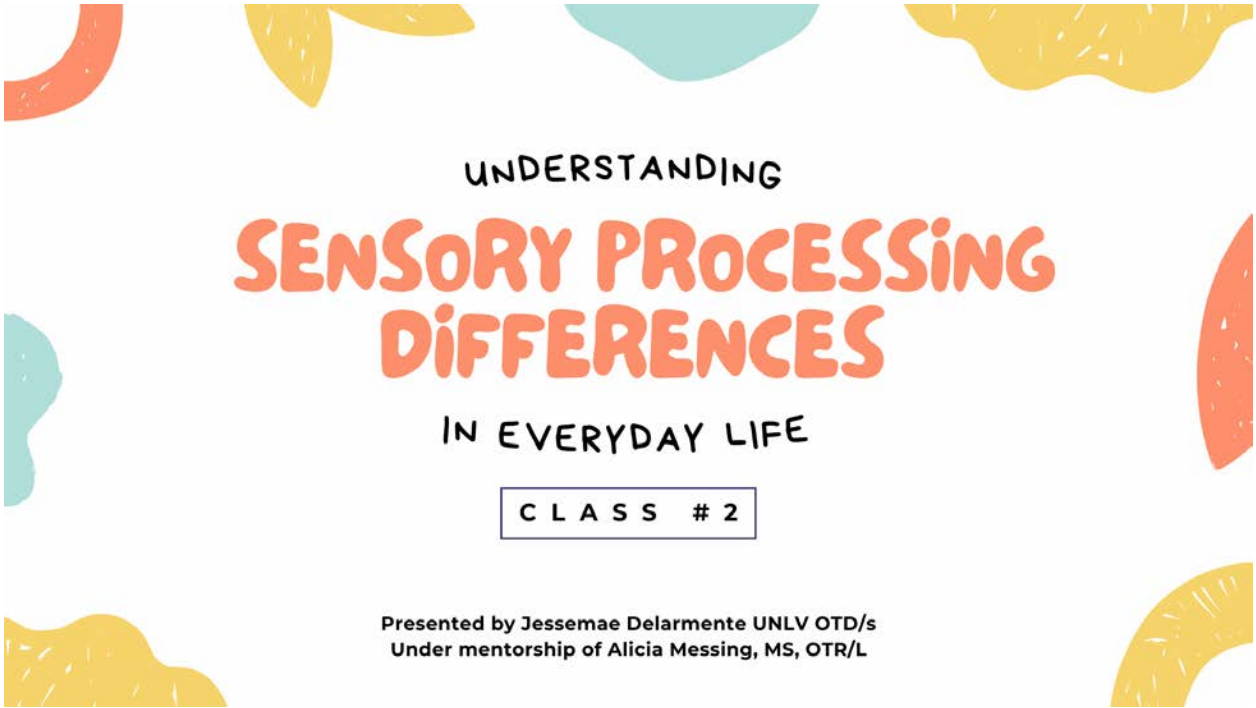
Figure C2

Activities of Daily Living PowerPoint





Before We Begin

- Camera on/off to your comfort level
- Q&A portion at the end
- Please direct personal questions to your assigned Occupational Therapist
- ***Information presented are general suggestions***
- Session is being recorded/will be sent out to you

Activities of Daily Living (ADLs)

Routine, everyday activities revolving taking care of one's own body

1. Bathing and showering
2. Toileting and toileting hygiene
3. Feeding & Eating
4. Dressing
5. Personal hygiene and grooming

(AOTA, 2020)

Quick Review: SPD & SRR

This is neurological!

SENSORY PROCESSING DIFFERENCES (SPD)

Difficulty receiving and organizing sensory signals into an appropriate response, leading to atypical responses.

SENSORY-RELATED RESPONSES (SRR)

Atypical way of responding to sensory stimuli because of differences in sensory processing that affect daily living.

(Kranowitz, 2022; Miller, 2014)

Quick Review: SPD Patterns

1. **Sensory Modulation:** How a child's brain reacts to sensations and regulates their responses.
   a. Sensory Over-Responsivity (OR): Responding to sensory stimuli more intensely, more quickly, and/or for a longer time
   b. Sensory Under-Responsivity (UR): Having less of a response to sensory info, taking longer to react, and/or requiring intense sensory messages before they act
   c. Sensory Seeking (SS): Frequent seeking of intense sensory experiences
2. **Sensory Discrimination:** Challenges with telling the difference between incoming messages within one sense, as well as being unable to tell what is important and not important.
3. **Sensory-Based Motor Differences:** Challenges with taking in, understanding, and using sensations from the environment to make an appropriate physical response (e.g., sit, move, write, eat, play, and more)

(Miller, 2014; Kranowitz, 2022)

Quick Review: 8 Senses

1. Tactile (Touch)
2. Oral (Taste)
3. Visual (Vision)
4. Olfactory (Smell)
5. Auditory (Hearing)

+

6. Vestibular (Direction & Movement)
7. Proprioception (Body Awareness & Deep Pressure)
8. Interoception (Internal State)

Deep Pressure

"Deep Pressure" strategies through proprioceptive input can be calming and organizing. Strategies should be applied with deep, firm pressure. Your child will be able to tell you if it's too firm, so always listen to your child's cues. These strategies should not be painful or dysregulating for your child. You may use a favorite toy, TV, or phone to distract your child while you complete these strategies. You may ask your OT to demonstrate these strategies.

Deep Pressure Strategies

1. **Full Body Squeezes**: Squeeze along your child's arms, shoulders, and legs. Avoid ticklish areas such as the arm pits or inner thighs.
2. **Pillow Squishes:** Have your child lay down on the bed, floor, or couch and use a pillow to apply firm, downward pressure across the entire body, avoiding the face. You may also have your child lay under a sofa cushion for the same effect.
3. **Bear Hugs:** Give your child firm hugs for 3-5 seconds. You may even sway or rock them if they enjoy vestibular (movement) input.
4. **Joint Compressions**: This provides a push-pull sensation to the joints in our bodies, including the shoulders, elbows, hands, fingers, hip, knee, and ankle. Ask your OT for a full demonstration.
   - Click here for more information and a step-by-step visual (Or copy and paste: https://yourkidstable.com/joint-compressions/)
   - Click here for a video (Or copy and paste: https://www.youtube.com/watch?v=ApBvQRzQe6I&t=2s&ab_channel=LoveOccupationalTherapyServices)
5. **Towel or lotion massage:** After bath time or swimming, use a towel to provide brisk, firm strokes. When applying lotion, use firm rubbing motions on the legs, hands, feet, stomach, back, neck and face as tolerated
6. **Burrito/Hot-Dog Blanket:** Wrap your child up tightly in a sheet or blanket like a burrito, or have them lie on one end of the blanket and get rolled up in the fabric with their head out like a hotdog. Ask your OT about sensory sheets or weight blanket, which provides the same proprioceptive (deep pressure) input
7. **Steamroller:** Slowly roll an exercise ball or large ball over the child with pressure
8. **Magic Carpet Ride**: Have your child lay down on a blanket and pull them up and down a space

Heavy Work

"Heavy Work" strategies involve pushing or pulling objects, which also provides proprioceptive input to your child's joints. Weight for pushing/pulling should be 30-50% of your child's body weight. Weight for carrying activities should be 10-15%. Always listen to your child's cues as your complete these activities and supervise them for safety.

Heavy Work Strategies

1. **Carrying Activities:**
   - Put heavy objects in a laundry basket, pillow case, or backpack to carry around
   - Carry heavy cushions or pillows
2. **Safe Push-Pull Activities:**
   - Put heavy objects in a basket, child-sized cart, or suitcase and have them push and pull this across the space.
   - Pull heavy items on a blanket or a sheet
   - Put away heavy toys or objects
3. **Bouncing Activities**
   - Bounce on an exercise ball or large ball
   - Bounce and roll heavy balls
   - Bounce on the couch or on a mini trampoline
4. **Physical Activities**
   - Creating a simple obstacle course in the home using pillows, cushions, or other commercial items to safely climb and jump on. If your child likes to take unsafe climbing risks, redirect them to your obstacle course. If they become bored, change it up!
   - Swimming provides resistance against water
   - Visiting your local playground or indoor play gym to let your child climb or swing from trapeze bars
   - Crawl on uneven surfaces like pillows or through pop-up tunnel

Sensory Processing Differences + Bathing & Showering

Tactile (Touch)

May Look Like

- Overresponse (OR): Crying, resistive, or avoidant behavior due to...
  - "Wet" texture
  - Water pressure level

Try...

- Experiment to find the most comfortable temperature
- Experiment different ways to rinse (e.g., small pail, big cup of water, shower head, etc.)
- Sit with their eyes closed while wearing a foam visor, headband, or swim goggles as you pour water of their head, or try having them lean forward
- Encourage them to operate the shower head themselves

(Care & Support in Cornwall, n.d.; Peske, 2023; Petrix, n.d.)

Auditory (Hearing)

May Look Like

- OR: Crying, resistive, or avoidant behavior due to...
  - Sound of the water echoing in the bathroom

Try...

- Use fabrics to soften the sounds in the bathroom (e.g., towels, curtains, bathrobes)
- Fill the tub with the door closed and child out of the room so they don't hear the harsh sound of the water

(Care & Support in Cornwall, n.d.; Peske, 2023; Petrix, n.d.)

Visual (Vision)/Olfactory (Smell)

May Look Like

- OR: Crying, resistive, or avoidant behavior due to...
  - Bathroom lighting
  - Soap fragrances

Try...

- Install a dimmer switch or use the hallway light to illuminate the space
- Using unscented soaps

(Care & Support in Cornwall, n.d.; Peske, 2023; Petrix, n.d.)

Vestibular (Direction & Movement)/ Proprioception (Body Awareness & Deep Pressure)

May Look Like

- Presence of gravitational insecurity when tipping their head back
  - Gravitational Insecurity: Increased anxiety in response to falling or the possibility of falling – **this is a primal fear**
- Insecurity with sitting or moving around in the bath
- Sensory Seeking (SS): Restlessness; unable to sit long enough to bathe

Try...

- If possible, be in the tub with them; use a tub mat for safety
- Have them hold you as you rinse
- Do heavy work activities or vestibular input before bath time (e.g., jumping, running, etc.) before bathing

(Care & Support in Cornwall, n.d.; Peske, 2023; Petrix, n.d.)

To Decrease Anxiety

May Look Like

OR due to lack of predictability and control

Try...

- Talk with them what the will expect first, second, and third
- Tell them where you are going to wash them to prepare them
- Count off while rinsing away shampoo
- Give them the opportunity to wash/rinse
- Give 2 choices so they are not overwhelmed
- Determine the best time for bath time and keep it consistent so that it is predictable
  - If over-stimulating, do it earlier and not before bedtime

(Care & Support in Cornwall, n.d.; Peske, 2023; Petrix, n.d.)

To Decrease Anxiety

To create a positive bath association, try playing...

- In the bathtub without water or very low water using their favorite toys
- Outside of the bathtub, using it as a giant sensory bin

Toys to try...

- Cause-and-effect toys (e.g., windup toys)
- Different sized plastic cups, containers, funnels to pour water from one container to another
- Imagination toys, making up voices or preferring your voice instead
- Different textured toys to encourage exploration and tolerating a variety of sensations on their skin

(Care & Support in Cornwall, n.d.; Peske, 2023; Petrix, n.d.)

To Decrease Anxiety

Try...

- Play calming music or sing

- Use a visual timer so they know when the task is finished
- Add stickers or wall decals for child to look at when they tilt their head
- Water-proof "To-Do list" with simple photos/line drawings of what will happen in the bath (e.g., getting in, playing with toys, washing up, washing hair, rinsing, and getting out)

- Aromatherapy to fill the air with a scent that your child finds soothing

(Care & Support in Cornwall, n.d.; Peske, 2023; Petrix, n.d.)

Sensory Processing Differences + Toileting

Tactile (Touch)

May Look Like

- OR: Crying, resistive, or avoidant behavior because it is wet and sticky; may dislike the feel of toilet paper; may be painful to sit on the toilet

Try...

- Flushable wet wipes, wipe warmer, or a bidet
- Using a soft toilet seat

(Grogan, 2023; Spencer, n.d.; Thomas & O'Connel, n.d.)

Visual (Vision)/Olfactory (Smell)

May Look Like

- OR: Seeing the stool might make the child squeamish
- OR: May be repelled by the smell and resist going near the toilet

Try...

- Flush the toilet before standing (if tolerated) or cover the stool with toilet paper
- Use candles, bathroom spray, or poo-pourri

(Grogan, 2023; Spencer, n.d.; Thomas & O'Connel, n.d.)

Auditory (Hearing)

May Look Like

- OR: The noise of a flushing toilet can be overwhelming
- SS: The noise may be interesting and they will flush again and again

Try...

- Headphones or ear plugs when using the toilet
- Let them leave the room first before flushing
- Put sticky notes over public bathroom sensors to prevent them from flushing

(Grogan, 2023; Spencer, n.d.; Thomas & O'Connel, n.d.)

Vestibular (Direction & Movement)/ Proprioception (Body Awareness & Deep Pressure)

May Look Like

- Might feel unbalanced and as if they are falling off or in the toilet
- May have a harder time staying on the toilet seat

Try...

- Use a step-stool under the child's feet to help him feel grounded while on the toilet

(Grogan, 2023; Spencer, n.d.; Thomas & O'Connel, n.d.)

Interoception (Internal State)

May Look Like

- Might not recognize bladder or bowel fullness
- Might feel as if they need to go more often than other children

Try...

- Visual toileting schedule
- "Potty Sitting Times" - set a timer for a few minutes
- Putting pictures of your actual toilet around the house so they can tap the picture if they feel like they need to go
- Model and describe how you feel throughout your day to start to teach your child to pay attention to their sensations
  - "Oh, I need to go pee. My lower stomach feels full and I feel like I need to let go."
- Ask how they feel at specific times - not to tell them how they should feel but to have them stop and think inwardly about the sensations they're experiencing
  - "Does your stomach feel different after you use the bathroom?"

(Grogan, 2023; Spencer, n.d.; Thomas & O'Connel, n.d.)

Environmental Suggestions

Try...

- Provide an inviting environment depending on your child's sensory needs
  - For a sensory seeker, bright lights, fun music/toys, alerting aromatherapy (peppermint and eucalyptus).
  - For a sensory avoider, soft lighting (night lights) and music, calming aromatherapy (lavender and chamomile).
- Use tape on the floor so boys know where they can stand

(Care & Support in Cornwall, n.d.; Peske, 2023; Petrix, n.d.)

Sensory Processing Differences + Feeding and Eating

Visual (Vision)

May Look Like

- OR: The look of certain foods or foods that have touched each other

Try...

- Peer-Modeling: Eating with the family
- Avoid distractions during mealtime as tolerated (TV, cell phones, etc.)
- Food separation on the plate
- Presenting it with smaller portions
- Fun foods/presentations/plates - fun to look at, motivating to eat

(Grogan, 2023; Kerzner et al., 2015)

Olfactory (Smell)

May Look Like...

- OR: The smell of food

Try...

- Open a window or patio door, or using a fan when cooking, to help reduce the amount of odor emitted into the room
- Cover the smells with a napkin or cover
- If tolerated, serve colder as hotter foods emit a stronger scent

(Grogan, 2023; Kerzner et al., 2015)

Tactile (Touch)

May Look Like

- OR: Crying, resistive, or avoidant behavior due to texture, consistency, and temperature of food
- UR or poor discrimination: may be uncertain about what is in their mouth and whether they have chewed enough to swallow; may prefer crunchy foods or overstuffing their mouth because they feel it better

Try...

- Sensory play experiences and messy play with foods that they don't like with 0 expectation to eat it
- Sensory bins with cooked food (e.g., spaghetti, pasta, rice, or veggies, some crumbled-up toasted bread, bagels, or rice cakes as a sensory bin) or that look like the foods the child has an aversion to (e.g., yarn bin for spaghetti, cut up sponge for bread, etc.)

(Grogan, 2023; Kerzner et al., 2015)

Auditory (Hearing)

May Look Like

- OR: Hearing others eat (take bites, chew, slurp, swallow) may be painful (misophonia: hatred of sounds)

Try...

- Playing music or using noise canceling headphones

(Grogan, 2023; Kerzner et al., 2015)

Oral (Taste)

May Look Like

- OR: Picky eating to different flavors
- SS: might crave high-flavored foods (e.g., sugary snacks, lemon, etc.)

Try...

- Talking positively about the food, describing what it looks like, smells like, feels like, etc.
- Respond to their feeding signals - do not be forceful; honor your child's sensory related response to food

(Grogan, 2023; Kerzner et al., 2015)

Vestibular (Direction & Movement)

May Look Like

- Staying seated can be difficult with low postural tone or if he cannot sense whether he is sitting up or falling off
- SS: Craves movement; unable to sit quietly for long

Try...

- Stabilizing their feet on towels, boxes, your knee, etc. can provide more stabilization
- Child sized chair and table
- Vestibular break before eating

(Grogan, 2023; Kerzner et al., 2015)

Proprioception (Body Awareness & Deep Pressure)

May Look Like

- Difficulty with positioning their hands to use utensils, getting food to his mouth, and chewing

Try...

- Preloading utensils: Encourages them to be use the utensil -- if they want the food they need to use it
- Straw-Wait-Release: Using straw with some water, having them try to suck on the straw (look at their mouth), and then we let go for a cause and effect

(Grogan, 2023; Kerzner et al., 2015)

Interoception (Internal State)

May Look Like

- OR: Might dread feeling full
- UR: Might not feel that they're full and end up overeating/might not feel they're hungry and under-eat

Try...

- Model and describe how you feel throughout your day to start to teach your child to pay attention to their sensations
- Ask how they feel at specific times - not to tell them how they should feel but to have them stop and think inwardly about the sensations they're experiencing

(Grogan, 2023; Kerzner et al., 2015)

Sensory Processing Differences + Dressing

Tactile (Touch)

May Look Like

- OR due to tactile defensiveness (over response to tactile stimuli due to being sensitive to the way certain textures feel)

Try...

- Choose sensory friendly clothing that fits your child's needs and preferences (e.g., seamless socks/underwear, tagless shirts, compression undershirt, tight vs loose clothing, soft pants)
- Wilbarger Brush - ask your occupational therapist about it
- Sensory Bins can greatly improve tactile sensory issues with clothes
- Repeated Exposure in small doses during a neutral time where there is no pressure to get dressed or go somewhere
  - Make a game:
    - Bubble race (blow bubbles and see if they can get dressed before the last bubble hits the ground)
    - Roll-an-Outfit using a dice

(Grogan, 2023; Petrix, n.d.; Your Kids OT, 2016)

Oral (Taste)

May Look Like

- SS: Chew/licking their clothing

Try...

- Chewy-toys
- Vibrating toys or vibrating toothbrushes

(Grogan, 2023; Petrix, n.d.; Your Kids OT, 2016)

Vestibular (Direction & Movement)/ Proprioception (Body Awareness & Deep Pressure)

May Look Like

- SS: Difficulty with balance and staying still
- Difficulty getting dressed because of poor body awareness

Try...

- Vestibular break/heavy work before dressing
- Deep pressure before, while, and after they're dressed

(Grogan, 2023; Petrix, n.d.; Your Kids OT, 2016)

Other General Strategies

Try...

- Don't force them into something as you want dressing to be a positive experience
  - In the case of needing to wear clothes that are challenging for them, set a time limit (e.g., Once you're in the car, you can take your coat off)
- Allow for extra time in the morning or bedtime routine
- Offer 2 choices to engage in dressing
- Backward chaining: Break dressing down into steps and teach in backward order. You do all the steps and then have them do the last. Once they master that step, have them do the 2nd to last step until you completely fade out of doing it for them

(Grogan, 2023; Petrix, n.d.; Your Kids OT, 2016)

Sensory Processing Differences + Personal Hygiene and Grooming

Tactile (Touch)

May Look Like

- OR: Tactile defensiveness

Try...

- Desensitization before brushing can help prepare for unfamiliar/unpleasant sensations
  - (As tolerated) Before toothbrushing, gently massage child's mouth with a handheld vibrator, vibrating toy, or vibrating toothbrush (bristle side away from skin)
- Choose the right toothbrush for your child
  - Color/familiar cartoons
  - Type of bristles (e.g., 3 headed brushes, vibrating toothbrush [can be used outside of toothbrushing time for oral sensory seekers])
- Nonfoaming toothpastes (ex: Orajel toddler training toothpaste)
- Wet the toothbrush every few strokes

(Lindsey & Peske, 2018; Kranowitz, 2022; The OT Tool Box, n.d.)

Olfactory (Smell) and Oral (Taste)

May Look Like...

- OR: Smell or taste

Try...

- Non-mint toothpaste flavors – alternate flavored tooth pastes (ex: Tom's of Maine, Burt's Bees, and Tasty Paste)

(Lindsey & Peske, 2018; Kranowitz, 2022; The OT Tool Box, n.d.)

Auditory (Hearing)

May Look Like

- Disliking the sound of water on porcelain

Try...

- Turning off the faucet during brushing
- Brushing at the kitchen sink or somewhere less echo-y

(Lindsey & Peske, 2018; Kranowitz, 2022; The OT Tool Box, n.d.)

Vestibular (Direction & Movement)

May Look Like...

- OR: Feeling unsteady while on a stool

Try...

- Standing behind them while they brush

(Lindsey & Peske, 2018; Kranowitz, 2022; The OT Tool Box, n.d.)

Proprioception (Body Awareness & Deep Pressure)

May Look Like...

- Difficulty with motor planning and sequencing the steps

Try...

- Pick a predictable brushing pattern to help your child sequence the steps and learn to predict when and where they'll feel the sensation (e.g, always start with top teeth and brush from left to right, front to back)
- Model proper tooth brushing and make it fun (e.g., who can brush longer?)
- Follow along with a video of child or family member brushing teeth

(Lindsey & Peske, 2018; Kranowitz, 2022; The OT Tool Box, n.d.)

Other General Strategies

Try...

- Aim for 1 good cleaning a day with the 2nd one attempted
  - For example: Parent does a good cleaning the 1st time while the 2nd attempt is focused on the child doing it and learning the skills
- Create and use a consistent routine and use a visual schedules to increase predictability and decrease anxiety
- Try 2 minute timers or sing/play a song

(Lindsey & Peske, 2018; Kranowitz, 2022; The OT Tool Box, n.d.)

Reminder

Not every strategy will work for your child and your family. Please reach out to your TMG Occupational Therapist for specific questions/strategies, and learn how to individualize these strategies to best fit your child.

We're here to help!

QUESTIONS?

Please type your question in the chat!

SURVEY?

Please fill out our after-class survey! Link in chat

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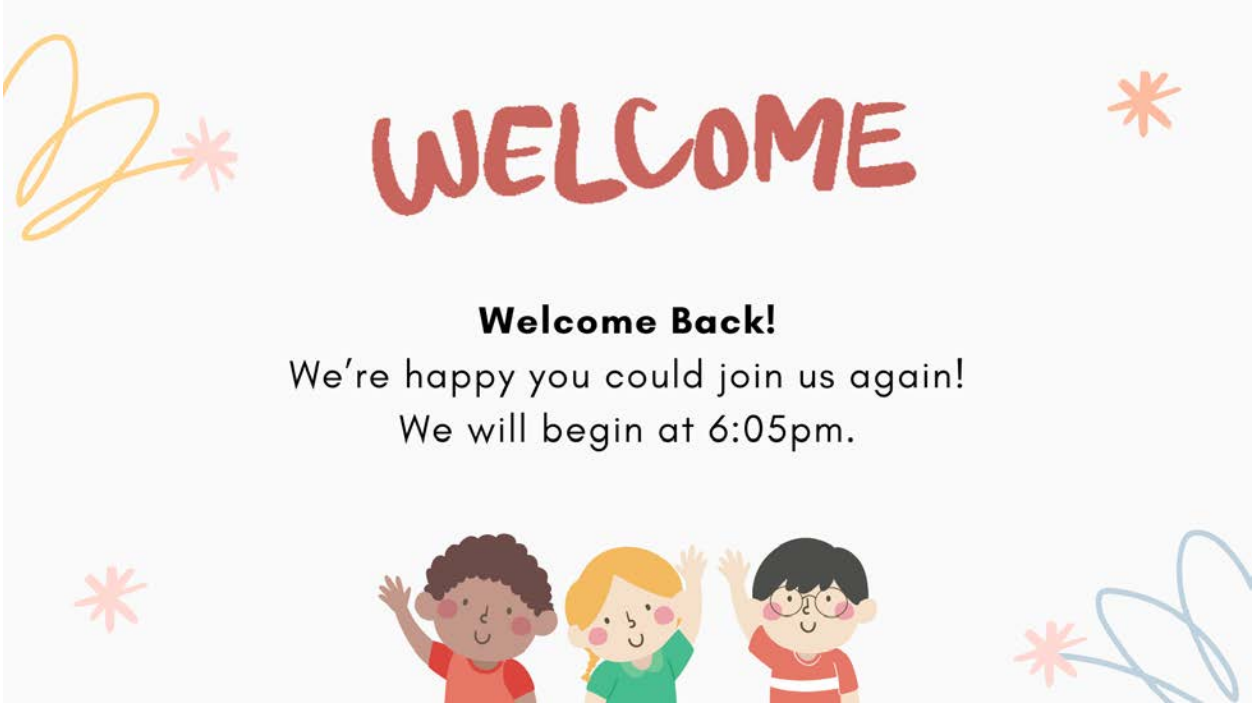
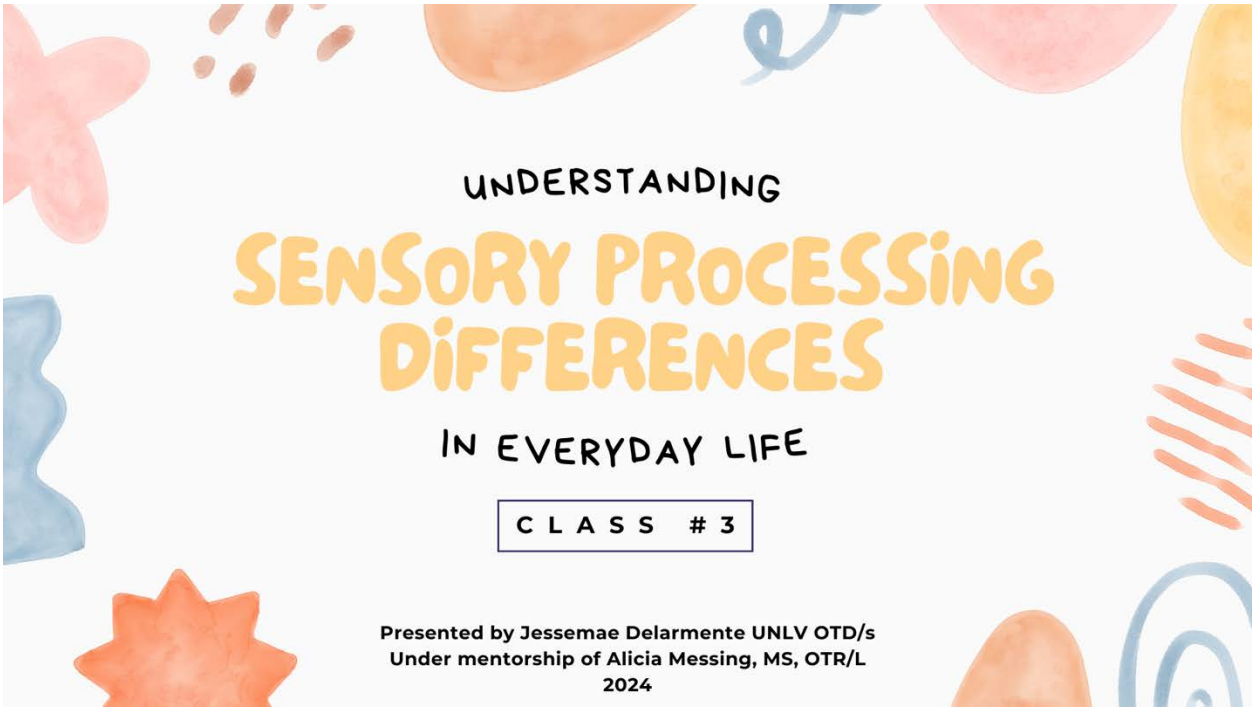
Figure C3

Instrumental Activities of Daily Living and Sleep PowerPoint





Before We Begin

- Camera on/off to your comfort level
- Q&A portion at the end
- Please direct personal questions to your assigned Occupational Therapist
- ***Information presented are general suggestions***
- Session is being recorded/will be sent out to you

Sensory Processing Differences + Out in the Community

Instrumental Activities of Daily Living (IADLs)

Activities to support daily life within the home and community

- For adults or older individuals, this may look like...
  - Care of pets and animals
  - Child Rearing
  - Communication
  - Driving and community mobility
  - Financial management
  - Home establishment and management
  - Meal preparation and management
  - Religious and spiritual expression
  - Safety and emergency maintenance

Transitions

- Tell your child in advance when they will need to transition
  - Be specific (ex: “It's 6:20. We will need to leave the house at 6:30.”)
  - Use visual/auditory cue (e.g., timer)
  - Follow-through with whatever time you told your child in advance
- Written-todo lists or picture to-do lists so your child can know what is coming up
  - Follow-through with the order of tasks that was agreed upon
- If needed, use several warnings before ending an activity they enjoy and beginning one they do not
- Use “First, Then” statements (e.g. “First, Jacket on, then we’ll get in the car.”
- Transitional objects or comfort objects - some children might feel more secure with transitions if they can take their favorite blanket or a toy with them
- Read social stories about where you’re going to go

(Miller, 2014; Linsey & Peske, 2018; Pfeiffer et al., 2017)

Prepare Before Leaving

- Using deep pressure strategies or heavy work activities to
  - Provide calming input to prepare your child for activities away from the home or if already there
  - Provide alerting input to prepare your child for a community outing (e.g., circular input like twirling your child)

(Miller, 2014)

Sensory To-Go Bag

- Over-Response (OR)
  - Have a sensory bag to help support your child's arousal
    - Fidget toy
    - Hat, sunglasses
    - Noise canceling headphones, rhythmic music or sounds during a car ride
- Under-Response (UR)
  - Provide alerting input to prepare your child for a community outing (e.g., playing alerting music or an audiobook in the car, using a tactile fun book)
- Sensory Seeking (SS)
  - When growing overexcited, overactive, or agitated, have a sensory backpack with self-calming objects (e.g., fidget toys, weighted objects, etc.)

Have a "to-go" corner where they can get ready to go and see their to-go bag

(Miller, 2014)

Navigating Environments

- OR: Modify the environment to produce calm, safe, and predictable surroundings with minimal sensory stimulation
  - Avoid or prepare your child for environments that have intense sensory stimulation (e.g., noisy restaurants, theme parks)
    - Prepare how long you will stay but be prepared to leave before a major difficulty
    - Start with short durations during outings to provide success and build self-esteem and confidence
    - Have two exit plans for every special event in the case that your child may become overstimulated (one assuming that everything with smoothly, the alternative assuming your child needs to leave before the event ends)

(Miller, 2014; Pfeiffer et al., 2017)

Navigating Environments

- UR: Modify the environment to produce interesting, stimulating, and complex surroundings that generate maximal stimulation
  - Plan outings or go to environments that feature intense or new sensory experiences (e.g., noisy restaurants, theme parks, malls, parks, sports arenas)
- SS: Modify the environment to create interesting yet organized surroundings that provide novel experiences with intense sensations
  - Seek child friendly environments that are visually organized with minimal breakable items.
  - Be prepared with self-calming toys while waiting
  - When traveling, provide extra opportunities for activity beforehand

General: Use sensory features that are already in the environment to support engagement (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)

(Miller, 2014; Pfeiffer et al., 2017)

Shaping Relationships

Shape relationships to foster interaction that...

- OR: that will be calm enough to participate
- UR: that excites your child to participate socially in the community
- SS: that is characterized by tolerance and appreciation for your child's activity level

Try...

- Develop a script and use it to explain your child's sensitivities to others (e.g., extended family members, neighbors, service providers, etc.)
- Identify service providers that are willing...
  - OR: To learn and accommodate your child's sensory sensitivities
  - SS: To understand or accommodate your child's need for heavy work and extra sensation; avoid service providers that make you wait for appointments

(Miller, 2014)

Oral (Taste)

May Look Like

- Dislike the choices at the restaurant or reject the food (your child may reject the food because it tasted different this day or it tasted different because it is a different location)

Try...

- Call ahead to see if it is okay for your child to bring a comfort food to eat in the restaurant

(Mauro & Clark, 2014; Linsey & Peske, 2018)

Olfactory (Smell)

May Look Like...

OR due to...

- Grocery Stores/Malls: Variety of smells from ranging from soaps to foods
- Eating Out: Smell of unfamiliar foods, scent of other people, and unfamiliar cleaning products

Try...

- Use scented hand lotion or essential oil for scents you know your child likes to apply small amounts under their nose

(Mauro & Clark, 2014; Linsey & Peske, 2018)

Auditory (Hearing)

May Look Like

OR due to...

- Grocery Stores/Mall: OR for squeaky cart wheels, talking, other children crying, music, announcements
- Eating Out: Loud background music or a noisy restaurant

Try...

- Wear headphones or earplugs
- Request to sit in the quietest part of the room, away from anything noisy (e.g., speakers, kitchen doors, and bussing stations where plates and glasses clank together), or at an outdoor table

(Mauro & Clark, 2014; Linsey & Peske, 2018)

Vestibular (Direction & Movement)

May Look Like

- Staying seated can be difficult with low postural tone or if he cannot sense whether he is sitting up or falling off
- SS: Craves movement; unable to sit quietly for long

Try...

- Stabilizing their feet on towels, boxes, your knee, etc. can provide more stabilization
- Kickband, BouncyBand, or Theraband around the front legs of your child's chair can be used to support their feet or for them to push on
- Riding the elevator or escalator for a few minutes may find this calming

(Solance, n.d.)

(Mauro & Clark, 2014; Linsey & Peske, 2018)

Proprioception (Body Awareness & Deep Pressure)

Try...

- Grocery Stores/Malls: For calming proprioceptive input -
  - Let your child push the grocery cart, a junior-size cart, or their stroller for calming proprioceptive input (add packages for extra weight)
  - Have your child wear a backpack and fill it with purchases
  - Full body squeezes or tight hugs

(Mauro & Clark, 2014; Linsey & Peske, 2018)

Interoception (Internal State)

May Look Like

- OR due to negative association with shops or malls

Try...

Strolling around the shops during an early time may help the setting seem less threatening

(Mauro & Clark, 2014; Linsey & Peske, 2018)

General - Stores/Malls/Travel

Try...

- Travel: Minimize but if traveling, choose hours when public transit is least used
- Shop during less crowded hours and when your child's tolerance is at a maximum (e.g., consider their fatigue levels, have they met their sensory needs yet, etc.)
- Creating or finding smaller, calmer spaces in a bigger space can be useful to take a break in
- Plan your trip beforehand to make shopping quick
  - Divide and Conquer with a spouse, friend, or family member to make the trip quicker or have aid in the case your child needs to leave the store
  - Work together and give your child a sense of control and predictability by giving them a task or a goal (e.g., match groceries to a picture list, putting items in, keeping track of items in the cart, helping pick out items, or bringing along toys or rewards, etc.)
    - This makes shopping a fun family activity or provides distraction from sensory challenges
- Provide praise and rewards for good behavior (e.g., stickers)

(Mauro & Clark, 2014; Linsey & Peske, 2018)

Sensory Processing Differences + Sleep

Tactile (Touch)

May Look Like

- Difficulty with the sensation of sleepwear, sheets, pillows, blankets, and mattress itself

Try...

- Refer to strategies about reducing tactile defensiveness from Class #2
- Use soft sheets such as high-thread-count cotton or jersey sheets
  - Wash new sheets/clothes a few times to make it softer

General:

- Incorporate a warm bath before bedtime
  - For some, this can be overstimulating before bedtime. If this is the case, move bath time to the afternoon or earlier in the evening.
- Encourage sleeping with a comfort object (e.g., a blanket, object with your scent on it)

(Kranowitz, 2022; Linsey & Peske, 2018)

Oral (Taste)

May Look Like

- Disrupted sleeping pattern due to even the smallest dose of caffeine
- Waking to use the toilet during times when they may be falling into deep, restorative phase of the sleep cycle

Try...

- Avoid caffeine - often found in colas, chocolate, light-colored sodas, and desserts and candies
- Avoid heavily drinking or eating before bed
- If insistent on a bottle to sleep, fill it with water to avoid cavities

(Kranowitz, 2022; Linsey & Peske, 2018)

Auditory (Hearing)

May Look Like

- Difficulty filtering out sounds inside and outside the house (e.g., can be as loud as traffic or as quiet as a sibling sleeping in the next bed)

Try...

- Use a white noise machine, a radio set to static, an aquarium, a bubbling fountain, or a fan (blowing away from your child)
  - Explore different videos or apps
- If possible, situate your child's room far from areas that will remain noisy after bedtime (e.g., away from sibling rooms, from the kitchen, etc.)
- To induce sleepiness, listen to calm music and restful nature sounds

(Kranowitz, 2022; Linsey & Peske, 2018)

Vestibular (Direction & Movement)

May Look Like

- Difficulty winding down at night
- Anxious about sleeping elevated off the floor

Try...

- Encourage regular physical activity through vestibular movements or heavy work strategies
  - Do this activity earlier in the day rather than later, as late night activity can make it hard to wind down for sleep
- Avoid having them fall asleep in one place and moving them while they're asleep
- Place the mattress on the floor
  - If your child frequently falls out of bed, add safety rails/bumpers

(Kranowitz, 2022; Linsey & Peske, 2018)

Heavy Work

"Heavy Work" strategies involve pushing or pulling objects, which also provides proprioceptive input to your child's joints. Weight for pushing/pulling should be 30-50% of your child's body weight. Weight for carrying activities should be 10-15%. Always listen to your child's cues as your complete these activities and supervise them for safety.

Heavy Work Strategies

1. **Carrying Activities:**
   - Put heavy objects in a laundry basket, pillow case, or backpack to carry around
   - Carry heavy cushions or pillows
2. **Safe Push-Pull Activities:**
   - Put heavy objects in a basket, child-sized cart, or suitcase and have them push and pull this across the space.
   - Pull heavy items on a blanket or a sheet
   - Put away heavy toys or objects
3. **Bouncing Activities**
   - Bounce on an exercise ball or large ball
   - Bounce and roll heavy balls
   - Bounce on the couch or on a mini trampoline
4. **Physical Activities**
   - Creating a simple obstacle course in the home using pillows, cushions, or other commercial items to safely climb and jump on. If your child likes to take unsafe climbing risks, redirect them to your obstacle course. If they become bored, change it up!
   - Swimming provides resistance against water
   - Visiting your local playground or indoor play gym to let your child climb or swing from trapeze bars
   - Crawl on uneven surfaces like pillows or through pop-up tunnel

Proprioception
(Body Awareness & Deep Pressure)

May Look Like

- Feelings of anxiety can affect ability to fall asleep

Try...

- Deep pressure strategies before bedtime can be very calming, especially after an overstimulating day
- Some prefer sleeping under something heavy
  - Use several blankets, adding weighted items to a regular blanket, or ask your OT about weighted blanket and if they believe it is appropriate for your child
- Have the child sleep in a sleeping bag or sensory compression bedsheets for extra deep pressure
- Position the bed against a wall so the child can squish themselves against it

(Kranowitz, 2022; Linsey & Peske, 2018)

Deep Pressure

"Deep Pressure" strategies through proprioceptive input can be calming and organizing. Strategies should be applied with deep, firm pressure. Your child will be able to tell you if it's too firm, so always listen to your child's cues. These strategies should not be painful or dysregulating for your child. You may use a favorite toy, TV, or phone to distract your child while you complete these strategies. You may ask your OT to demonstrate these strategies.

Deep Pressure Strategies

1. **Full Body Squeezes**: Squeeze along your child's arms, shoulders, and legs. Avoid ticklish areas such as the arm pits or inner thighs.
2. **Pillow Squishes:** Have your child lay down on the bed, floor, or couch and use a pillow to apply firm, downward pressure across the entire body, avoiding the face. You may also have your child lay under a sofa cushion for the same effect.
3. **Bear Hugs:** Give your child firm hugs for 3-5 seconds. You may even sway or rock them if they enjoy vestibular (movement) input.
4. **Joint Compressions**: This provides a push-pull sensation to the joints in our bodies, including the shoulders, elbows, hands, fingers, hip, knee, and ankle. Ask your OT for a full demonstration.
   - Click here for more information and a step-by-step visual (Or copy and paste: https://yourkidstable.com/joint-compressions/)
   - Click here for a video (Or copy and paste: https://www.youtube.com/watch?v=ApBvQRzQe6I&t=2s&ab_channel=LoveOccupationalTherapyServices)
5. **Towel or lotion massage:** After bath time or swimming, use a towel to provide brisk, firm strokes. When applying lotion, use firm rubbing motions on the legs, hands, feet, stomach, back, neck and face as tolerated
6. **Burrito/Hot-Dog Blanket:** Wrap your child up tightly in a sheet or blanket like a burrito, or have them lie on one end of the blanket and get rolled up in the fabric with their head out like a hotdog. Ask your OT about sensory sheets or weight blanket, which provides the same proprioceptive (deep pressure) input
7. **Steamroller:** Slowly roll an exercise ball or large ball over the child with pressure
8. **Magic Carpet Ride**: Have your child lay down on a blanket and pull them up and down a space

Interoception (Internal State)

May Look Like

- Unable to tell when they are tired

Try...

- Get your child to bed when you see signs of drowsiness (e.g., droopy eyelids, yawning, slower movements). There can be a small window between drowsiness and overtired (e.g., fussy, irritability, struggling going to sleep)

(Kranowitz, 2022; Linsey & Peske, 2018)

General

May Look Like

Sleep can be affected by:

- Possibility of insomnia, tooth grinding, sleep apnea, or heavy breathing,
- Melatonin insufficiency
  - Melatonin: A naturally occurring hormone that regulates the sleep-wake cycle
    - Common prescription medications (antihistamines, stimulants, mood stabilizers, and some medications) commonly taken for special needs can interfere with melatonin levels

Try...

- Consult your pediatrician if you see changes in sleep patterns when they begin new medication or if you see signs of sleep apnea and tooth grinding

(Kranowitz, 2022; Linsey & Peske, 2018)

General

Try...

- Consistent time: Have your child sleep and wake at a consistent time - not doing so can confuse the body's internal clock and cause insomnia and difficulty falling asleep
- Consistent Routine: For some kids, a calming and reassuring bedtime means doing the same routines at the same order at the same time.
- A visual to-do list, transition warnings, and a consistent bedtime can assist with transitioning
- Avoid late naps: If they're trying to doze off and it's late in the afternoon, try to keep them awake until early bedtime
- Resolve any conflicts before bedtime and provide reassurance that tomorrow will be a brand-new day.

(Kranowitz, 2022; Linsey & Peske, 2018; Pfeiffer et al., 2017)

Reminder

- Finding the right strategies is all trial and error
- Consistency is key
- Always reach out to your TMG OT for further questions and ways to individualize these strategies to fit your child and your family's routines!

Questions?

Please type your question in the chat!

Survey, please!

Please fill out our after-class survey! Link in chat.

Next Class

March 15:
SPD + Health Management & Education

Please reach out with any questions or comments!
delarj2@unlv.nevada.edu

References

- American Occupational Therapy Association. (2020). *Occupational Therapy Practice Framework: Domain and Process (4th ed.).* AOTA Press. https://doi.org/10.5014/ajot.2020.74S2001
- Kranowitz, C. S. (2022). *The out-of-sync child: Recognizing and coping with sensory processing differences.* TarcherParigee
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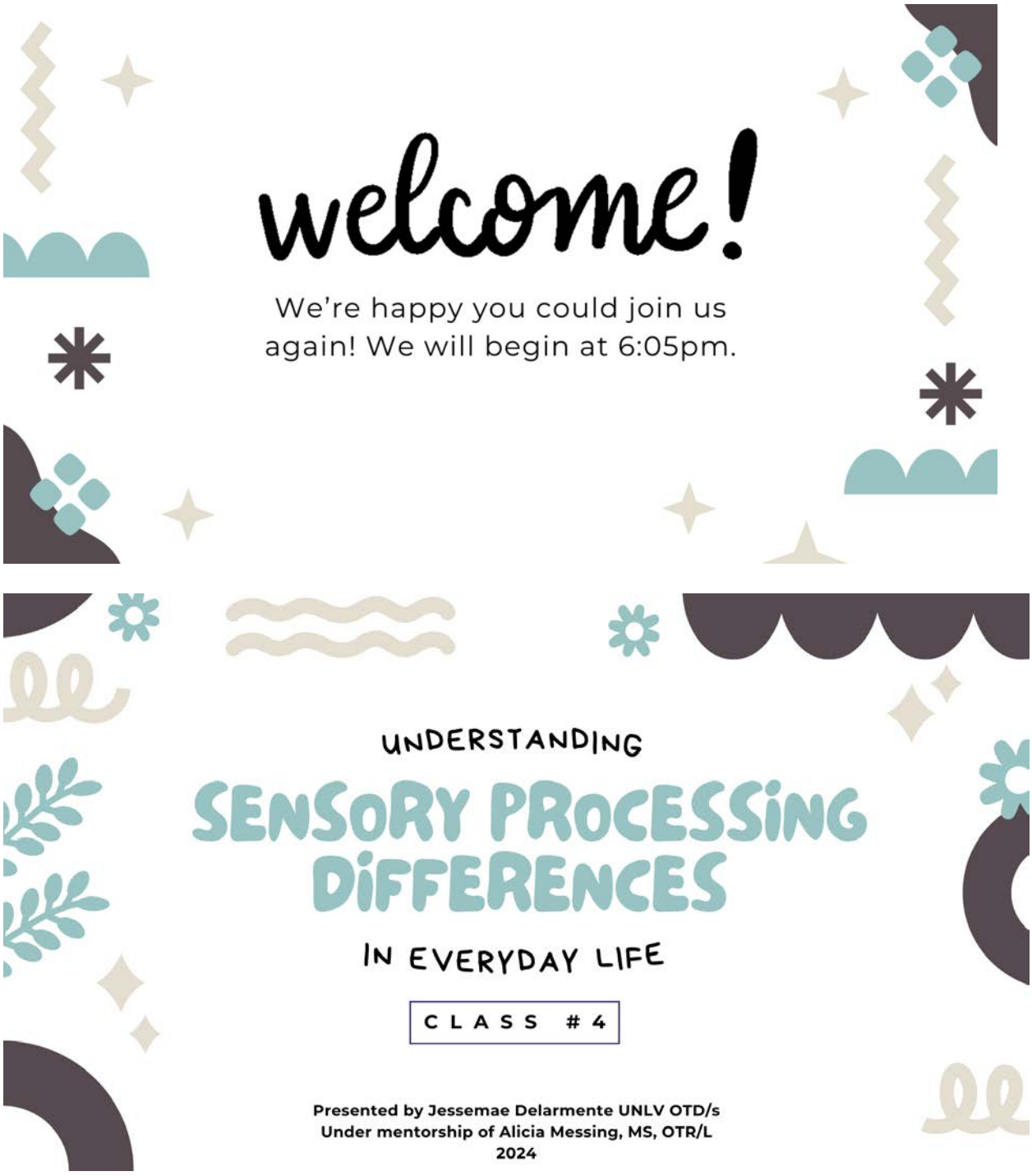
Figure C4

Health Management and Education PowerPoint



BEFORE WE BEGIN

- Camera on/off to your comfort level
- Q&A portion at the end
- Please direct personal questions to your assigned Occupational Therapist
- ***Information presented are general suggestions***
- Session is being recorded/will be sent out to you

Sensory Processing Differences & Health Management

Health Management

Activities related to creating, managing, and maintaining healthy routines

(AOTA, 2020)

Tactile (Touch)

May Look Like

- Over Response (OR) due to sensitivity with light touch or oral touch

Try...

Dentist trips:

- If your child is sensitive orally, do oral desensitization work before your appointment such as a
  - Vibrating teether, toothbrush, or other oral vibrators (e.g. Z-Vibe)
  - Massaging gums with a finger cot
  - Using chewies (e.g, chewy tubes, chewable jewelry)

(Lindsey & Peske, 2018)

Tactile (Touch) - cont.

May Look Like

- Over Response (OR) due to sensitivity with light touch or oral touch

Try...

Doctor/Dentist trips:

- Let child check out the tools that will be used
- Bring comforting toys or fidgets for them to squeeze
- Bring fun activities to do when in the waiting room (e.g., stickers, color books, toys, etc.)
- If asked to change in a hospital gown, ask doctor if your child can wear a loose, oversize, supersoft adult shirt from home that looks, feels, and smells familiar

(Lindsey & Peske, 2018)

Tactile (Touch) - cont.

May Look Like

- Over Response (OR) due to sensitivity with light touch

Try...

Haircuts:

- Decrease tactile sensitivity on your child's head before a haircut by providing a deep pressure massage/squeezes to their head
- Give your child a big soft brush, a dry cloth with baby powder, or a hairdryer on the cool setting to blow stray hair off as it falls
- Bring an extra shirt along so your child can change afterward. Or cut hair at home so they can take a shower immediately to rinse off any stray hairs
- If haircuts are a big challenge, consider cutting their hair at home and cutting their hair over a course of a few days instead of one, long sitting session
- Try cutting their hair while they're asleep (especially upright in a car seat) or in the bathtub where they're distracted by bath toys

(Lindsey & Peske, 2018)

Visual (Vision)

May Look Like

OR due to sensitivty with flourscent lights or overhead lights in an examination chair

Try...

- Give your child a hood, hat, or sunglasses to protect their eyes

General:

- Use a social story, comforting books, or make a storybook using pictures of a sibling going to the dentist, doctor, or hairdresser to help reduce fears
- You can schedule your appointment first so your child can see you doing it first

(Lindsey & Peske, 2018)

Auditory (Hearing)

May Look Like

- OR due to the sound of different tools (e.g., cleaning tools, haircut razors, etc.)

Try...

- Give your child earplugs or headphones with music or an audiobook to listen to while they're getting their teeth cleaned or during their haircut
- Avoid usng a buzz-razor for scissors instead
- Arrange appointment to be done when nobody is using a razor in the shop
- Visit the salon/barbershop when they are not getting their haircut and have the barber "play" the sound for them

(Lindsey & Peske, 2018)

Vestibular (Direction & Movement)/ Proprioception (Body Awareness & Deep Pressure)

Try...

To provide deep pressure, calming input:

- Even if x-rays aren't being used, place a weighted lead bib on your child's chest. You can also use a weighted lap pad while at the doctors or at haircuts
  - Always listen to your child's cues if they are uncomfortable
- Do deep pressure/heavy work before your appointment (e.g., pushing against a wall, giving them full body squeezes, or tight hugs)
- If your child is small, place them on your lap or sit them in a low chair at the barbershops, as high chairs can be scary for children with SPD

(Lindsey & Peske, 2018)

General

Try...

- Look for a child-friendly waiting room, clinic, and haircutting place who have good rapport with kids and have flexible attitude towards time
- Schedule your appointment with plenty of time to ease anxiety and explain what will happen
- Practice playing dentist or doctor at home; take turns playing as the professional and as the patient!

(Lindsey & Peske, 2018)

Sensory Processing Differences & Education

Individuals with Disabilities Education Act (IDEA)

A federal law that states special education services be provided by public schools for children with disabilities. It mandates that children with disabilities are entitled to a:

- **Free and Appropriate Public Education**
- **Least Restrictive Environment:** Whenever possible, children are to be educated in regular classrooms rather than special education classes and given whatever accommodations they need to be in the general school population

(Lindsey & Peske, 2018)

Child-Find

- The process of finding and evaluating children, ages three to 21, who are not enrolled in public school and may be qualified for services identified in the Individuals with Disabilities Education Act (IDEA)
  - Assesses children for special education eligibility
  - Develops Individualized Educational Programs for eligible children
  - Engages in community outreach to identify children who may need services
  - Provides connections for families to community resources
  - Collaborates with Nevada Early Intervention Services (NEIS) to ensure no drop in services

Note: An OT evaluation is not part of the initial Child-Find Eval. If your child starts school and you or the teacher see challenges with self-regulation, attention, fine motor, handwriting, or more – ask for an OT assessment. It is within your rights!

(Student Services Division, n.d.)

School Based

Goals and treatments focus on your child's function in the **school setting and as a student**

- Address any school-related task: Handwriting, getting on and off the bus, taking off a coat, tying shoelaces, carrying books, sitting in a chair, note taking, behaving appropriately, communicating with others, eating lunch, playing during recess, etc.

- *Push in services:* Therapists works with your child in the classroom
- *Pull out services:* Child leaves the classroom for a short time for therapy

Occupational Therapy

Clinic Based

Goals and treatments focus on your child's function in **all occupations** at home, school, or in the community

- Activities of Daily Living (ADLs)
- Instrumental Actvities of Daily Living (IADLs)
- Rest and sleep
- Education
- Health management
- Play
- Leisure
- Social participation

- Services provided in the clinic

(Lindsey & Peske, 2018)

Individualized Education Plan (IEP)

A legal document that outlines your child's unique needs and how the school will meet those needs.

Includes:

- Yearly long-term goals
- Assistive technology needs
- Test accommodations
- Discipline and health needs
- Therapy services (occupational therapy [OT], physical therapy [PT], or speech therapy)
  - Therapeutic goals
  - Frequency
  - Duration
  - Location
  - Individual vs group sessions

(Lindsey & Peske, 2018)

School and SPD

- Difficulty to perform and conform under pressure
- Abrupt transitions between activities and school subjects can be overwhelming for someone who switches gears slowly
- School (unlike home) can be unpredictable or have lack of choice/control
- Sensory stimuli may be
  - Excessive and overwhelming (e.g., lights, sounds, and odors)
  - Insufficient (e.g, not enough stretching breaks, improper fit between child's learning needs)

(Kranowitz, 2022)

Promoting Your Child's Success at School

Being an advocate for your child at school

Communicating with school personnel

Sharing ideas with teachers to promote success

(Kranowitz, 2022)

Communicating with School Personnel

Why?

It is beneficial to share your understanding of your child's SPD so that their teachers can know how to change their classroom environment, change their teaching style, or redirect their thinking.

Who?

Tell classroom teachers, principal, administrators, cafeteria workers, scout leaders, coaches, school bus drivers/carpool drivers

- Identify a support person whom
  - Over Response (OR): Your child can seek out in times of stress. Create age appropriate ways to contact this person or to receive support (timely check-ins if child is not yet aware of their needs, placing a flip card on desk to flip when needing support, etc.)
  - Under Response (UR): Can engage in vigorous movement with your child (e.g., brisk walk around the playground) before the school day starts or, ideally, between activities
  - Sensory Seeking (SS): Can engage child in heavy work activities that engage muscles and joints (e.g., moving furniture, carrying heavy books, etc.)

(Kranowitz, 2022)

Communicating with School Personnel

When?

- Anticipate your child's difficulties and communicate with those who need to know before the school year starts
- During the school year, have a communication notebook or an email thread to pass back and forth to communicate days when your child might need more support (e.g., didn't sleep well, changes in the home, etc.)

What?

- You can develop a script to explain...
  - OR/UR: Your child's sensitivities, needs, and the resulting sensory related responses
  - SS: Your child's need for extra sensory stimulation

(Kranowitz, 2022)

Communicating with School Personnel

How?

Frame the information around your child's positives (e.g., He's a really great helper...) and strengths (e.g., She concentrates great after....")

Where?

Communicate with the teacher the best time for meetings in advance at a time where your discussion will be interrupted (e.g., before/after class, lunch, or evening phone calls)

(Kranowitz, 2022)

Good School-and-Child Match

- Communicating regularly with school personnel can make a positive difference for your child. However, not every classroom or teacher is the best fit for your child.
  - If the goodness of fit at school is lacking, consider:
    - Asking to move to another teacher's classroom
    - Investigating special-education programs – these classes are smaller and less distracting, and the special education teachers are trained to address differing abilities
    - Transfer your child to a new different public school
    - Transfer your child to a private school, where classes are smaller and your child may be able to repeat a grade if necessary
    - Homeschooling (whether short-term or long-term)

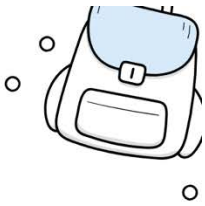
(Kranowitz, 2022)

Classroom Strategies

The following strategies can be suggested to your teacher informally or incorporated formally within your IEP.

Think what works best for your child at home that you can do at school as well.

Tactile (Touch)

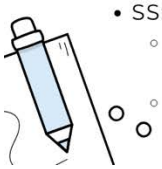


May Look Like

- OR: Disliking proximity of other children
- SS: Excessive touching of others/materials due to seeking of tactile input

Try...

- OR: Creating opportunities for safe, personal space
  - Sitting at the head of the table or edge of the rug/ setting up child's desk near the front or near the teacher
  - Have child file up at the end of the line where nobody can bump them
  - Having "calm space" or "time-in" spaces (tent, cave, beanbag in a quiet corner) filled with toys they can stretch, pull, or push against (heavy work) or rock in (vestibular)
- SS: Creating opportunities to use fidgets or other tactile sensory materials
  - Having a calm space where child can go when they are too excited – fill with toys they can stretch, pull, chew, or push against toys for heavy work input
  - Provide fidgets to touch other than children sitting next to them



(Kranowitz, 2022)

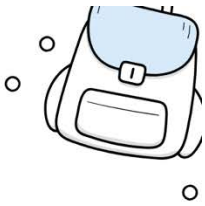
Oral (Taste)

Try...

- Oral-motor input such as chewing on a chewy or on gum can be helpful for attention and performance

(Miller, 2014)

Visual (Vision)

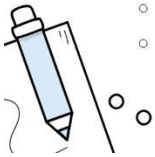


May Look Like

- Visual distractions can interfere with concentration (e.g., items in the environment or movement of other people)

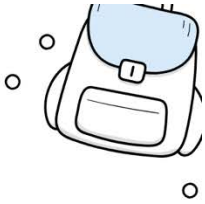
Try...

- OR: Request classrooms that are visually uncluttered, organized, and calm
  - Keep bulletin boards organized and secure items on bulletin boards so they do not flutter
  - Tack or place a sheet over open shelves to cover art materials, games, and toys that may attract your child's attention
  - Remove things that sway from light fixtures
  - Adjust window blinds to stop sunshine from flickering through



(Kranowitz, 2022; Miller, 2014)

Visual (Vision)

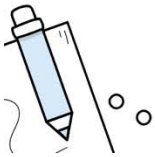


May Look Like

- Visual distractions can interfere with concentration (e.g., items in the environment or movement of other people)

Try...

- Having child sit near teacher at the front of the classroom with his back facing his classmates
- Prop office folders on your child's desk to cover visual distractions while working
- Talk to your school-based OT
  - Have child focus on one or a few problems at a time by using a cover (e.g., cardboard template with a hole in the middle)
  - Worksheets with bigger font
  - Worksheets with one or few problems at a time



(Kranowitz, 2022; Miller, 2014)

Visual (Vision) - cont.

Try...

- UR: Request classrooms that are colorful, filled with objects, visually interesting, and have opportunity for movement
- SS: Request classrooms that are visually orderly and provide opportunity for sensory stimulation during free time
  - Using a visual cue like tape or a dot can help define boundaries of their personal space
  - Surround your child with other peers who serve as good role models

(Miller, 2014)

Olfactory (Smell)

May Look Like...

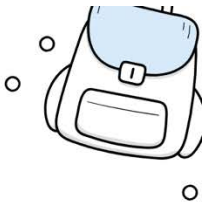
- Distractions from smells such as from the lunchroom, pet cages, or different art materials

Try...

- When possible, time lessons so that the child's most difficult lessons are not being taught when food is being brought in
- Have child's desk away from animals, paint supplies, or other strong-smelling items

(Kranowitz, 2022)

Auditory (Hearing)



May Look Like

OR due to...

- Auditory distractions, noise levels, or echoes in the room
- Misinterpreting a high-pitched or loud voice

Try...

- Noise-canceling headphones/ headphones to listen to calming music
- Eating lunch in a quiet, low stimulation environment instead of the lunchroom
- Whenever possible, cover hard surfaces with carpet, cloth, or corkboard to reduce echo
- Avoid sitting child near a humming fish tank, under buzzing light bulbs, or beside windows where children's voices come through
- Classical music can help soften the auditory environment and help organize everybody
- Use a low-calm voice, get down to their level, make eye contact (if tolerated), and press firmly down on their shoulders to help a child focus on what you're saying

(Kranowitz, 2022; Lindsey & Peske, 2018)

Auditory (Hearing) - cont.

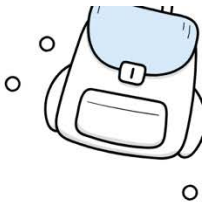
Try...

For UR:

- Request a classroom that is more spontaneous and interactive
- Have child sit next to extremely social children and other sources of sound

(Miller, 2014)

Vestibular (Direction & Movement)



May Look Like

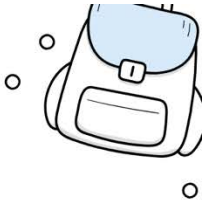
- SS: Being fidgety at their seat or restless after a period of time
- UR: Needing extra movement to be engaged and focused

Try...

- Complete heavy work activities before coming to school
- Sitting on a cushion seats or therapy balls/ball chairs to allow for slight bounce/wiggle movement for improved focus (ball height should be tall enough that child's legs are bent in a 90 degree angle)
- Make moments for movement breaks or other acceptable ways to move throughout the day (e.g., stand/stretch breaks, moving to different areas for activities, playing games such as "Simon Says," returning books to library, retrieving items, etc.)
  - May also provide passes for "sensory breaks" for movement that can be used throughout the day as needed
- Allow child to work in a variety of areas instead of staying in the same place (e.g., standing at a counter, sitting next to teacher's desk, etc.)

(Kranowitz, 2022; Lindsey & Peske, 2018)

Proprioception (Body Awareness & Deep Pressure)



May look like...

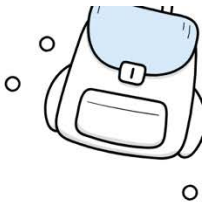
- Poor body awareness may lead to falling off their chair

Try...

- Chairs that allow feet to be flat on the floor; can stabilize with tennis balls so they do not tip up
- Desk at waist level
- General strategies for proprioceptive input:
  - Textured cushions that provide tactile input
  - Weight lap blanket to use while seated
  - Kickband, BouncyBand, or Theraband around the front legs of your child's chair can be used to support their feet or for them to push on
  - Think: What deep pressure strategies work at home that can be done at school?

(Kranowitz, 2022; Miller, 2014)

Transitions

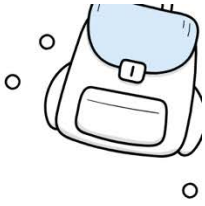


Try...

- Use visual schedules broken down by time and activity
- Give specific verbal or visual cues (timers) for transitions between activities
- Give warnings when things "out of routine" will occur (e.g., guest speaker, field trip, assemblies, emergency drills, etc)

(Kranowitz, 2022; Miller, 2014)

Help Your Child Become Better Organized



Try...

- Create learning activities that match their learning and sensory needs (ex: a child with challenges understanding lectures because of auditory processing may learn best through tactile and visual experiences)
- Build on the child's strengths (ex: if they are a tactile learner, let them build a model or draw a picture)
- Give time for the child to understand a question and say the answer
- Respect a child's sensory needs by not forcing them to do things they can't/not ready to do (ex: if they dislike wet and sticky textures, do not force finger painting)
- Provide "unconditional, positive regard" and reward them for what they did do rather than focusing on what they didn't do - a child with SPD needs constant assurance that their efforts are appreciated. Success breeds success!

(Kranowitz, 2022)

NEVADA PEP
Strengthening Families with
Education • Empowerment • Encouragement

Nevada PEP

Click here!

Or Copy and Paste:
https://nvpep.org/services/

Statewide organization serving families of children and youth with disabilities and behavioral health needs from birth to 26 and their service providers. They offer a variety of training workshops on special education, mental health care, and disability related topics.

- Services
  - **Information and Referral:** Representatives provide information about the different ways that PEP can help, and the services offered.
  - **Individual assistance:** Individualized assistance for families. For IEP meetings, they can pair you with an advocate to attend IEP meetings to make sure your child's needs are being met.

(Nevada PEP, n.d.)

Reminder

Not every strategy will work for your child and your family. Please reach out to your TMG Occupational Therapist for specific questions/strategies, and learn how to individualize these strategies to best fit your child.

Questions?

Please type your question in the chat!

Survey, please!

Please fill out our after-class survey! Link in chat.

Last Class!

March 29:
SPD + Leisure, Play, and Social Participation

Please reach out with any questions or comments!
delarj2@unlv.nevada.edu

References

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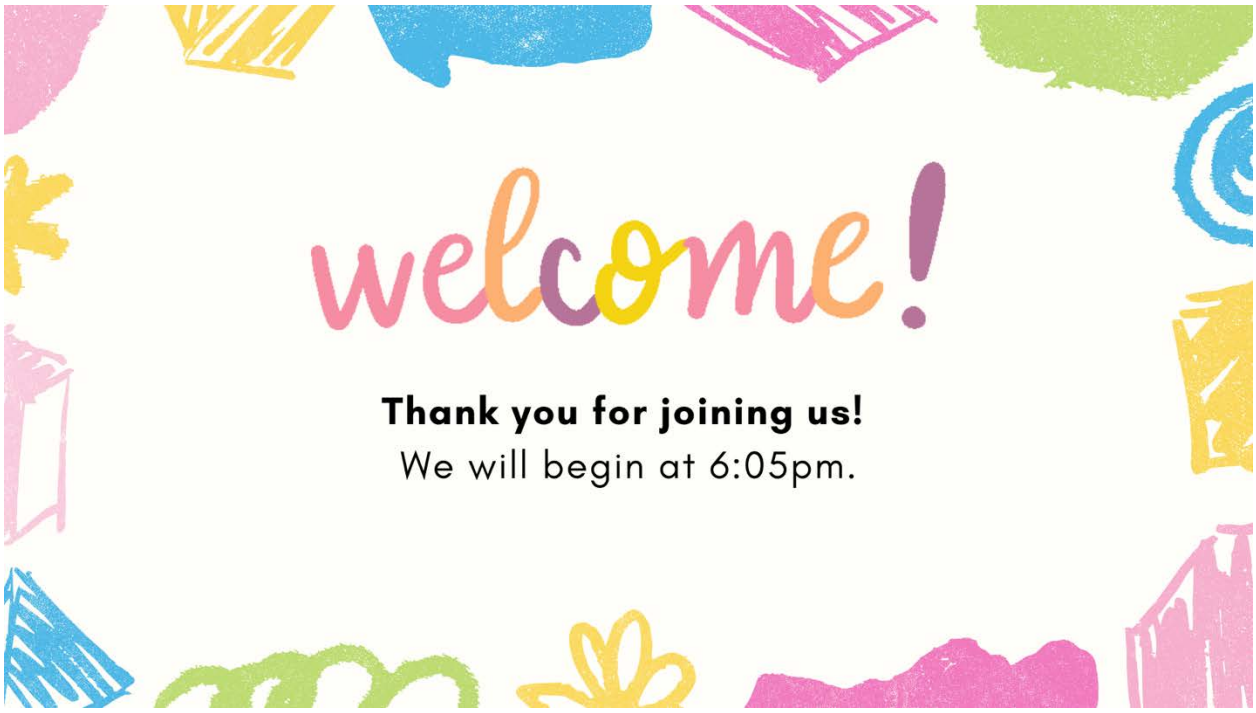
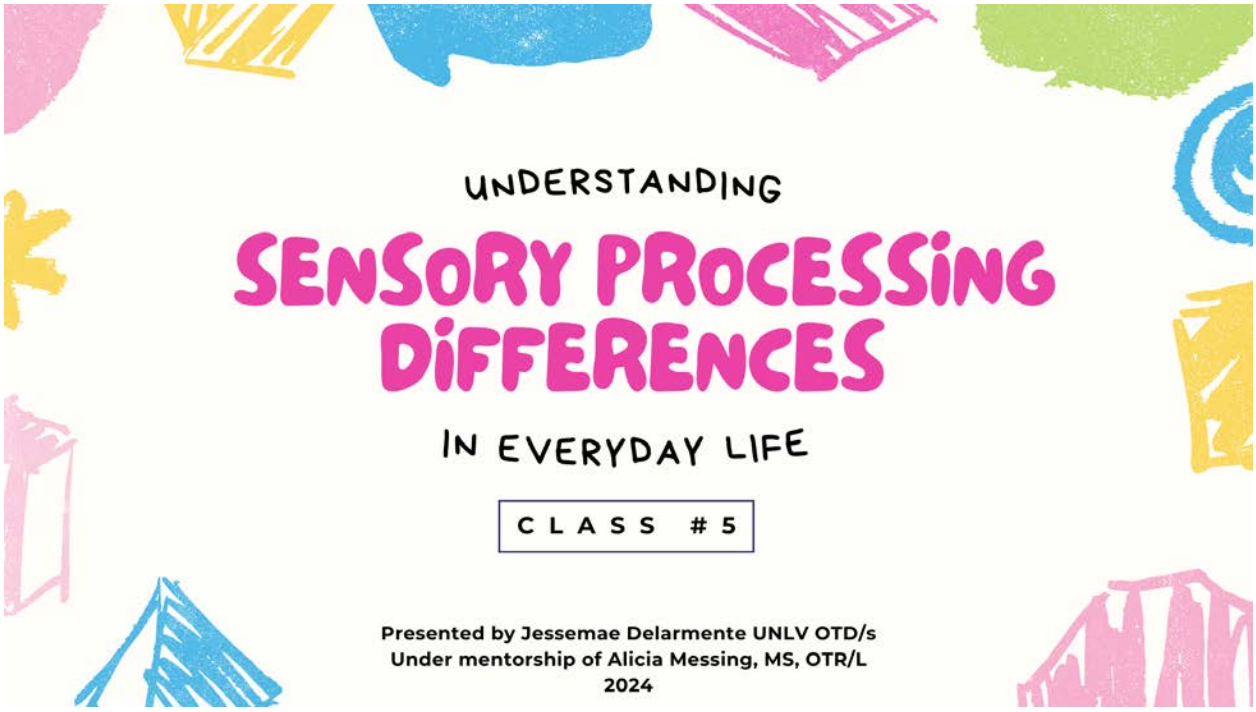
- Miller, J.S. (2014). *Sensational kids: Hope and help for children with sensory processing disorder*. Perigee.

Figure C5

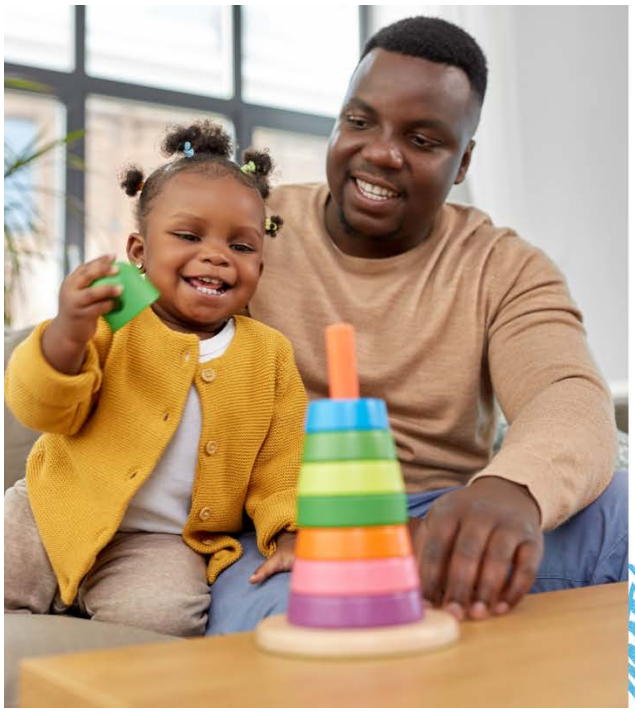
Play and Social Participation PowerPoint





REMINDER

- Camera on/off to your comfort level
- Q&A portion at the end
- Please direct personal questions to your assigned Occupational Therapist
- ***Information presented are general suggestions***
- Session is being recorded/will be sent out to you along with a copy of this PowerPoint



Sensory Processing Differences & Play

PLAY IS...

SAFE: A child that feels safe during play can enter that "learning zone" where they are willing to explore

ACTIVE: Play is an active process where they can take initiative of finding their own solutions

DYNAMIC: Play allows children to learn creativity and skills they can use as they get older (solving problems, working well with others, etc.)

PLAY IS A CHILD'S MAIN OCCUPATION!

(Klein, 2021)

TYPES OF PLAY

Unoccupied Play (Birth – 3 Months of Age)

Making seemingly random movements such as moving the arms, legs, hands, and feet.
Ex: Tummy Time

Solitary Play (3 Months of Age – 2 Years of Age)

Playing alone and not interacting with other children

- Focus on: exploring and experimenting with their environment, developing problem solving, recognizing patterns, forming mental images, and identifying objects

(Hubbard, n.d.)

TYPES OF PLAY

Onlooker Play (2 Years of Age)

Observing other children playing and learning from them but not playing with them

- Focus on: observing, understanding boundaries/rules around social play

Parallel Play (2 Years of Age and Older)

Playing side by side with similar toys but not with each other

- Focus on: Understanding social cues, developing empathy, recognizing emotions/feelings of others, and learning turn-taking/sharing

(Hubbard, n.d.)

TYPES OF PLAY

Associative Play (3-4 Years of Age)

Begin directly playing or interacting with other children but still focusing on their own goals

- Focus on: social skills, communication, teamwork, and understanding/respecting boundaries

Cooperative Play (4+ Years of Age)

Playing with others with a common goal (e.g., pretend play, imaginative play)

- Focus on: learning other perspectives, teamwork, compromise, negotiation, self-confidence, and independence

(Hubbard, n.d.)

SPD & PLAY

- Play is more primal and internal (meeting their needs, noticing how it feels for their body) than external (competition, social play)
  - Examples:
    - Tactile: Shuffling through toys
    - Auditory: Banging toys on the floor or together because of the sound
    - Vision: Taking out all the toys or inspecting details of toys
- A child with sensory processing differences (SPD) may choose to play alone, play or use "different" strategies, or try to keep things in their sensory comfort zone by controlling during play

(Mauro & Clark, 2014)

SEEING YOUR CHILD'S PLAY IN A NEW LIGHT

There's no "right" way to play. It can be helpful to let go of preconceived notions and expectations about what's functional or not and focus on being in the moment and attuning to your child about what's going on with them.

(Brown, 2019)

WHAT SHOULD PLAY LOOK LIKE?

CONNECTING	Connecting with your child in whatever they're interested in
JOYFUL	Focusing on being present and making playing a joyful experience.
ABOUT THE PROCESS	The "process" of play is about being with your child, exploring with them, and sparking their desire to learn. Focusing too much on the "outcome," or wanting them to do something, can lead them to be disengaged.

(Klein, 2021)

PLAY TIPS

The following are strategies on ways to insert your self into your child's play by following your child's lead. These are just general suggestions - please talk to your OT for personalized and specific strategies for you and your family and how to safely implement these strategies!

MOTIVATION AND MODELING

Using What Motivates Your Child

- Go in with an open mind and no agenda - observe what they're interested in, what they notice, what they find fun. Then join your child and enter their world. Once you do that, you help your child into a shared world of interaction.
  - Ex: Do they like building things? Knocking things down? The cause-and-effect? The sound of things? Look for clues on what it is they like about what they do. Finding this emotional interest is what will hook them into learning with you.

Modeling Playfulness and What They're Doing

- Modeling being playful to try and encourage joining in play.
  - Ex: Playing hide and seek with toys, making different sounds, having favorite toys sing songs, etc.
- Model what they're doing as a way to motivate and build relationships with your child, especially if they have that special interest. This helps build a trusting relationship, which is very important.
  - Ex: Scribble how they scribble, play how they're playing, make the sounds they're making

(Brown, 2016)

PLAYFULLY CHALLENGE

Challenge Without Losing Their Attention

- When playing with your child, you'll have to challenge them in order to promote their development. But do this with whatever activity your child has chosen, while still keeping in mind your child's developmental level and their sensory profile.

- **Use Playful Obstruction** - Playfully blocking their efforts so your child has to communicate with you or think to continue
  - Ex: If your child enjoys ripping apart playdough, try setting up a playful obstacle course for them, having it "fly" into a container where they have to open it, or holding it in your fist saying it's stuck
- **Play "Confused"** - Act confused so that your child has to come up with what happens next
  - Ex: Using the play-dough and putting it on your head but saying, "Hmm... Where did we put that play dough?!" and then looking together

(Brown, 2016)

PLAYFULLY CHALLENGE (CONT.)

Follow Their Lead but Change it Up!

- Following their lead still means playing together in an activity that brings your child joy, but you can expand their play providing them playful nudges. This is aside from an activity that your child might be doing because it helps them self-regulate or they find it soothing.
  - Ex: If your child likes to play with cars, add a car wash, add a passenger, make sound effects, be the driver, etc. Cars still follow your child's lead, but changing it up helps your child's brain make new connections.

Stretch Out Interactions for More Engagement

- Try stretching out each step in your play and slowing down interactions to keep the activity going for longer! But always make sure they're in control - if they do not like it, you can say, "Oh! You didn't like that! Okay then!"
  - Ex: If your child enjoys singing, you can slow things down by singing more slowly, by acting out the lyrics, or by bringing in toys to enact the lyrics.

(Brown, 2016)

PRESENTING OURSELVES

Use Affect and Latency for Longer Engagement

- **Individual Differences -** Thinking about a way each child is different and the way they're going to learn, succeed, and regulate. We look at sensory differences and how this can support/succeed their ability to perform.
- **Affect** - Pay attention to your rhythm, prosody, tone, and gestures. You can use affect to keep your child in the interaction
  - Matching your affect to your child's sensory profile.
    - OR - Calmer affect (e.g., smiling, softer voice)
    - UR - More affect (e.g., cheering, clapping, etc.)
- **Latency** - Using purposeful pauses and anticipation to encourage interactions between you and your child
    - Ex: "Ready, Set..." (pause) "Go!!"

(Brown, 2016; Klein, 2021)

COME ONE, COME ALL

Join and Play Alongside Them

- Get down on the floor and immerse yourself in what they're interested in for that shared joyful experience.

Invite Others to Play

- Invite family members such as siblings to join in on the play
  - Create small group situations, planning activities that everyone will enjoy, and supervising play so your child can positively participate and create positive experiences with friendship
  - Peer modeling or video modeling alongside practice can be great learning opportunities
  - Try "turn-taking" - using "your turn, my turn language"
- As playing with others becomes less stressful and sensory abilities improve with therapy, your child may be able to play more collaboratively

(Brown, 2016; Mauro & Clark, 2014)

SENSORY

Use Your Child's Sensory Preferences to Maintain Attention

- Think about your child's sensory processing profile - what do they enjoy and what do they find uncomfortable or aversive? Incorporate that into play to keep attention.
  - Ex: If your child loves funny noises, exaggerate that during your play. If they dislike loud noises, focus on other senses instead such as touch.

Use Body Work for Alertness and Regulation

- Some kids really need that vestibular (movement) and proprioceptive (deep pressure) to stay regulated. Think about what activity your child enjoys doing and how you can play to those hidden senses!
  - Ex: If their activity of interest is trains, have the trains fly, drive over obstacle courses, etc.

(Brown, 2016)

SENSORY TOOLS FOR PLAY

Pop-Up Tunnel

Works on:

- Proprioceptive (deep pressure) as your child crawls
- Heavy work
- Using both sides of the body
- Strengthening the body
- Body awareness

Play Ideas:

- Make it part of an obstacle course
- Put an activity/puzzle at either end and have your child crawl back and forth
- Push a ball/toy vehicle through as your child crawls through

SENSORY TOOLS FOR PLAY

Sensory Swings

Photo: Harkla

Works on:

- Vestibular (movement)
- Proprioceptive input (deep pressure) as it wraps around your child
- Calming input helps with soothe strong emotions

Note:

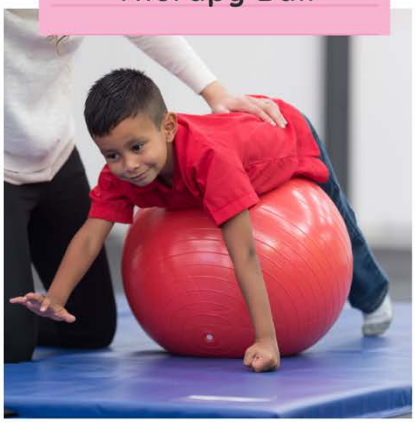
- **Linear** ("back and forth, left to right") = calming
- **Orbital** (going in a circle) and **Rotary** (spinning) = more alerting
- When in doubt, do **linear**! But ask your OT what the best input is for your child.

Play Ideas:

- High five/tickle your child as they come back to you
- Have your child throw small toys into a basket or target
- Singing a song or taking deep breaths as your child swings

SENSORY TOOLS FOR PLAY

Therapy Ball



Works on:

- Core and upper body strengthening
- Vestibular (movement)
- Proprioception (deep pressure) as you bounce
- Gravitational Insecurity

Play Ideas:

- Bounce your child on the ball in tune with a song
- Have them lie on their stomach and reach for toys to sort into a basket
- Have your child lie down as you roll the ball on their body (but always listen to your child's cues for safety!) for calming input

SENSORY TOOLS FOR PLAY

Tactile Stepping Stones

Works on:

- Tactile (touch) on feet
- Balance
- Coordination; Planning movements

Play Ideas:

- Make it part of an obstacle course
- Put an activity/puzzle at either end and have your child go back and forth
- Roll a color dice to step on specific colors
- Have your child balance on the stones while popping bubbles in the air

SENSORY TOOLS FOR PLAY

Body Sock

Photo: Harkla

Works on:

- Proprioceptive (deep pressure) as it wraps snugly around your child
- Body awareness
- Calming the body

Play Ideas:

- "Simon Says" with different body positions (e.g., touch your toes, touch the sky)
- Bunny hop race
- Roll across the floor
- Have quiet time and have your child hug themselves taking deep breaths

SENSORY TOOLS FOR PLAY

Home Ball Pit

Works on:

- Tactile (touch) - touching and feeling the balls
- Sight (seeing)
- Proprioception
- Body awareness

Play Ideas:

- Make it part of an obstacle course
- Hide favorite toys or stuffed animals as a scavengar hunt
- Crawl, roll, walk, run, swim, or make snow angels
- Divide your ball pit into two halves and have your child toss the balls to the other side
- Call out different colors as your child throws/sorts the balls

Sensory Processing Differences & Social Participation

NAVIGATING BIG EMOTIONS

EMOTIONAL REGULATION

The ability for one to be aware of and manage one's emotional states when we do activities or interact with others. When we are "regulated," we are in a ready to learn state. This means we can better attend to the world around us and are in a state where we can complete goal-oriented activities.

VS

EMOTIONAL DYSREGULATION

Being in a dysregulated state is having emotional responses that are (often but not always) negative or unpleasant that interfere with our ability to learn or complete goal-oriented activities. This can often present as tantrums, meltdowns, and even self-injurious behaviors.

CO-REGULATION

Co-regulation is the ability to regulate emotions and behaviors through the warm, responsive interactions of a connecting individual

- Before children can self-regulate, they need to learn to co-regulate with parents/caregivers

For toddlers, co-regulation looks like...

- Using calm words and calm body language to redirect them when they're upset
- Providing them with calming tools
  - Deep breaths
  - Drink of cold water
  - Singing/listening to a song
  - Taking a break

As a child grows older, they learn to self-regulate as they learn their own interests or dislikes. When they're young, they need support to regulate emotions, sensory input, and external stressors.

(Brown, 2015; Chong, 2023; Wood, 2022)

COMMUNICATING WITH A DYSREGULATED CHILD

ACKNOWLEDGING & UNDERSTANDING

- **Acknowledge their feelings with a word or listening noise** ("Oh?" "Really?" I hear you!")
- **Listen with full attention, get down to their eye level, and use positive yet firm body language (smiling, nodding, leaning forward) to let them know they have your attention**
- **Label their feelings and narrate the situation**
  - "You're sad because we had to put the toys away."
  - "You threw the food because you didn't want it."
  - "You're frustrated because this feels hard for you."
- **Give them their wishes/wants in fantasy to show them you understand their feelings and that you will help them deal with the reality of the situation**
  - "You wish we could keep playing with the tools."
  - "You wanted to do it your way."
  - "You wish you didn't have to share with your brother."

COMMUNICATING WITH A DYSREGULATED CHILD

MOVING THE SITUATION FORWARD

- **Start with an empathetic word/phrase, then provide an opportunity for them to communicate what they want**
  - "This is so sad, what can you do?"
  - "It looks like you're frustrated, what do you need?"
- **Be empathetic but hold boundaries**
  - "I see that you are frustrated right now, but toys are not for throwing."
  - "You can be sad right now, but we don't bite others when we're sad."
  - "I know you wanted that toy, but sister is playing with it right now."
- **Grade your language and affect to fit your child's language comprehension and communication skills**
  - Shorter vs Long: "Bye, toy. We'll play later!" vs "We need to put the toy away, but we can play later tonight."
  - Match your affect to mirror your child's emotions and expressions: If they act sad/mad, match their facial expression or emotion

TIPS TO GET BACK TO REGULATED

- **Meet Their Sensory Needs:** When a child's sensory needs are not met, their window of frustration tolerance is going to be very small, making it easy for them to enter a dysregulated state.
- **Taking Breaks:** Prevent a full tantrum or meltdown by labeling your child's emotions and saying "it looks like you need a break." Have them take a break but come back to the task at hand later so that they know they can still do challenging things.
- **Provide Choices:** Instead of telling a child what they can't do, provide them with two choices they can do so that they feel that they are in control and have a decision.

TIPS TO GET BACK TO REGULATED

- **Give Space with Support:** Once a tantrum begins, it will need to run its course. Some children want space and wish not to be touched or spoken to. You may sit with them or let them know you will be nearby when they are ready to come to you.
- **Safe Spot:** Identify a safe place where you can put your child if they begin to harm themselves or others.
- **Calm-Down Corner:** Designate a tent or a corner with calming or sensory toys, blankets, and pillows. You can redirect your child here when they become dysregulated and need time to calm down. You can put a picture of their corner around the house to refer to when needed.
- **Example language:**
  - "My job is to keep you safe, and I can't let you hurt me or other people": Begin developing boundaries by using consistent language such as this one.

THE CHALLENGE WITH SHARING

- Sharing is a difficult concept to understand, especially for younger children
  - Some sharing expectations may not be developmentally appropriate for a child's age age or their individual differences
- Sharing means giving someone else a toy they have and really want to keep
- Sharing can be difficult for a child who has trouble coming up with plans

(Brown, 2024)

SHARING STRATEGIES

- Acknowledge their plan and their emotions so they can process
  - Ex: I know you wanted to play with the swing and it can be frustrating to wait.
- Use visual timers, waiting songs, or another toy to make waiting fun
- Provide them another task or plan in order to feel connected and supported in their regulation while waiting for their turn (e.g., if they wanted the swing for movement, can we dance instead?)
- Take away the pressure of toys that require more ideas and lean more towards tactile sensory play where the focus is less about sharing toys but sharing a moment of fun and play together.
- Language to use during turn taking:
  - "I'm not ready yet"
  - "I'm still playing with this"
  - "Give me a minute"
  - "I'm really enjoying being with this. Do you want to look at it with me?

(Brown, 2024)

EXTRACURRICULAR ACTIVITIES

- You can develop a script to explain to extended family members, community members, class/club leaders, etc...
  - **Over Response (OR)/Under Response (UR):** Your child's sensitivities, needs, and the resulting sensory related responses
  - **Sensory Seeking (SS):** Your child's need for extra sensory stimulation
- Find extracurricular activities...
  - **OR:** Suited to your child's sensitivities (e.g., concerts, swim programs, well-organized library events, yoga, martial arts, etc.)
  - **UR:** Keeps your child constantly alert and on the move (e.g., gymnastics class, swimming, etc.)
  - **SS:** Promotes organized physical activity and offers variety of activities so it's not always the same (e.g., outdoor activities, parks, indoor playgrounds, swimming, gymnastics, etc.)

Keep exploring activities until you find one or more that engages your child!

(Miller, 2014)

REMINDER

Not every strategy will work for your child and your family. Please reach out to your TMG Occupational Therapist for specific questions/strategies, and learn how to individualize these strategies to best fit your child.

Questions? Please type in chat!

thank you

After-Course Survey

Please take less than 10 minutes to fill out our After-Course Survey. Providing your feedback will allow us to know whether this was a helpful resource for you and how future caregiver resources can be improved upon

As a token of gratitude, by completing this survey, you will receive a $15 gift card digitally from me.

Link to the survey is in the chat or in your email.

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Appendix D

Participant Demographic Questionnaire

Section 1: General Information

Please answer the following questions regarding demographic information. You may put N/A for questions that do not apply. Please know your information is kept strictly confidential.

Q1: Caregiver First and Last Name

Q2: Caregiver Email

Q3: What days do you plan on attending? Note: Participants are welcome to join as many classes as interested but are required to attend the introductory session.

- February 2 (Introductory session): Definitions of Sensory Processing Differences (SPD) and Occupational Therapy
- February 16: SPD + *Activities of Daily Living
- March 1: SPD + *Instrumental Activities of Daily Living & Sleep
- March 15: SPD + Education & *Health Management
- March 29: SPD + Play, Leisure, & Social Participation

*Key:

- Activities of Daily Living: Routine activities that take care of our body (e.g., Showering, Eating, Toileting, etc.)
- Instrumental Activities of Daily Living: Activities to support daily life within the home and community (e.g., caring for pets, preparing meals, cleaning up the home, shopping, etc.)
- Health Management: Activities related to creating, managing, and maintaining healthy routines (ex., managing symptoms during sickness, going to doctor's offices, learning to express their needs)

Q4: Caregiver Age

- 17 or younger
- 18-20
- 21-29
- 30-39
- 40-49
- 50-59
- 60 or older

Q5: Are you White, Black or African American, American Indian or Alaskan Native, Asian, Native Hawaiian or other Pacific Islander, or some other race?

- White
- Black or African American
- American Indian or Alaskan Native
- Asian

- Native Hawaiian or other Pacific islander
- Other
- Prefer Not to Say

Q6: Caregiver Gender
- Female
- Male
- Other
- Prefer Not to Say

Q7: What is the highest level of school you have completed or the highest degree you have received?
- Less than high school degree
- High school degree or equivalent (e.g., GED)
- Some college but no degree
- Associate degree
- Bachelor degree
- Graduate degree

Q8: Caregiver Role
- Mother
- Father
- Guardian
- Other (e.g., Foster Parent, Uncle, Aunt, Grandparent, Sibling, etc.)

Q9: Do you have any experience with any other educational opportunities (e.g., seminars, classes, etc.)

If yes, how would you rate their effectiveness in increasing your knowledge about *Sensory Processing Differences?
- Very Effective
- Effective
- Somewhat Effective
- Ineffective
- Very ineffective

If yes, how would you rate their effectiveness in increasing your knowledge about *Sensory-Related Responses in your daily routines?
- Very Effective
- Effective
- Somewhat Effective
- Ineffective
- Very ineffective

If yes, what did you find most valuable about those educational opportunities? (Please type your answer)

*Key:

- Sensory Processing Differences: Challenges in receiving, integrating, and using information from any of the eight senses to function smoothly in everyday life.
- Sensory Related-Responses: Way of responding to external stimuli due to differences in sensory processing that may lead to decreased function in everyday life and regulation ability.

Section 2: Child Information

Q1: Child First Name

Q2: Child Gender

Q3: Has your child been diagnosed with any of the following?

Autism Spectrum Disorder
Attention Deficit/Hyperactivity Disorder
Learning Disability
Developmental Delay
Genetic Disorder
N/A
Prefer Not to Say
Other:

Q4: What current services is your child in?

Early Intervention (EI)
Outpatient Therapy (at TMG Location)
Other

Q5: As an estimate, how long has your child been receiving occupational therapy services (whether EI, outpatient, or both)?

Less than a year

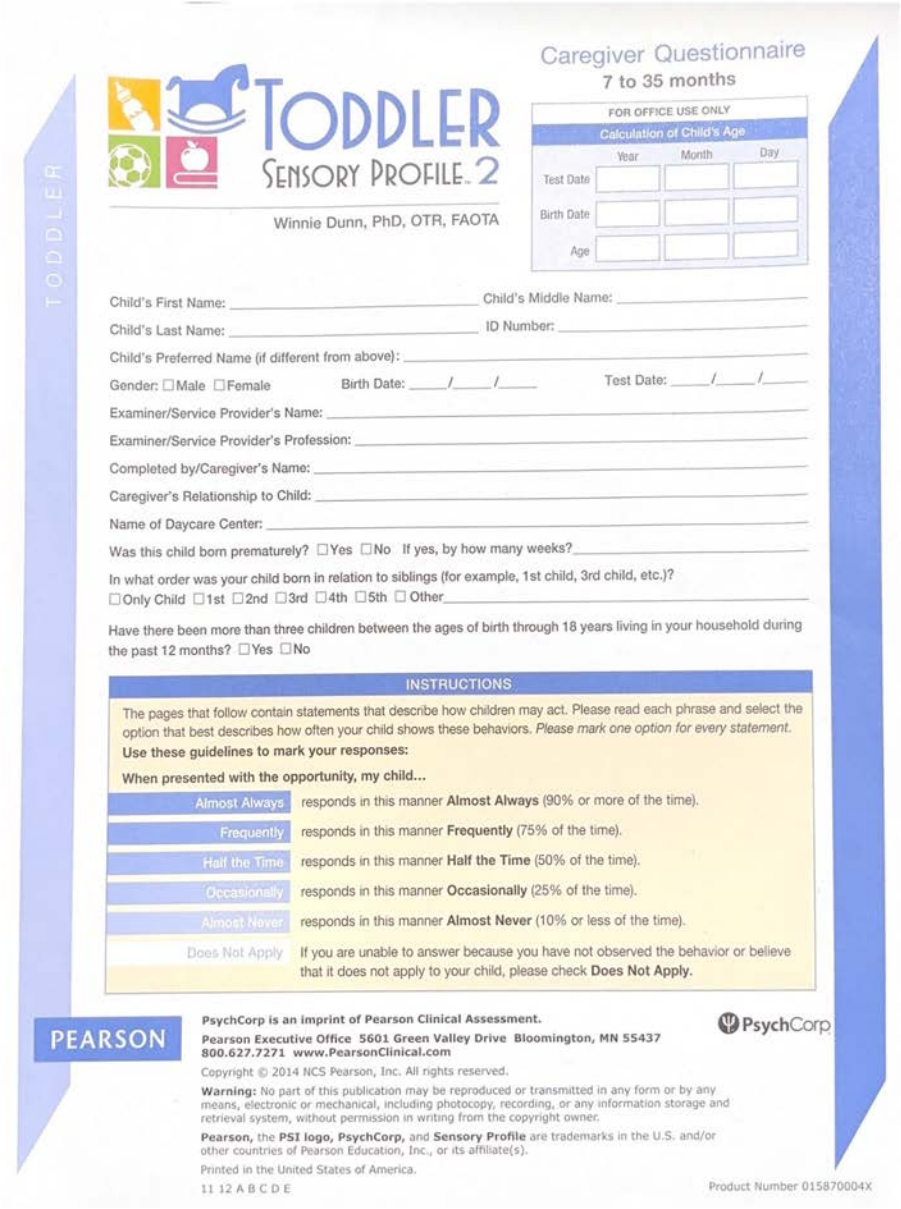
- 1 year
- 2 years
- 3 years
- 4 years
- 5 or more years
- Other

Appendix E

The Infant/Toddler Sensory Profile

Figure E1

Toddler Sensory Profile



TODDLER

TODDLER SENSORY PROFILE 2

Winnie Dunn, PhD, OTR, FAOTA

Caregiver Questionnaire

7 to 35 months

FOR OFFICE USE ONLY Calculation of Child's Age	Year	Month	Day
Test Date			
Birth Date			
Age			

Child's First Name: _____ Child's Middle Name: _____

Child's Last Name: _____ ID Number: _____

Child's Preferred Name (if different from above): _____

Gender: ☐Male ☐Female Birth Date: ____/____/____ Test Date: ____/____/____

Examiner/Service Provider's Name: _____

Examiner/Service Provider's Profession: _____

Completed by/Caregiver's Name: _____

Caregiver's Relationship to Child: _____

Name of Daycare Center: _____

Was this child born prematurely? ☐Yes ☐No If yes, by how many weeks? _____

In what order was your child born in relation to siblings (for example, 1st child, 3rd child, etc.)?
☐Only Child ☐1st ☐2nd ☐3rd ☐4th ☐5th ☐Other _____

Have there been more than three children between the ages of birth through 18 years living in your household during the past 12 months? ☐Yes ☐No

INSTRUCTIONS

The pages that follow contain statements that describe how children may act. Please read each phrase and select the option that best describes how often your child shows these behaviors. *Please mark one option for every statement.*

Use these guidelines to mark your responses:

When presented with the opportunity, my child...

Almost Always	responds in this manner **Almost Always** (90% or more of the time).
Frequently	responds in this manner **Frequently** (75% of the time).
Half the Time	responds in this manner **Half the Time** (50% of the time).
Occasionally	responds in this manner **Occasionally** (25% of the time).
Almost Never	responds in this manner **Almost Never** (10% or less of the time).
Does Not Apply	If you are unable to answer because you have not observed the behavior or believe that it does not apply to your child, please check **Does Not Apply.**

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Almost Always = 90% or more	Frequently = 75%	Half the Time = 50%	Occasionally = 25%	Almost Never = 10% or less

Quadrant	Item	GENERAL Processing My child...	Almost Always 5	Frequently 4	Half the Time 3	Occasionally 2	Almost Never 1	Does Not Apply 0
SN	1	needs a routine to stay content or calm.						
SN	2	acts in a way that interferes with family schedules and plans.						
AV	3	resists playing among other children.						
	4	takes longer than same-aged children to respond to questions or actions.						
	5	withdraws from situations.						
	6	has an unpredictable sleeping pattern.						
	7	has an unpredictable eating pattern.						
	8	is easily awakened.						
RG	9	misses eye contact with me during everyday interactions.						
AV	10	gets anxious in new situations.						
		GENERAL Raw Score						

GENERAL Processing Comments: _____

Quadrant	Item	AUDITORY Processing My child...	Almost Always 5	Frequently 4	Half the Time 3	Occasionally 2	Almost Never 1	Does Not Apply 0
RG	11	only pays attention if I speak loudly.						
RG	12	only pays attention when I touch my child (and hearing is OK).						
SN	13	startles easily at sound compared to same-aged children (for example, dog barking, children shouting).						
RG	14	is distracted in noisy settings.						
RG	15	ignores sounds, including my voice.						
SN	16	becomes upset or tries to escape from noisy settings.						
	17	takes a long time to respond to own name.						
		AUDITORY Raw Score						

AUDITORY Processing Comments: _____

Almost Always = 90% or more	Frequently = 75%	Half the Time = 50%	Occasionally = 25%	Almost Never = 10% or less

Quadrant	Item	VISUAL Processing My child...	Almost Always 5	Frequently 4	Half the Time 3	Occasionally 2	Almost Never 1	Does Not Apply 0
SK	18	enjoys looking at moving or spinning objects (for example, ceiling fans, toys with wheels).						
SK	19	enjoys looking at shiny objects.						
SK	20	is attracted to TV or computer screens with fast-paced, brightly colored graphics.						
	21	startles at bright or unpredictable light (for example, when moving from inside to outside).						
	22	is bothered by bright lights (for example, hides from sunlight through car window).						
RG	23	is more bothered by bright lights than other same-aged children.						
		VISUAL Raw Score						
RG	24	pushes brightly colored toys away.*						
RG	25	fails to respond to self in the mirror.*						

* This item is not part of the VISUAL Raw Score.

VISUAL Processing Comments: _____

Quadrant	Item	TOUCH Processing My child...	Almost Always 5	Frequently 4	Half the Time 3	Occasionally 2	Almost Never 1	Does Not Apply 0
SN	26	becomes upset when having nails trimmed.						
AV	27	resists being cuddled.						
AV	28	is upset when moving among spaces with very different temperatures (for example, colder, warmer).						
AV	29	withdraws from contact with rough, cold, or sticky surfaces (for example, carpet, countertops).						
RG	30	bumps into things, failing to notice objects or people in the way.						
SN	31	pulls at clothing or resists getting clothing on.						
		TOUCH Raw Score						
SK	32	enjoys splashing during bath or swim time.*						
AV	33	becomes upset if own clothing, hands, or face are messy.*						
SN	34	becomes anxious when walking or crawling on certain surfaces (for example, grass, sand, carpet, tile).*						
AV	35	withdraws from unexpected touch.*						

* This item is not part of the TOUCH Raw Score.

TOUCH Processing Comments: _____

Almost Always = 90% or more	Frequently = 75%	Half the Time = 50%	Occasionally = 25%	Almost Never = 10% or less

Quadrant	Item	MOVEMENT Processing My child...	Almost Always 5	Frequently 4	Half the Time 3	Occasionally 2	Almost Never 1	Does Not Apply 0
SK	36	enjoys physical activity (for example, bouncing, being held up high in the air).						
SK	37	enjoys rhythmical activities (for example, swinging, rocking, car rides).						
SK	38	takes movement or climbing risks.						
SN	39	becomes upset when placed on the back (for example, at changing times).						
RG	40	seems accident-prone or clumsy.						
		MOVEMENT Raw Score						
SN	41	fusses when moved around (for example, walking around, when being handed over to another person).*						

* This item is not part of the MOVEMENT Raw Score.

MOVEMENT Processing Comments: _____

Quadrant	Item	ORAL SENSORY Processing My child...	Almost Always 5	Frequently 4	Half the Time 3	Occasionally 2	Almost Never 1	Does Not Apply 0
AV	42	shows a clear dislike for all but a few food choices.						
	43	drools.						
SN	44	prefers one texture of food (for example, smooth, crunchy).						
RG	45	uses drinking to calm self.						
SN	46	gags on foods or drink.						
	47	holds food in cheeks before swallowing.						
SN	48	has difficulty weaning to chunky foods.						
		ORAL SENSORY Raw Score						

ORAL SENSORY Processing Comments: _____

Almost Always = 90% or more	Frequently = 75%	Half the Time = 50%	Occasionally = 25%	Almost Never = 10% or less

Quadrant	Item	BEHAVIORAL Responses Associated With Sensory Processing My child...	Almost Always 5	Frequently 4	Half the Time 3	Occasionally 2	Almost Never 1	Does Not Apply 0
AV	49	has temper tantrums.						
	50	is clingy.						
	51	stays calm only when being held.						
SN	52	is fussy or irritable.						
AV	53	is bothered by new settings.						
AV	54	becomes so upset in new settings that it's hard to calm down.						

BEHAVIORAL Raw Score

BEHAVIORAL Responses Comments: _____

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ICON KEY	
SK	Seeking
AV	Avoiding
SN	Sensitivity
RG	Registration
	No Quadrant

SCORE KEY	
5	Almost Always = 90% or more
4	Frequently = 75%
3	Half the Time = 50%
2	Occasionally = 25%
1	Almost Never = 10% or less

FOR OFFICE USE ONLY

SCORE SUMMARY

Quadrant Grid

Instructions

Please read carefully the detailed hand-scoring instructions in chapter 4 of the Sensory Profile 2 User's Manual. Transfer the item raw scores from the Caregiver Questionnaire. Add each column of raw scores to get the Quadrant Raw Score Totals.

Seeking/Seeker	
Item	Raw Score
18	
19	
20	
32	
36	
37	
38	
Seeking Quadrant Raw Score Total	

Avoiding/Avoider	
Item	Raw Score
3	
10	
27	
28	
29	
33	
35	
42	
49	
53	
54	
Avoiding Quadrant Raw Score Total	

Sensitivity/Sensor	
Item	Raw Score
1	
2	
13	
16	
26	
31	
34	
39	
41	
44	
46	
48	
52	
Sensitivity Quadrant Raw Score Total	

Registration/Bystander	
Item	Raw Score
9	
11	
12	
14	
15	
23	
24	
25	
30	
40	
45	
Registration Quadrant Raw Score Total	

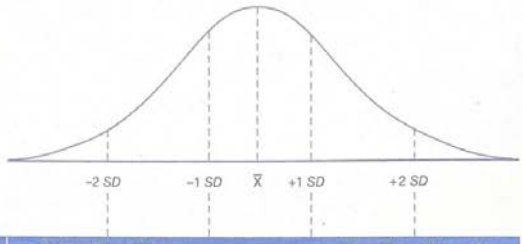
Summary Scores

Instructions

Transfer each Quadrant Raw Score Total from the Quadrant grids to the corresponding Quadrant Raw Score Total box. Then, transfer the section Raw Score Totals from the Caregiver Questionnaire to the corresponding Raw Score Total box. Plot these totals by marking an X in the appropriate classification column (e.g., Less Than Others, More Than Others, Just Like the Majority of Others).

The Normal Curve and Sensory Profile 2 Classification System

Scores one standard deviation or more from the mean are expressed as More Than Others or Less Than Others, respectively. Scores two standard deviations or more from the mean are expressed as Much More Than Others or Much Less Than Others, respectively.



				◄ Less Than Others			More Than Others ►	
		Raw Score Total	Percentile Range[a]	Much Less Than Others	Less Than Others	Just Like the Majority of Others	More Than Others	Much More Than Others
Quadrants	Seeking/Seeker	/35		0-------17	18-------22	23-------33	34-------35	**
	Avoiding/Avoider	/55		0-------5	6-------10	11-------21	22-------26	27-------55
	Sensitivity/Sensor	/65		0-------6	7-------12	13-------27	28-------34	35-------65
	Registration/Bystander	/55		0-------3	4-------9	10-------21	22-------26	27-------55
Sensory and Behavioral Sections	General	/50		0-------5	6-------10	11-------22	23-------27	28-------50
	Auditory	/35		0-------2	3-------5	6-------14	15-------17	18-------35
	Visual	/30		0-------5	6-------10	11-------19	20-------24	25-------30
	Touch	/30		0-------1	2-------5	6-------13	14-------16	17-------30
	Movement	/25		0-------9	10-------12	13-------20	21-------23	24-------25
	Oral	/35		0-------1	2-------5	6-------15	16-------19	20-------35
	Behavioral	/30		0-------3	4-------6	7-------14	15-------17	18-------30

[a] For percentile ranges, see Appendix A in the Sensory Profile 2 User's Manual.
** No scores are available for this range.

Quadrant Definitions	
Seeking/Seeker	The degree to which a child *obtains* sensory input. A child with a Much More Than Others score in this pattern seeks sensory input at a higher rate than others.
Avoiding/Avoider	The degree to which a child is *bothered* by sensory input. A child with a Much More Than Others score in this pattern moves away from sensory input at a higher rate than others.
Sensitivity/Sensor	The degree to which a child *detects* sensory input. A child with a Much More Than Others score in this pattern notices sensory input at a higher rate than others.
Registration/Bystander	The degree to which a child *misses* sensory input. A child with a Much More Than Others score in this pattern misses sensory input at a higher rate than others.

Figure E2

Child Sensory Profile

CHILD

CHILD SENSORY PROFILE 2

Winnie Dunn, PhD, OTR, FAOTA

Caregiver Questionnaire

3:0 to 14:11 years

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Calculation of Child's Age			
	Year	Month	Day
Test Date			
Birth Date			
Age			

Child's First Name: _____ Child's Middle Name: _____

Child's Last Name: _____ ID Number: _____

Child's Preferred Name (if different from above): _____

Gender: ☐Male ☐Female Birth Date: ____/____/____ Test Date: ____/____/____

Examiner/Service Provider's Name: _____

Examiner/Service Provider's Profession: _____

Completed by/Caregiver's Name: _____

Caregiver's Relationship to Child: _____

Name of School/Daycare Center: _____

School Grade/Level: _____

In what order was your child born in relation to siblings (for example, 1st child, 3rd child, etc.)?
☐Only Child ☐1st ☐2nd ☐3rd ☐4th ☐5th ☐Other_____

Have there been more than three children between the ages of birth through 18 years living in your household during the past 12 months? ☐Yes ☐No

INSTRUCTIONS

The pages that follow contain statements that describe how children may act. Please read each phrase and select the option that best describes how often your child shows these behaviors. *Please mark one option for every statement.*

Use these guidelines to mark your responses:

When presented with the opportunity, my child...

Almost Always	responds in this manner **Almost Always** (90% or more of the time).
Frequently	responds in this manner **Frequently** (75% of the time).
Half the Time	responds in this manner **Half the Time** (50% of the time).
Occasionally	responds in this manner **Occasionally** (25% of the time).
Almost Never	responds in this manner **Almost Never** (10% or less of the time).
Does Not Apply	If you are unable to answer because you have not observed the behavior or believe that it does not apply to your child, please check **Does Not Apply.**

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Product Number 0158700058

Almost Always = 90% or more	Frequently = 75%	Half the Time = 50%	Occasionally = 25%	Almost Never = 10% or less

Quadrant	Item	AUDITORY Processing My child...	Almost Always 5	Frequently 4	Half the Time 3	Occasionally 2	Almost Never 1	Does Not Apply 0
AV	1	reacts strongly to unexpected or loud noises (for example, sirens, dog barking, hair dryer).						
AV	2	holds hands over ears to protect them from sound.						
SN	3	struggles to complete tasks when music or TV is on.						
SN	4	is distracted when there is a lot of noise around.						
AV	5	becomes unproductive with background noise (for example, fan, refrigerator).						
SN	6	tunes me out or seems to ignore me.						
SN	7	seems not to hear when I call his or her name (even though hearing is OK).						
RG	8	enjoys strange noises or makes noise(s) for fun.						
		AUDITORY Raw Score						

AUDITORY Processing Comments: _____

Quadrant	Item	VISUAL Processing My child...	Almost Always 5	Frequently 4	Half the Time 3	Occasionally 2	Almost Never 1	Does Not Apply 0
SN	9	prefers to play or work in low lighting.						
	10	prefers bright colors or patterns for clothing.						
	11	enjoys looking at visual details in objects.						
RG	12	needs help to find objects that are obvious to others.						
SN	13	is more bothered by bright lights than other same-aged children.						
SK	14	watches people as they move around the room.						
		VISUAL Raw Score						
AV	15	is bothered by bright lights (for example, hides from sunlight through car window).*						

* This item is not part of the VISUAL Raw Score.

VISUAL Processing Comments: _____

Almost Always = 90% or more	Frequently = 75%	Half the Time = 50%	Occasionally = 25%	Almost Never = 10% or less

Quadrant	Item	TOUCH Processing My child...	Almost Always 5	Frequently 4	Half the Time 3	Occasionally 2	Almost Never 1	Does Not Apply 0
SN	16	shows distress during grooming (for example, fights or cries during haircutting, face washing, fingernail cutting).						
	17	becomes irritated by wearing shoes or socks.						
AV	18	shows an emotional or aggressive response to being touched.						
SN	19	becomes anxious when standing close to others (for example, in a line).						
SN	20	rubs or scratches a part of the body that has been touched.						
SK	21	touches people or objects to the point of annoying others.						
SK	22	displays need to touch toys, surfaces, or textures (for example, wants to get the feeling of everything).						
RG	23	seems unaware of pain.						
RG	24	seems unaware of temperature changes.						
SK	25	touches people and objects more than same-aged children.						
RG	26	seems oblivious to messy hands or face.						

TOUCH Raw Score

TOUCH Processing Comments: _____

Quadrant	Item	MOVEMENT Processing My child...	Almost Always 5	Frequently 4	Half the Time 3	Occasionally 2	Almost Never 1	Does Not Apply 0
SK	27	pursues movement to the point it interferes with daily routines (for example, can't sit still, fidgets).						
SK	28	rocks in chair, on floor, or while standing.						
	29	hesitates going up or down curbs or steps (for example, is cautious, stops before moving).						
SK	30	becomes excited during movement tasks.						
SK	31	takes movement or climbing risks that are unsafe.						
SK	32	looks for opportunities to fall with no regard for own safety (for example, falls down on purpose).						
RG	33	loses balance unexpectedly when walking on an uneven surface.						
RG	34	bumps into things, failing to notice objects or people in the way.						

MOVEMENT Raw Score

MOVEMENT Processing Comments: _____

Almost Always = 90% or more	Frequently = 75%	Half the Time = 50%	Occasionally = 25%	Almost Never = 10% or less

Quadrant	Item	BODY POSITION Processing My child...	Almost Always 5	Frequently 4	Half the Time 3	Occasionally 2	Almost Never 1	Does Not Apply 0
RG	35	moves stiffly.						
RG	36	becomes tired easily, especially when standing or holding the body in one position.						
RG	37	seems to have weak muscles.						
RG	38	props to support self (for example, holds head in hands, leans against a wall).						
RG	39	clings to objects, walls, or banisters more than same-aged children.						
RG	40	walks loudly as if feet are heavy.						
SK	41	drapes self over furniture or on other people.						
	42	needs heavy blankets to sleep.						
		BODY POSITION Raw Score						

BODY POSITION Processing Comments: _____

_____

_____

Quadrant	Item	ORAL SENSORY Processing My child...	Almost Always 5	Frequently 4	Half the Time 3	Occasionally 2	Almost Never 1	Does Not Apply 0
	43	gags easily from certain food textures or food utensils in mouth.						
SN	44	rejects certain tastes or food smells that are typically part of children's diets.						
SN	45	eats only certain tastes (for example, sweet, salty).						
SN	46	limits self to certain food textures.						
SN	47	is a picky eater, especially about food textures.						
SK	48	smells nonfood objects.						
SK	49	shows a strong preference for certain tastes.						
SK	50	craves certain foods, tastes, or smells.						
SK	51	puts objects in mouth (for example, pencil, hands).						
SN	52	bites tongue or lips more than same-aged children.						
		ORAL SENSORY Raw Score						

ORAL SENSORY Processing Comments: _____

_____

_____

Almost Always = 90% or more	Frequently = 75%	Half the Time = 50%	Occasionally = 25%	Almost Never = 10% or less

CONDUCT Associated With Sensory Processing

Quadrant	Item	My child...	Almost Always 5	Frequently 4	Half the Time 3	Occasionally 2	Almost Never 1	Does Not Apply 0
RG	53	seems accident-prone.						
RG	54	rushes through coloring, writing, or drawing.						
SK	55	takes excessive risks (for example, climbs high into a tree, jumps off tall furniture) that compromise own safety.						
SK	56	seems more active than same-aged children.						
RG	57	does things in a harder way than is needed (for example, wastes time, moves slowly).						
AV	58	can be stubborn and uncooperative.						
AV	59	has temper tantrums.						
SK	60	appears to enjoy falling.						
AV	61	resists eye contact from me or others.						

CONDUCT Raw Score _____

CONDUCT Comments: _____

SOCIAL EMOTIONAL Responses Associated With Sensory Processing

Quadrant	Item	My child...	Almost Always 5	Frequently 4	Half the Time 3	Occasionally 2	Almost Never 1	Does Not Apply 0
RG	62	seems to have low self-esteem (for example, difficulty liking self).						
AV	63	needs positive support to return to challenging situations.						
AV	64	is sensitive to criticisms.						
AV	65	has definite, predictable fears.						
AV	66	expresses feeling like a failure.						
AV	67	is too serious.						
AV	68	has strong emotional outbursts when unable to complete a task.						
SN	69	struggles to interpret body language or facial expression.						
AV	70	gets frustrated easily.						
AV	71	has fears that interfere with daily routines.						
AV	72	is distressed by changes in plans, routines, or expectations.						
SN	73	needs more protection from life than same-aged children (for example, defenseless physically or emotionally).						
AV	74	interacts or participates in groups less than same-aged children.						
AV	75	has difficulty with friendships (for example, making or keeping friends).						

SOCIAL EMOTIONAL Raw Score _____

SOCIAL EMOTIONAL Responses Comments: _____

Almost Always = 90% or more	Frequently = 75%	Half the Time = 50%	Occasionally = 25%	Almost Never = 10% or less

Quadrant	Item	ATTENTIONAL Responses Associated With Sensory Processing My child...	Almost Always 5	Frequently 4	Half the Time 3	Occasionally 2	Almost Never 1	Does Not Apply 0
RG	76	misses eye contact with me during everyday interactions.						
SN	77	struggles to pay attention.						
SN	78	looks away from tasks to notice all actions in the room.						
RG	79	seems oblivious within an active environment (for example, unaware of activity).						
RG	80	stares intensively at objects.						
AV	81	stares intensively at people.						
SK	82	watches everyone when they move around the room.						
SK	83	jumps from one thing to another so that it interferes with activities.						
SN	84	gets lost easily.						
RG	85	has a hard time finding objects in competing backgrounds (for example, shoes in a messy room, pencil in "junk drawer").						
		ATTENTIONAL Raw Score						
RG	86	seems unaware when people come into the room.*						

* This item is not part of the ATTENTIONAL Raw Score.

ATTENTIONAL Responses Comments: _____

_____

_____

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ICON KEY	
SK	Seeking
AV	Avoiding
SN	Sensitivity
RG	Registration
	No Quadrant

SCORE KEY	
5	Almost Always = 90% or more
4	Frequently = 75%
3	Half the Time = 50%
2	Occasionally = 25%
1	Almost Never = 10% or less

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SCORE SUMMARY

Quadrant Grid

Instructions

Please read carefully the detailed hand-scoring instructions in chapter 4 of the Sensory Profile 2 User's Manual. Transfer the item raw scores from the Caregiver Questionnaire. Add each column of raw scores to get the Quadrant Raw Score Totals.

Seeking/Seeker	
Item	Raw Score
14	
21	
22	
25	
27	
28	
30	
31	
32	
41	
48	
49	
50	
51	
55	
56	
60	
82	
83	
Seeking Quadrant Raw Score Total	

Avoiding/Avoider	
Item	Raw Score
1	
2	
5	
15	
18	
58	
59	
61	
63	
64	
65	
66	
67	
68	
70	
71	
72	
74	
75	
81	
Avoiding Quadrant Raw Score Total	

Sensitivity/Sensor	
Item	Raw Score
3	
4	
6	
7	
9	
13	
16	
19	
20	
44	
45	
46	
47	
52	
69	
73	
77	
78	
84	
Sensitivity Quadrant Raw Score Total	

Registration/Bystander	
Item	Raw Score
8	
12	
23	
24	
26	
33	
34	
35	
36	
37	
38	
39	
40	
53	
54	
57	
62	
76	
79	
80	
85	
86	
Registration Quadrant Raw Score Total	

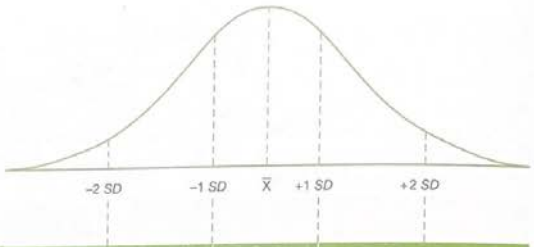
Summary Scores

Instructions

Transfer each Quadrant Raw Score Total from the Quadrant grids to the corresponding Quadrant Raw Score Total box. Then, transfer the section Raw Score Totals from the Caregiver Questionnaire to the corresponding Raw Score Total box. Plot these totals by marking an X in the appropriate classification column (e.g., Less Than Others, More Than Others, Just Like the Majority of Others).

The Normal Curve and Sensory Profile 2 Classification System

Scores one standard deviation or more from the mean are expressed as More Than Others or Less Than Others, respectively. Scores two standard deviations or more from the mean are expressed as Much More Than Others or Much Less Than Others, respectively.



				◄ Less Than Others			More Than Others ►	
		Raw Score Total	Percentile Range[a]	Much Less Than Others	Less Than Others	Just Like the Majority of Others	More Than Others	Much More Than Others
Quadrants	Seeking/Seeker	/95		0-------6	7-------19	20--------47	48-------60	61-------95
	Avoiding/Avoider	/100		0-------7	8-------20	21--------46	47-------59	60-------100
	Sensitivity/Sensor	/95		0-------6	7-------17	18--------42	43-------53	54-------95
	Registration/Bystander	/110		0-------6	7-------18	19--------43	44-------55	56-------110
Sensory Sections	Auditory	/40		0-------2	3-------9	10--------24	25-------31	32-------40
	Visual	/30		0-------4	5-------8	9-------17	18-------21	22-------30
	Touch	/55		0	1-------7	8-------21	22-------28	29-------55
	Movement	/40		0-------1	2-------6	7-------18	19-------24	25-------40
	Body Position	/40		0	1--------4	5-------15	16-------19	20-------40
	Oral	/50		**	0-------7	8-------24	25-------32	33-------50
Behavioral Sections	Conduct	/45		0-------1	2-------8	9-------22	23-------29	30-------45
	Social Emotional	/70		0-------2	3-------12	13-------31	32-------41	42-------70
	Attentional	/50		0	1-------8	9-------24	25-------31	32-------50

[a] For percentile ranges, see Appendix A in the Sensory Profile 2 User's Manual.
** No scores are available for this range.

Quadrant Definitions	
Seeking/Seeker	The degree to which a child *obtains* sensory input. A child with a Much More Than Others score in this pattern seeks sensory input at a higher rate than others.
Avoiding/Avoider	The degree to which a child is *bothered* by sensory input. A child with a Much More Than Others score in this pattern moves away from sensory input at a higher rate than others.
Sensitivity/Sensor	The degree to which a child *detects* sensory input. A child with a Much More Than Others score in this pattern notices sensory input at a higher rate than others.
Registration/Bystander	The degree to which a child *misses* sensory input. A child with a Much More Than Others score in this pattern misses sensory input at a higher rate than others.

Appendix F

Pre- and Post- Course Survey Questionnaire

This survey questionnaire was modified from Farmer & Reupert (2013): Likert scale questions used on pre- and post-questionnaires for 'Understanding Autism and understanding my child with Autism' program.

Section 1 (Pre- and Post-Course): Understanding of Sensory Processing Differences and Sensory-Related Responses	
Question One: How much do you know about the general nature of Sensory Processing Differences (SPD)?	1 - Very Unknowledgeable 2 - Unknowledgeable 3 - Somewhat knowledgeable 4 - Knowledgeable 5 - Very knowledgeable
Question Two: How much do you know about Sensory-Related Responses (SRR)?	1 - Very Unknowledgeable 2 - Unknowledgeable 3 - Somewhat knowledgeable 4 - Knowledgeable 5 - Very knowledgeable
Section 2 (Pre- and Post-Course): Understanding My Child	
Question Three: How much do you understand about the impact SPD has on your child's sensory processing?	1 - Very Unknowledgeable 2 - Unknowledgeable 3 - Somewhat knowledgeable 4 - Knowledgeable 5 - Very knowledgeable
Question Four: How much do you understand about the impact SPD has on your child's behavior?	1 - Very Unknowledgeable 2 - Unknowledgeable 3 - Somewhat knowledgeable 4 - Knowledgeable 5 - Very knowledgeable
Section 3 (Post-Course Only): Feedback of Educational Methods Thank you so much for joining us for "Understanding Sensory Processing Differences in Everyday Life"! Please answer the following questions so that we may know more about how helpful and effective this educational series was for you and your family. This survey should only take you less than 10 minutes to complete.	

As a token of gratitude, by completing this survey, you will receive a $15 Gift Card delivered to your email by me within the next few weeks.

If you have any more questions or concerns, please email me at delarj2@unlv.nevada.edu.

Warm regards,
Jessemae Delarmente UNLV OTD/s

Question 5: What did you value most about taking this course?
Question 6: Was this a helpful resource for you in understanding your child better? Why?
Question 7: If this course were to be done again, what would you like to see added?
Question 8: What community resources would you like to see that would be helpful for you, your child, and/or your family?

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Curriculum Vitae

Jessemae Delarmente
Jessemae.dd@gmail.com

Education May 2024
University of Nevada, Las Vegas
Occupational Therapy Doctorate

Capstone title: Caregiver Education Series on Sensory Processing Differences and Sensory Related Responses
Adviser: Dr. Kaitlin Ploeger, OTD, OTR/L

University of Nevada, Las Vegas 2021
B.A. in Psychology
Minor in Sociology

Clinical Experience

Fieldwork Level II: Las Vegas NV

Therapy Management Group Summer 2023

- Providing Early Intervention services
- Administering appropriate assessments to assess childhood development
- Collaborating with families to provide parent strategies to support childhood development in the home setting

Fieldwork Experience: PAM Rehabilitation Hospital Summer 2022

- Providing Inpatient Rehabilitation services
- Facilitating interventions to improve/maximize patient independence and skills for safe discharge home
- Providing parent and family education to manage care safely at home

Fieldwork Level I: Las Vegas NV

Inclusion Fusion September - October 2023
Clark County School District February 2023
Cornerstone Christian Academy Tykes Preschool September 2022
PAM Health Rehabilitation Hospital of Centennial Hills January - February 2022
Nevada Senior Services, Inc. November - December 2021

Related Work Experience
Kumon Primary Instructor 2018 – Present

Professional Affiliations
Phi Theta Epsilon 2023 – Present
Student Occupational Therapy Association 2020 – 2024
American Occupational Therapy Association 2020 – Present

Honors and Awards:
General Fieldwork Scholarship 2023

Teaching Experience
Therapy Management Clinic
Community Teaching: Sensory Processing Graduate Expected 2024

Manuscripts in Preparation
1. Delarmente, J.D. Caregiver Education Series on Sensory Processing Differences and Sensory Related Behavior.