Autism Spectrum News

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Understanding and Accommodating Varying Sensory Profiles

Sensory-Friendly Tools and Resources for Autism Caregivers

By Elizabeth Fox, MSOT, OTR/L, and Samantha Weinstein, MSOT, OTR/L AHRC New York City's James P. Murphy Staten Island Preparatory and Middle/High School

As registered and licensed occupational therapists (OTR/L) in pediatric school-based settings, we have extensive experience with various developmental, motor, social, and sensory conditions. Many of the students we support are diagnosed with autistic spectrum disorder (ASD). The primary target of our treatment within therapy is to support individual development to enhance our students' functional independence inside and outside educational institutions. An essential part of our practice is determining which areas contribute to our students' barriers and collaborating with teaching staff and families at home to help minimize dysfunctional behaviors. For children diagnosed with ASD, sensory integration dysfunction is often an area that causes increased barriers.

Sensory is a term that seems to be everywhere today - toy advertisements, classroom materials, etc. However, it is a term that can be difficult to understand and, frankly, quite complex due to its "invisible nature." As pediatric occupational therapists, it is our job to help caregivers of the students we support obtain a better understanding of sensory integration dysfunction and supply them with tools to better navigate sensory processing within ASD. With this knowledge and teaching, caregivers can better implement sensory modifications to support their child's growth and development.

Occupational therapists view the students holistically when determining the best treatment plan. In many cases, sensory integration dysfunction is a critical component impacting how students participate in their functional daily living; therefore, it is a major part of any holistic therapy approach. Approximately 90% of individuals with ASD demonstrate sensory integration dysfunction, which acts as an additional barrier when completing functional daily activities.[1]

It is imperative to note that sensory is a spectrum - a child may present with either hyposensitive or hypersensitive responses to sensory input. If a child presents with a hyposensitive response, they have a high neurological threshold, requiring increased stimuli to elicit a response.[2] An example of this type of sensory response could be a child who can spin around on a swing quickly without feeling dizzy or nauseous - they are hyposensitive to this type of sensory input. If a child presents with a hypersensitive response, they have a low neurological threshold for sensory input and require decreased stimuli to elicit a response.[3] An example of this type of sensory response could be a child who is highly affected by noise and covers their ears when mild auditory stimuli is provided. They are hypersensitive to this type of sensory input.

We know this can be a very complex idea, and it may take time for caregivers to grasp the concepts of sensory integration.

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Meeting the Sensory Needs of Autistic Patients with Dental Care Challenges

By John Hansford, DMD Pediatric Dentist and Dental Anesthesiologist Greenpoint Pediatric Dentistry

Individuals with autism spectrum disorder (ASD) continue to face obstacles in accessing quality dental care. According to the Centers for Disease Control and Prevention (CDC), about 1 in 36 children in the United States has been diagnosed with ASD. This is an increase from 2018 studies that showed an incidence of 1 in 44 children, which means that dental providers need to be equipped and prepared to provide appropriate care for this growing population. It also means patients, their families, and caregivers will need to find the appropriate dentist and health care team to facilitate care safely and humanely for ASD patients.

One of the biggest challenges for patients with ASD is sensory issues. Many patients with ASD are hypersensitive to touch, sound, and light, which can make dental exams and cleanings uncomfortable or overwhelming. Dr. Michelle Harmon, a pediatric dentist in Watkinsville, Georgia advises "The key part in tailoring a treatment approach for a patient with autism is to work closely with the caregivers to determine which methods may work best for their child. Some patients may have difficulty with noises and could benefit from wearing headphones during their appointment or avoiding a loud suction by using gauze instead to wipe off the teeth after a cleaning. The taste and texture of toothpaste can also be a challenge, and we encourage some patients to bring their own toothpaste from home or to choose one of our "no flavor" options. For children and adolescents where the sound and sensation of the handpiece is stressful, there are many minimally invasive cavity treatment options that can allow us to avoid a "drill and fill" approach. Working in collaboration with the parent as a team allows is paramount."

Molly Masselli and The Bridge of Georgia therapists offer several approaches to managing sensory issues." Patients often deal with hand fidgeting and tactile sensation issues. Squish balls, infinity cubes, spinners, soft pillows to squeeze, and sequin pillows to rub may be helpful. They may also have temperature sensitivities. Blankets, weighted blankets, and warming blankets may be beneficial. Patients may also present with auditory issues. Noise-canceling headphones, headphones with music, and sound machines may prove helpful. Additionally, TV with captions on may help patients focus their vision. However, negative hyperfocus can be a problem for patients. Describing procedures in detail, verbalizing that the patient is safe, and forewarning the patient about loudness, vibrations, etc. can be helpful. Also, instructing the patient to lift their hand whenever they need a break will allow the patient to feel a sense of control that can be comforting."

see Dental Care on page 30

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* *Indicates an article written by an Autistic Adult*

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- **Christopher Banks, President and CEO**
  Autism Society of America

Addressing Sensory Behaviors Through the Lens Of an Occupational Therapist and a Behavior Analyst

By Kristina Gasiewski, MOTR/L, MEd, BCBA and Caleigh Dion, OT, MSOT, OTR Melmark

Autism Spectrum Disorder (ASD) is a prevalent developmental and neurological disability that affects one in 36 children (CDC, 2023a). Individuals with ASD may have significant impairments in social communication and interaction, restricted or repetitive behaviors or interests, sensory features, and behavioral challenges. The areas affected and the severity of symptoms differs for each individual with ASD (CDC, 2022b; APA, 2013). This variety of needs creates an even greater necessity for effective treatment. Interventions must be supported by empirical evidence and should be individualized to the person in order to best address deficits and promote independence.

Behavior Analysis

Behavioral approaches have the most evidence for treating symptoms of ASD (CDC, 2022c). Behavior Analysts utilize the science of applied behavior analysis by examining what happens before and after a behavior, and, by utilizing this data, develop interventions aimed at improving meaningful behavior. There are several approaches and assessments behavior analysts may utilize including function-based assessment (FBA).

Interventions that are developed from an FBA are an evidence-based approach for individuals with autism who exhibit challenging or interfering behaviors (Steinbrenner et al., 2020). FBAs are a systematic process of gathering information that serves as a means to determine the function/cause of a behavior that may impede learning and engaging in safe and meaningful activities. Once a purpose is determined, an effective intervention plan can be developed (O'Neal et al., 2015; Steinbrenner et al., 2020).

There are four primary functions of behavior including:

1. Attention (i.e., gaining access to social attention, good or bad),
2. Tangible (i.e., gaining access to desired items, food, etc.),
3. Escape (i.e., avoiding demanding tasks, difficult situations, unpleasant stimuli, etc.), and
4. Automatic/Sensory (i.e., sensory input, internally maintained).

It is important to consider that the functions of behavior are not always straightforward. Some behaviors may have multiple functions. Behaviors are also dynamic, and the function may change over time (O'Neal et al., 2015).

When a function is determined to be automatic, the behavior is maintained by non-social, environmental consequences and are reinforced by internal sensory consequences. Some examples of automatic behaviors include hand flapping or echolalia. These behaviors don't tend to hinder learning or cause a problem for the individual. Other behaviors such as self-injury, aggression, or destructive behaviors, can interfere with learning or cause serious harm to themselves and others, and therefore an effective intervention for these behaviors is imperative.

Occupational Therapy

Occupational Therapy (OT) practitioners including occupational therapists and occupational therapy assistants are allied health professionals trained to work with a variety of populations to improve overall participation in meaningful occupations (e.g., activities of daily living such as dressing and self-feeding, and instrumental activities of daily living such as housework and chores, play, etc.) (AOTA, 2020). When an individual with ASD is experiencing challenges in participation, one therapeutic approach is sensory integration (SI) theory.

SI theory is one of several theories used by OT practitioners to guide assessment and intervention. SI is the neurological process individuals use when receiving and organizing information through their body's sensory systems, and the responses the individual has to the environment (Bundy & Bulkeley, 2020). The goal of SI theory is to improve functional outcomes by identifying, remediating, and preventing deficits within the area of sensory dysfunction, sensory-perceptual skills, and praxis (Roley et al., 2009). For example, individuals with ASD may be hyper-responsive to loud noises, seek movement by displaying repetitive movements (i.e., rocking), or be hypo-responsive to different input (Watling & Hauer, 2015; Lang et al., 2022). When these sensory features have a negative impact on participation, an effective intervention is essential (Watling & Hauer, 2015).

SI theory was created by Jean Ayres in the 1950s (Schoen, Miller, & Nielsen, 2014). When applying SI theory, OT practitioners may utilize Ayers Sensory Integration® (ASI®) or Sensory Based Interventions (SBI) to support individuals with ASD (Watling & Hauer, 2015). ASI® is a manualized intervention provided by OT practitioners who have advanced training and is considered an evidence-based intervention for individuals with ASD (Schaaf & Mailloux, 2015; Steinbrenner, et al., 2020; Watling & Hauer, 2015).

SBI differs from ASI® in that SBIs are adult directed interventions by providing different sensory modalities, such as a weighted vest or compression body socks. It is important to note that SBI should be implemented in a data-driven way and modified based on the response of clients. With this being said, there is a need for ongoing evidence to consider it an evidence-based approach for individuals with ASD. Although these two vastly different approaches are used to treat sensory features for individuals with autism, they both have the same goals; to promote attention and self-regulation to support the needs of clients (Watling & Hauer, 2015).

Benefits of Occupational Therapist and Behavior Analyst Collaboration

OT practitioners and behavior analysts are two professionals trained to treat clients with ASD and have similar goals to improve the outcomes of clients. Collaboration between professions is imperative to increase the likelihood of client success (Whiting & Muirhead, 2019). These professions can collaborate in many different areas, but one area in particular is regarding automatically maintained functions of behavior, that is determined within an FBA completed by the behavior therapist. This function of behavior could be the result of sensory dysfunctions, including but not limited to sensory seeking, hyper-responsive, or hypo-responsive. OT practitioners are skilled in the area of sensory dysfunctions, and through thorough assessment, are able to provide clinical accommodations and/or recommendations to clients with sensory maintained behavior.

OT practitioners can contribute to the intervention package by recommending alternative sensory activities which match the same sensory function as the interfering behavior. For example, if a child is engaging in dangerous climbing behaviors and does not demonstrate awareness of safety, they may need more proprioceptive input. This may be providing frequent breaks to jump on a trampoline, be provided with body squeezes, rolling on a large therapy ball, participating in heavy work or play activities, etc.

Additionally, when an OT practitioner identifies sensory activities that benefit an individual, collaborating with a behavior analyst on a delivery schedule would be beneficial. For instance, these stimulating or regulating items or activities could be used as an antecedent intervention plan such as environmental enrichment or as a non-contingent reinforcement (NCR) procedure. NCR is presented completely independent of the targeted behavior and is provided on a fixed-time or variable-time schedule (Cooper et al., 2019). In the above example, the individual could be provided with frequent, scheduled breaks incorporating activities to provide proprioceptive input. This would be provided regardless of the unsafe climbing behavior. The behavior analyst would monitor to ensure the schedule of reinforcement is appropriate and serving as a replacement. This would especially be necessary in order to avoid unintentionally reinforcing the problem behavior. The OT practitioners would monitor to ensure the sensory-based activities are providing the necessary input in a safe manner and have a regulating effect. Together, both professionals can collaborate to provide a comprehensive and individualized intervention package.

Kristina Gasiewski, MOTR/L, M.Ed., BCBA, is Adult Clinical Services ICF at Melmark PA. Caleigh Dion, OT, MSOT, OTR, is an Occupational Therapist at Melmark New England.

Kristina recently has transitioned into her new role as the behavior analysist/ QIDP in adult clinical services. Previously she worked as a school-based occupational therapist. Being dually credentialed, her research interests include collaboration between occupational therapists and behavior analysts and bridging the gap in order to best serve individuals with autism and developmental disabilities.

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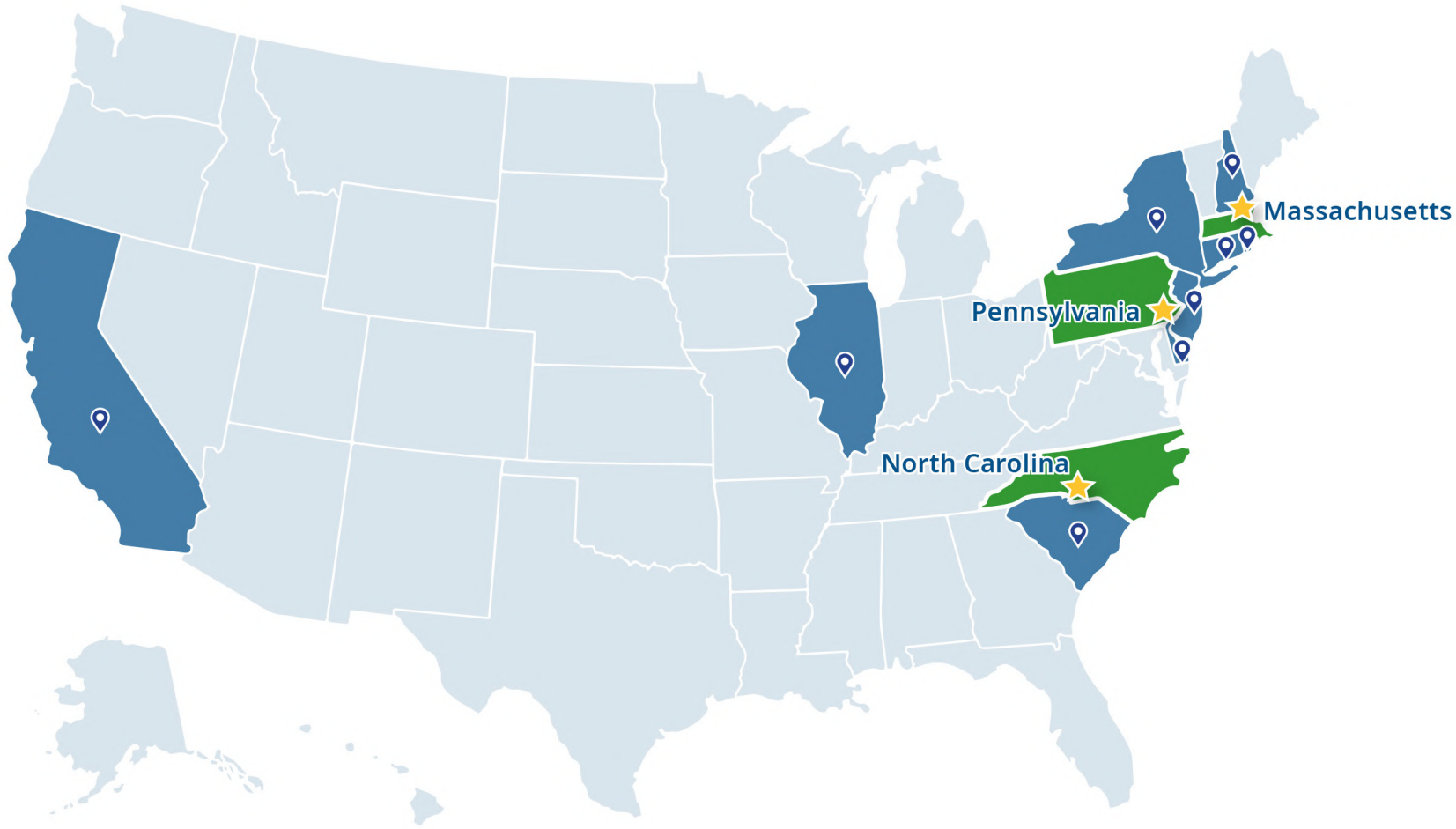

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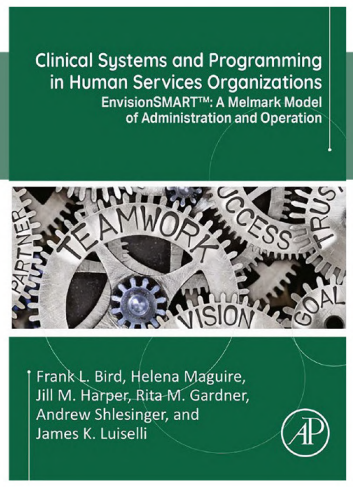

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Autism Spectrum News Interviews Jessica Sassi, PhD, BCBA-D, LABA, President and CEO of The New England Center for Children

By David Minot
Publisher
Autism Spectrum News

Autism Spectrum News recently had the pleasure of speaking with Jessica Sassi, PhD, BCBA-D, LABA, who was appointed President and CEO of The New England Center for Children (NECC) in 2021. In this exclusive interview, David Minot, Publisher of Autism Spectrum News, speaks with Dr. Sassi about her journey to leadership at NECC and the organization's innovative programs and services for children and young adults with autism.

Jessica Sassi, PhD, BCBA-D, LABA

The New England Center for Children (NECC)

David Minot: Please provide the readers of Autism Spectrum News with an overview of The New England Center for Children.

Jessica Sassi: We are a private, nonprofit, special education school in Southborough, MA. Our mission these past 48 years has been to create a global network of educators, researchers, programs, and technology to help each individual achieve their maximum potential. We want to ensure that autism is not a barrier to leading a full and happy life.

To that end, The New England Center for Children® (NECC®) delivers a comprehensive program of effective, evidence-based educational services to children with autism including academics, social and life skills development, speech and language therapy, occupational therapy, adapted physical education, and vocational training. We have close to 1,000 teachers and staff, a quarter of whom have advanced degrees and/or are board certified behavior analysts (BCBAs).

Our curriculum is based on the science of applied behavior analysis (ABA) – the only scientifically proven method for increasing positive behaviors and reducing those that may cause harm or interfere with learning.

Our day school and residential program serves just under 200 students aged 3 – 22. We reach many more students in the region through our Public School Services (PSS) department, where we offer a range of supports to school districts. Through PSS, we provide a BCBA consultant and a lead teacher to manage classrooms in local public schools. This enables students to benefit from NECC's curriculum, without leaving their local school district. More than 800 students are served through our PSS programs.

I believe our commitment to high-quality professional development coupled with research-informed practice is the best way to serve our students and the greater community of individuals impacted by autism.

Currently, we offer three on-site graduate programs to our teaching staff through partnerships with Western New England and Simmons universities. Over the years, we have seen more than 1,750 master's and doctoral degrees conferred to our staff through those programs.

NECC's best practices and curriculum extend beyond our classroom walls through the Autism Curriculum Encyclopedia® (ACE®) ABA Software System. ACE is a software tool for educators who teach learners with autism. With more than 13,000 learners in 32 states and 10 countries benefiting from ACE, the software allows clients to create tailored lesson plans for their unique student's needs.

Finally, we operate a school with the same comprehensive services in Abu Dhabi, serving 262 Emirati children and we offer consulting in clinics and community sites across the UAE and the world.

The Michael S. Dukakis Aquatic Center at NECC where students learn physical education, swim skills, and water safety

David: As the newly appointed CEO, we would love to hear about your personal journey within NECC that led you to this leadership role.

Jessica: I joined NECC in 2007 after finishing my doctorate in behavior analysis at the University of Florida. I joined NECC because I was looking for a career opportunity that would allow me to provide direct clinical services while also conducting research and mentoring graduate students. NECC was one of the few places that offered both.

My first role was as a clinician in our residential program. Around the same time, I began teaching graduate courses in behavior analysis through Simmons University and Western New England University programs while growing my skills as a clinician and leader. I then became clinical director where I was responsible for oversight of all students' programs.

When our founder announced that he would step down, I was selected to succeed him and embarked on a training plan to shadow him and prepare for the transition. During that time, I served as executive advisor and executive director of our Southborough programs before becoming President and CEO of the organization.

I can truly say that working at NECC provides a unique set of opportunities and skills. We have a strong commitment to mentorship and development of emerging practitioners as a way of serving the broader community of people impacted by autism. I was able to serve both as mentee and mentor in my time here and benefited deeply from both roles.

We are committed to excellence in everything we do – because those living with autism deserve nothing less. It's a point of pride that we received the National Award for Model Professional Development from the U.S. Department of Education in 2000. It's also the reason many staff celebrate their work anniversaries at 20, 30, and even 40 years; NECC is a great place to develop one's career.

David: Staffing shortages are a common challenge for special education schools across the nation. How is NECC actively addressing this issue, and what strategies have you found effective in recruiting and keeping qualified professionals on your team?

Jessica: I view staffing shortages as the cumulative impact of several factors: Declining enrollment in universities, especially in education; fewer young people in the workforce in New England; and competition with sectors that have greater flexibility. Other industries can offer significant wage increases and flexible work requirements (such as remote or hybrid schedules that are impossible for direct care positions).

We have responded with creative solutions without compromising our values. One example relates to our most appealing benefit for new teachers - free graduate school. We can recruit and retain individuals who want a career in behavior analysis or special education by providing graduate classes onsite at little to no cost to our employees. We worked with Simmons University and Western New England University, our partnering colleges, to allow for greater work-life balance (such as adding a remote option for one program).

In addition, we provide ongoing training for our staff, from annual refreshers to continuing education units (CEUs) for their professional licenses. We offer online coursework for Registered Behavior Technician® certification as well as introductory classes on the principles and application of ABA to paraprofessionals.

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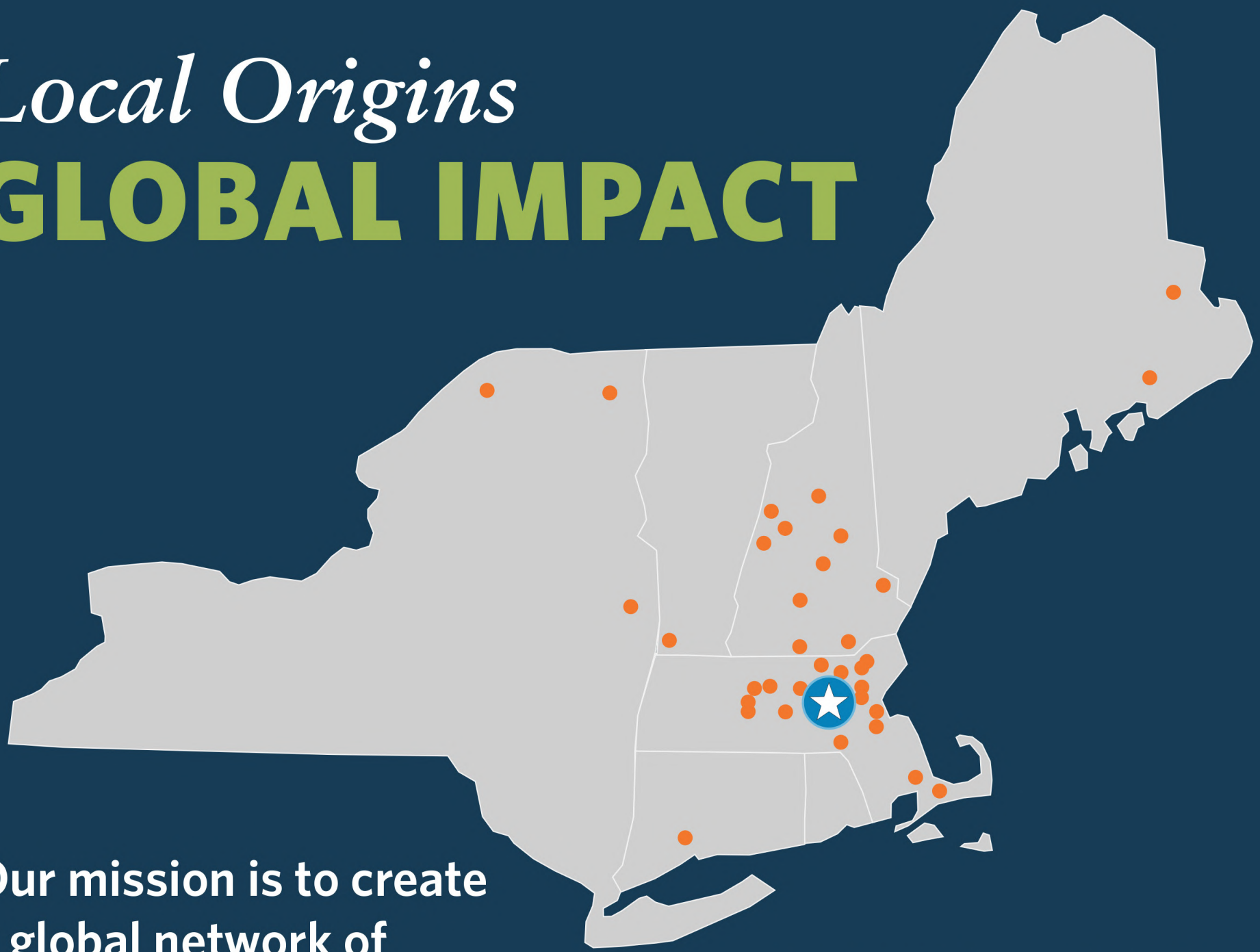

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The Autism Society of America Awards the Cast and Crew of "How to Dance in Ohio" With the 2023 Daniel Jordan Fiddle Foundation Leader in Adult Autism Award

By Staff Writer
Autism Spectrum News

On December 1,2023, The Autism Society of America's CEO Chris Banks and Linda J. Walder, Founder and Executive Director of The Daniel Jordan Fiddle Foundation, honored the cast and crew of the new Broadway musical "How to Dance in Ohio" with The Daniel Jordan Fiddle Foundation Leader in Adult Autism Award for 2023 at the Belasco Theater in New York City. This new Broadway musical is poised to be groundbreaking as the lead actors are all adult individuals with Autism who depict their stories as they prepare for their first formal dance sharing the diversity and humanity of all people as they grow, flourish, and change.

"The Daniel Jordan Fiddle Foundation Leader in Adult Autism Award is presented in collaboration with the Autism Society of America to inspire the Autism community and the world by honoring adult individuals and endeavors that showcase the strengths, talents, and abilities of people with Autism. Our vision is to open doors and hearts to enhance lifelong opportunities and acceptance that value the individuality of each person with Autism," said Linda Walder, Founder and Executive Director of The Daniel Jordan Fiddle Foundation.

Purchase tickets for "How to Dance in Ohio"

"The Autism Society of America could not be prouder to present the 2023 Daniel Jordan Fiddle Foundation Leader in Adult Autism Award to the production of How to Dance in Ohio. The cast demonstrates the incredibly diverse and empowered spirit that motivates us all to lead braver and more truly authentic lives," stated Christopher Banks, President and CEO of the Autism Society of America. "At the Autism Society, we provide resources for Autistic individuals to live fully and with dignity, building human connections along the way," Banks continued.

From the thrilling "Building Momentum" musical number to the evocative backdrop of individuals navigating the road to their first formal dance, How to Dance in Ohio boldly represents the true expansiveness of the Autistic community and all its unique qualities.

"We are overjoyed with this honor. For years, we've been working on creating a Broadway-worthy musical that would provide much-needed representation and accessibility for Autistic characters, Autistic actors, and Autistic audience members. The musical is a very clear representation of the strengths, talents, and abilities of Autistic people and that it resonates for all audiences is the cherry on top. We're grateful for this recognition from The Daniel Jordan Fiddle Foundation Leader in Adult Autism Award by the Autism Society of America and cannot wait for everyone to come see this show," says Sammy Lopez, Ben Holtzman, and Fiona Howe Rudin, the lead producers of How to Dance in Ohio.

In celebration of the honor, The Daniel Jordan Fiddle Foundation invited individuals with Autism, educators, professionals, families, and supporters of the Autism

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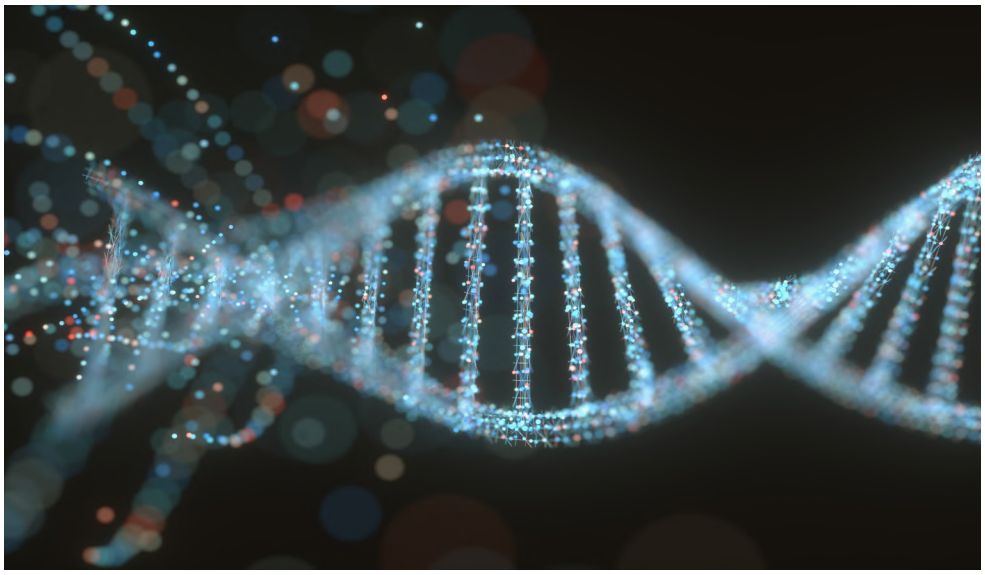
Genetics, Diagnosis, and the Male-Female Gender Gap in Autism



By Doreen Samelson, EdD, MSCP
Chief Clinical Officer
Catalight

I hesitated to write this article. What business does a psychologist like me have writing about genetics and autism? I am not a geneticist. At most, genetics plays a small role in my professional life. But questions kept nagging at me. Some are specific to autism spectrum disorder (ASD), my area of research and clinical practice. Some are also relevant to other areas of psychology.

My first question is one that anyone who works in the autism field asks themselves.

Why Are There So Many More Autistic Males Than Females?

One part of the answer is straightforward: Some instances of autism are inherently more common among males because males have only one X chromosome (Bartholomay et al., 2019). For example, males are more susceptible to severe symptoms of fragile X syndrome, which is caused by changes in a gene on the x chromosome. Fragile X often co-occurs with autism. Females have two X chromosomes, which means one chromosome can sometimes compensate for the other, making them less susceptible to fragile X and, in turn, autism. There are other similar examples, such as Klinefelter syndrome. Because of this, there might always be a gap in autism between females and males.

For 2008, the U.S. Centers for Disease Control and Prevention reported a ratio of 1 to 4.7 (Baio, 2012). But the most recent data from the agency show a female-to-male ratio of 1 to 3.8 for autism diagnoses among 8-year-old children (Maenner et al., 2023). That is a huge change in a short amount of time.

Why Is the Diagnosis Gap Between Boys and Girls Shifting So Rapidly?

I know an autistic woman who is a successful adult with a job and an independent life. She is bright with no intellectual disability. When she was in school, she was an average student. She used her intelligence to manage social situations, but it was hard for her. Mostly, she was quiet. By the time she got home, she was exhausted from masking her autism. Like many autistic girls, she didn't express the same rigid or repetitive behaviors that autistic boys typically express. Her rigid behaviors were more subtle, and she could easily conceal them.

She was diagnosed with autism when she was an adult, and the diagnosis came as a relief. Finally, she understood why it was hard for her to make eye contact and why it was challenging to make friends.

Several women fit that description because it's a common story. This isn't simply my anecdotal experience. The authors of one study suggest that girls without co-occurring intellectual impairment may be less likely to be diagnosed with autism, in part because they are less likely to exhibit stereotypical repetitive autism behaviors — the kinds that are more common in boys (Kreiser et al., 2014).

Quietness among girls is more socially acceptable. A girl who is quiet in school and doesn't have an intellectual disability or a language delay is probably less likely to be tested for autism. Their symptoms often go unnoticed if they don't have behavior issues and aren't causing disruption.

Of course, girls with severe ASD symptoms or an intellectual disability will likely get tested, but other autistic girls may fall through the cracks.

As we become more aware of undiagnosed girls, this issue is receding, and the gap between males and females is narrowing.

Yet even as the gap narrows, its continued existence likely helps to perpetuate it. Parents, teachers, school counselors, and clinicians are all primed to look for autism in boys. Naturally, they look for the symptoms that are common in boys.

Why Is the Diagnosis Gap Between Boys and Girls Shifting So Rapidly?

One paper cites evidence that bias in the Autism Diagnosis Interview-Revised (ADI-R), a common diagnostic tool for autism, may also contribute to the gap in diagnoses between males and females (Beggiato et al., 2017). The authors write, "Converging studies show less repetitive and stereotyped behaviors in girls, raising concerns about the risk of underestimating

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Helping Youth with Autism and Co-Occurring Low Vision and Blindness

By Ernst VanBergeijk, PhD, MSW, and Alexandra LaVoie, MSOT
Transition Center at the Perkins School for the Blind

The prevalence of autism has been increasing over the years. The CDC estimates that 1 out of every 44 children has an autism spectrum condition (CDC, 2021). It has changed from a low-incidence disability (i.e., 1 in 10,000) to a more common one. Blindness, on the other hand, is currently considered a low-incidence disability, only affecting about 1% of children and youth. This translates into an incidence of approximately 239,700 transition-age youth aged 16-20 years (Erickson, Lee, & von Schrader, 2019 as cited in Lund & Cmar, 2020). However, what is the co-occurrence of autism with blindness or low vision? Few parents and professionals know about the co-occurrence of autism and blindness and one of the leading causes of blindness, Cerebral/Cortical Visual Impairment (CVI), let alone how to intervene.

A group of Perkins School for the Blind teenagers and adults enjoying lunch at a restaurant

What is Cerebral/Cortical Visual Impairment?

Cerebral/Cortical Visual Impairment (CVI) is a brain-based visual impairment caused by damage or interruption to the brain's visual pathways or visual processing centers. It is currently the leading cause of blindness and low vision in children, yet CVI is alarmingly underdiagnosed (the CVI Center, 2023). Their white paper describes that CVI commonly occurs in neurodevelopmental disorders. The statistical model in the paper estimated that at least 180,449 individuals 0-22 years were diagnosed with CVI or likely to have CVI. From their sample, they were able to identify 24,269 patients with a CVI diagnosis and 155,980 likely to have CVI. This translated into a diagnosis rate of less than 14%. These numbers represent more severe cases of CVI, but CVI has a broad spectrum of experience, like autism. Therefore, the numbers are conservative and underestimated. One study out of the UK found that 1 in 30 primary school children may have CVI-related vision problems. The CVI Center concluded that for every child diagnosed with CVI, another 4 children are likely to have the disorder. This is similar to the early years of autism before the symptoms were more widely known.

What is the Overlap Between Autism and Visual Impairment?

Researchers have long suspected an overlap between visual impairment and even severe visual impairment (SVI) and autism since the late 1950s, which gained traction through a series of articles in the 1960s and 1970s (Molinaro et al., 2020). Some researchers contend that "…autism could currently be considered one of the most commonly reported co-existing developmental disorders in children with blindness or other severe visual impairment" (Petretto et al., 2023). The cause or origins of the blindness or visual impairment appear to correlate with the presence of autism.

There is a close relationship between ASD and SVI based on some specific etiology at the bottom of the severe visual impairment: there are less than 10 clinical conditions where this relationship is very close, ranging from 20/30% to 70% of comorbidity, such as retinopathy of prematurity, Leber's amaurosis, optic nerve hypoplasia, septo-optic nerve dysplasia, micro-ophthalmia, an-ophthalmia and CHARGE syndrome (Petretto et al., 2023).

Molinaro (2020) reviewed research papers between 1958 and 2020 and identified 921 studies that examined the relationship between autism and visual impairments. In these studies, autism is the most common co-occurring condition within the visually impaired population, and the etiology (cause) of the VI made a significant difference in the prevalence of ASD behaviors or symptoms. One study found that 33% of children with septo-optic dysplasia (SOD) and optic nerve hypoplasia (ONH) received a clinical diagnosis of ASD. In a Swedish study with a sample of children born with blindness, ASD was the most common co-occurring condition, with 38% of this population having an ASD diagnosis. The study went further to specify that the prevalence of ASD was higher in children with ONH (70%), in children with retinopathy of prematurity (ROP) (58%), in children with microphthalmia/anophthalmia (44%), and in children with Leber's congenital amaurosis (LCA) (36%) (Molinaro et al., 2020).

CVI is often misdiagnosed as autism because of overlapping behaviors or symptoms. CVI and ASD do co-exist, but CVI is often missed or not diagnosed until later. The implication here is that pediatricians, ophthalmologists, and neurologists working with children with autism should be trained in recognizing CVI and be able to conduct a differential diagnosis. Consequently, practitioners must be able to complete a differential diagnosis using assessment tools such as the ADOS that have been modified to not rely upon sight-related behaviors. For parents, the implication is that if they have a child with BVI, they should select a medical provider who can assess for ASD in children with blindness and low vision.

Educational Interventions for Students with Both Visual Impairment and Autism

Few school districts have enough students to create programs for educating students with VI. There is no economy of scale. When faced with a student with both VI and ASD, the school districts lack the expertise to educate the student. Under IDEA, students are entitled to a Free and Appropriate Public Education (FAPE). Suppose the school district cannot meet the student's educational needs. In that case, an option under IDEA is that they may educate the student in placement out of the school district at a private school that specializes in educating youth with VI.

Perkins School for the Blind in Watertown, MA, has been educating students with blindness and other visual impairments for almost 200 years. It is a leader in blindness education and educating students with multiple complex issues. Perkins has trained educators working in over 95 countries around the globe, creating a world of inclusion, accessibility, and opportunity for people with multiple disabilities. The Perkins School for the Blind is a thought leader through its CVI Center, Transition Center, and other offerings. It conducts research and is developing a knowledge base of empirically-based practices to educate students with CVI.

A New Model of Educating Students with Visual Impairment and Other Co-occurring Conditions

In recognition of the complexity of preparing students with BVI for the world of

see Low Vision on page 33

Supporting Students' Self-Regulation Needs: An Occupational Therapy Perspective

By Renee H Sebok, MS, OT,
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Self-Regulation is an individual's ability to process and manage behavioral and emotional reactions to what is happening in their immediate environment. Throughout the day, a child's nervous system is constantly attempting to process the sensory components of opportunities presented to them. These activities require regulating arousal states that match the situation or activity. When a child's nervous system is dysregulated, it will be nearly impossible for them to attend. Learning requires a foundational ability to self-regulate emotional and behavioral arousal during the school day. Children with neurodevelopmental conditions such as autism spectrum disorder (ASD) or attention deficit hyperactivity disorder (ADHD) will often have challenges with self-regulation and experience a roller coaster of emotions throughout the day. The ability to regulate begins to develop in infancy. When a baby cries, the parent and caregiver are in charge of swaddling, rocking, or feeding them to assist with calming and regulation which is known as co-regulation. As a child grows and develops, they strengthen their ability to self-regulate. Children with sensory processing issues that are dysregulated will often not be aware of their arousal levels and its impact on their ability to function and participate within their school environment. Children need to be in an optimal or "just right" level of arousal to be able to learn and function to their best potential.

Occupational therapy practitioners (OTPs) typically guide and assist teachers, families, caregivers, and children in various sensory strategies to promote self-regulation. Our discipline looks at the physical, cognitive, and emotional needs and skills of a student through the lens of how it impacts their participation in meaningful activities, roles, and tasks (AOTA, 2020). Self-regulation is a skill that greatly impacts a child's ability to learn, play and connect with peers. OTPs use their expertise to assist with modifying students' routines, environments, tasks and teach emotional regulation skills. In a school setting, interventions can be provided on the individual, classroom, or program level.

OTPs provide direct individual occupational therapy to students and address their self-regulation needs. Once identified, their needs are included in their IEP goals. In a school-based setting, the plan of care could include individual therapy provided as pull-out or push-in sessions. During pull-out sessions, the student is seen outside of the classroom. Some schools provide space for a therapy gym. In many private schools, there is an opportunity to utilize many modes of sensory input to determine what types of activities will help a student balance their sensory systems. The determination of the most beneficial combinations of sensory presentation are made and delivered during individual sensory based treatment sessions. A sensory gym allows for more specific observation or responses that a student has to any given sensory opportunity. A combination of strategies used may include visual, auditory, olfactory (smell), proprioceptive, vestibular (sense of self in space), taste and interoceptive (internal) sensory experiences to help a student regulate their arousal level. Some opportunities available during a pull-out session include swings, movement activities such as scooters, therapy balls, uneven surfaces, and weighted blankets.

During a push-in session, the OTP will provide support within the classroom routine. Here, the therapist partners with the staff as they analyze what can support or what may hinder the student's ability to self-regulate and subsequently participate meaningfully. A therapist may make accommodations for the student by changing the materials or factors in the environment such as lighting, or the appearance of activity components. Regulation strategies identified during individual sessions would be shared and modeled with the classroom staff. A consultation session can be included in the OT services as an effective way to implement and monitor these strategies and any changes in needs. In collaborating with teachers, we present strategies that not only support the student but are also realistic in the classroom environment.

Occupational therapy services also encompass developing environments, culture and programs that support self-regulation. In advocating for support of these needs at an institutional level, we strive to create valuable programming and environments for the school community.

Another way to help students self-regulate is to create or visit a sensory room where students can engage in self-directed sensory opportunities. A sensory room in a school setting is a therapeutic space with a variety of equipment, special lighting, calming music and objects to engage students in meaningful sensory experiences. Sensory rooms promote self-regulation as students can visit for a few minutes to calm, regroup, and refocus themselves in a calm, controlled environment. These rooms are often used to support students with special needs or disabilities to promote self-regulation and manage behaviors. A sensory room can be a great addition to any school program.

Mindfulness and Yoga can help a child learn self-awareness, self-control, and learn how to focus and manage their emotions. These skills can help them to regulate their feelings and their body, which will support overall performance and functioning at school. Mindfulness and Yoga can be addressed in a group for the purpose of increasing students' self-awareness, developing an awareness of how they feel when they become dysregulated and, most importantly, teaching how they feel when they are regulated. Students learn how to explore their bodies and minds and how they may change in response to different experiences and emotions. It is important for students to understand how their body feels in a calm, ready state versus how they feel in a dysregulated state. Participating in various mindfulness, yoga and breathing activities can help students find or stay in a calm and regulated state. According to Jon Kabat-Zinn (2023), "Mindfulness is awareness that arises through paying attention, on purpose, in the present moment, non-judgmentally." Some activities may include body scans, sound/listening mediation and getting in touch with nature. Yoga poses and sequences are either self-explored or achieved with assistance, if needed. The focus in each group is breathing. Various intentional breathing techniques are explored including feather breathing, counted breathing, and heart

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Tools and Resources from page 1

Below, we list caregiver strategies for each major sensory system (vestibular, tactile, proprioceptive, visual, and auditory).

Vestibular Input

The vestibular system coordinates eye, head, and muscle movements so that the body can balance and navigate in space. Many children with vestibular dysregulation display decreased gross motor skills, fine motor skills, postural stability, and eye gaze, impacting activities of daily living. These children may also have a delayed presence of hand dominance and difficulty crossing the midline.[4]

Signs of hyposensitivity to vestibular input include the child actively seeking out vestibular input - runs and jumps off furniture, hangs upside down, spins in circles, etc.

Hyposensitive regulation strategies:

- Have the child hang upside-down off a bed or couch ledge with a cushion underneath them.
- Have the child climb to increase vestibular responsiveness throughout the body. This can be climbing on the playground, a rock wall, or even on a couch or bed in the home.
- If a playground or swing is not accessible in the area, try a sensory spin/swivel chair as a great alternative.
- Try some yoga ball activities.

Elizabeth Fox, MSOT, OTR/L

Samantha Weinstein, MSOT, OTR/L

Signs of hypersensitivity to vestibular input include the child presenting as anxious when provided with vestibular input - anxious going up and down stairs or on a slide. The child may also have gravitational insecurity - becoming upset when on an unsteady surface or when both feet are not firm on the ground.

Hypersensitive regulation strategies:

- Expose the child to vestibular input slowly and gradually. Remember, small gains turn into big accomplishments.
- Have the child balance on a pillow on the floor and gradually increase the time increments of this activity.
- Provide the child with slow, linear vestibular input (slow linear rocking on a therapy ball, rocking horse, or playground swing).

Tactile and Proprioceptive Input

Tactile and proprioceptive input and integration are closely connected. Tactile input is the information we receive from receptors on our skin. This information received can be touch, pressure, temperature, or pain. Children who present with tactile dysregulation may have difficulties completing fine motor functional tasks without looking, grasping a pencil correctly, completing self-hygiene tasks, and maneuvering through their environment without bumping into things. Proprioceptive input and regulation impact our ability to use graded force, detect body position related to gravity, maintain posture, and move in a smooth and coordinated way.[5]

Signs of hyposensitivity to tactile and proprioceptive input include the child not noticing when they are being touched, responding to pain, or noticing or being bothered by their hands or face being dirty after a meal. Children with hyposensitive responses to proprioceptive input may present with a weak grasp. These children may crave crashing into things.

Hyposensitive regulation strategies:

- Verbalize whenever you are touching the child to make them aware.
- Encourage messy or tactile play (rice, sand bins, etc.).
- Provide opportunities to feel various textures throughout the day.
- Try wall push-ups or chair push-ups with the child.
- If available, try to have the child jump onto a crash pad or mattress.
- Provide deep tactile pressure to the child's body by rolling a therapy ball over them.
- Provide the child with a weighted blanket, and make sure you follow recommendations for appropriate weight for your child.

Signs of hypersensitivity to tactile and proprioceptive input including The child being bothered by tags on clothing, not liking washing/self-hygiene tasks, and may get upset when their hands get messy during play or mealtime. The child may avoid climbing activities on the playground if they present with proprioceptive dysregulation.

Hypersensitive regulation strategies:

- Slowly and gradually expose the child to various tactile and proprioceptive input (for example, gluing for an art project or climbing slowly) and increase the activity time as tolerance improves.
- Cut tags out of clothing to allow the child to feel more comfortable.
- Allow the child to engage in water play at their comfort level to help teach them that water is safe and fun and that self-hygiene tasks can be enjoyable.

Visual Input

The visual system refers to how an individual sees and perceives visual stimuli in the environment. Visual information and the body's processing and regulation can impact how well a child attends to and responds to visual cues in their environment. It can also affect a child's ability to follow a moving target with their eyes or scan a text during reading.[6]

Signs of hyposensitivity to visual input include the child not noticing visual cues and reminders in the home or classroom, affecting safety and functional participation.

Hyposensitive regulation strategies:

- Use high-contrast colors (black and white) for visual cues.

Signs of hypersensitivity to visual input include the child becoming upset in a visually cluttered environment or a "busy" classroom. The child may not like bright colors or patterns.

Regulation strategies:

- Install light covers/dimmers on fluorescent lighting.
- Utilize calming and soothing light projectors.

Auditory Input

The auditory system refers to the frequency and pitch at which an individual hears sound. Approximately 90% of people with ASD have a hypersensitivity to auditory input, meaning that they hear sounds at higher intensities.[7]

Signs of hyposensitivity to auditory input include the child craving certain sounds. For example, the child may repeatedly press the same button on a sound toy and hold it close to their ear.

Regulation strategies:

- Provide the child with sound books or

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Designing a Sensory-Friendly Workplace for Autistic Adults

By Heidi Hillman, PhD, BCBA-D, LMHC
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Autism is a lifelong condition, yet there is a noticeable lack of research on autistic adults (Fairbank, 2023). Despite limited studies, challenges are emerging, one being sensory challenges in the workforce (Pryke-Hobbes et al., 2023). While the struggles of entering the workforce may parallel those of neurotypical adults, autism-related characteristics, such as sensory issues, add an extra layer of complexity to an already challenging situation.

Ben-Sasson et al. (2009) conducted a meta-analysis and found that up to 90% of autistic individuals demonstrated some degree of sensory processing sensitivity. Sensory sensitivities are prevalent among autistic individuals, making ordinary sensations overwhelming or distressing (Leekam et al., 2007). Navigating an entire workday is demanding for anyone but imagine doing so in an environment filled with excessive noise and harsh lighting. Neurotypical individuals can often filter out sounds like footsteps, ringing phones, and colleagues chatting, but for those with autism, these stimuli can lead to sensory overload. This heightened sensitivity may result in stress, anxiety, or physical discomfort (Lauritsen et al., 2014).

Since sensory sensitivities can create barriers for autistic adults achieving and maintaining employment, addressing sensory challenges is crucial in supporting autistics and creating inclusive environments. With the increasing number of autistic adults entering the workforce, there is a growing need to tailor workplaces to accommodate the distinct needs of autistic adults.

Although designing entirely inclusive buildings presents challenges, incorporating a broader spectrum of employee needs during the design phase improves workplace environments by enhancing employee engagement and fostering a sense of belonging. Well-designed workplaces play a pivotal role in helping autistics thrive in their place of employment.

The foundation of designing an innovative workplace for autistic employees lies in understanding the diverse sensory processing spectrum. Miller et al. (2007) reported that individuals on the autism spectrum range from hyposensitive, requiring more sensory stimulation, to hypersensitive, expressing a dislike for bright lights and crowds. Neurotypical workers fall in between these extremes. Therefore, everyone in the workplace can be seen as somewhere on the sensory processing spectrum. An illustrative example is accommodating autistic adults by designing areas that support sensory regulation. Interestingly, these designated spaces can also serve as places of respite and stress relief for neurotypical employees. As autistics have different needs throughout the day, the goal is to create various inclusive spaces subtly tailored for a broader range of employees.

While architectural projects for autistic individuals primarily focus on children in the education system, the workplace remains underrepresented (Mostafa, 2015). As an autistic researcher, I am passionate about recognizing the value of neurodiversity in workplaces, optimizing work environments, and accommodating the unique needs of autistic employees.

Design decisions should stem from a pivotal question: Would this be the kind of environment I would choose if I were an individual with autism and sensory sensitivities? When conceptualizing office layouts, embracing diversity by avoiding a one-size-fits-all approach is essential. This article aims to explore the concept of a neurodiverse work environment. My ideas

see Workplace on page 38

Find Autistic Talent with Hire Autism

By Courtney Carroll
Manager
Hire Autism

Unemployment rates for autistic adults in the United States are staggeringly high. Recent statistics show that between 50% to 90% of autistic adults are unemployed or underemployed, making autism the highest unemployed disability (Steven Zauderer, Cross River Therapy). In addition, studies in the past decade estimate that nearly 85% of autistic adults with a college degree are unemployed (My Disability Jobs).

There are many reasons why autistic job seekers experience challenges when searching for or gaining meaningful employment, including:

- Stereotypes of autistic individuals
- Lack of understanding and inclusive hiring practices
- Differences in social and verbal communication
- Limited access to accommodations

Stereotypes

Often, autistic job seekers are overlooked or thought to fit a mold for a specific type of work. For example, it is a common misconception that all autistic adults are tech-savvy and looking for a job in IT. While that may be the case for some, the truth is that autistic job seekers seek a wide array of employment opportunities across all fields and industries that align with their unique strengths and interests. As Dr. Stephen Shore of Aldephi University stated, "If you've met one person with autism, you've met one person with autism." This quote highlights the importance that no autistic job seeker, employee, or person is the same.

Lack of Inclusive Hiring Practices

Another barrier to employment for autistic individuals is the lack of inclusive hiring, including recruiting and the onboarding process. Autism and neurodiversity must be a core component of an organization's Diversity, Equity, and Inclusion (DEI) hiring practices. This goes beyond simply stating autism in your DEI statements and encompasses creating inclusive job listings, interviews, onboarding, and training. Companies must also consistently train and engage management on how to best work with autistic employees and actively consider qualified autistic candidates for various roles.

Social and Communication Differences

A core component of autism is social and communication differences or challenges. This can present difficulties in the interview process and on the job.

Social differences include:

- Lack of eye contact
- Taking pauses in between responses
- Misunderstanding facial expressions and nonverbal cues
- Interpreting phrases very literally (Help Guide)

Unfortunately, these social differences can significantly impact an autistic job seeker being hired and their longevity at an organization. This can lead to qualified candidates being counted out after an interview, struggling to create strong relationships with managers and colleagues, and ultimately being let go or leaving their roles.

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The Role of Sensory-Focused Education in Inclusive Classrooms

By Marissa Hunter, MEd, MOT, OTR/L, The Kellar School of Inova Kellar Center, and Alysha Skuthan, PhD, OTR/L, ASDCS Shenandoah University

In inclusive classrooms, all student learners have strategies, techniques, support, respect, and a welcoming environment to promote academic success (Webster, 2014). Inclusive classrooms require the integration of differentiated instruction tailored to the unique academic, mental, and physical needs of students (Webster, 2014). For students with autism spectrum disorder, sensory needs must also be addressed to allow full participation in the academic environment (Kuhaneck, 2020). Various team members collaborate in inclusive classrooms, including teachers, caregivers, paraprofessionals, and therapists, such as school-based occupational therapists (Cahill & Bazyk, 2020; Webster, 2014). School-based occupational therapists are uniquely trained to assess sensory needs and provide needed strategies to promote sensory-focused education due to their scope of practice in children's development, educational participation, and sensory systems (American Occupational Therapy Association [AOTA], 2020). A review of sensory-focused education with detailed inclusive classroom tips and strategies will be reviewed.

The Sensory System

Children with autism spectrum disorder commonly present with heightened interest or avoidance in specific sensory activities, such as having a difficult time with fluorescent lightning (hyporeactivity) or struggling to attend to teacher instruction with everyday background noises (hyperreactivity; Ashburner et al., 2008; Autism Speaks, 2023a; American Psychiatric Association, 2013). Sensory processing varies for each student with autism spectrum disorder, making it challenging to implement classroom-wide initiatives and requiring adaptation and modification during activities to respond to each student's unique needs (Autism Speaks, 2023b; Kuhaneck, 2020). Members of the interdisciplinary team must collaborate to achieve the neurological calm-alert state where the eight senses of sight, sound, smell, taste, touch, balance, awareness of internal body cues, and awareness of the body's position in space are regulated to support student-learning (Autism Speaks, 2023b; Ayres, 1998). Examples of students with autism spectrum disorder who need strategies to achieve the neurological calm-alert state include refusing to enter the cafeteria or chewing on non-edible items, such as pencils and shirt collars; excessive smelling of items like a glue stick or crayon; presenting with emotional dysregulation when their hands get dirty; and/or demonstrating significant inattention or distractibility in class (Ashburner, Ziviani, Rodger, 2008).

Notably, if a student's sensory system is not regulated or in an alert-calm state, then the student's brain cannot access higher-level functions required to meet the demands needed for skills involving reading, writing, and math (Ayres, 1998). Difficulty with academic skill sets, such as sequencing tasks, copying from the whiteboard, and writing, indicates the brain has difficulty processing sensory input effectively (Ayres, 1998). Achieving the calm-alert state or regulating the sensory system is the first step toward successful academic engagement and is necessary for creating an opportunity for learning and, ultimately, academic success (Ayres, 1998).

Sensory-Focused Classroom Activities

To best provide sensory-focused strategies in the classroom, support from administration, collaborative planning, commitment to collaboration, and an understanding of the classroom culture,

see Inclusive Classrooms on page 36

The Regulating Benefit of Rituals

By Sharon Eva, OT/L
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The ball boy hands him the tennis ball. He drops it to the ground twice, his torso bent over and neck extended, looking at his opponent. He swipes his face swiftly, touching his right cheek, nose, left cheek, and back to nose. He moves his water bottle just outside the boundary line. Wipes the sweat from his brow. Bounces the ball twice. Pulls at his shirt; looks up at his opponent. He readies the ball and racket above his head, and *whack*.

She stands in front of her bathroom mirror, reading over the affirmations on sticky notes around the mirror. She washes her face, massages in her face oil and lotion, letting her thoughts take her wherever they lead that morning. She puts on her thick robe, gets a cup of coffee, and sits in her corner chair next to the side table facing the window. She sets the coffee on the coaster, opens the drawer, gets out her journal and fountain pen, and begins to write.

He's in the university dining hall. His stomach grumbles, hunger cues signaling a physiological need for food. He scans the room. It's filled with options. He can't find his friend. He paces in the corner, bending his knees and bouncing up and down twice. He wipes the sweat from his brow. Pulls at his shirt, looks up at the dining hall. He rocks back and forth, stepping onto the balls of his feet. He takes a deep breath in, exhales, and walks forward.

The above excerpts detail various forms of rituals. The first is Rafael Nadal, a famous tennis legend known for his preserve ritual. The second is an anonymous young mother who has ritualized the brief time she gets alone in the early morning before her family awakens. The third is a neurodiverse college student navigating an overstimulating environment.

While different in form, each of these rituals serves a similar function. In this article, we will explore the purposes that rituals serve in the lives of autistic and other neurodiverse individuals.

Autism is a spectrum neurological disorder characterized by focused and special interests, difficulties reading social cues, and sensory processing differences and is considered part of the umbrella of neurodiversity (Baron-Cohen, 2017). Autistic individuals often have "ritualized acts" (American Psychological Association, 2013).

The literature has varied definitions of rituals. This article points to the definition of rituals per the Occupational Therapy Domain and Process (3rd ed.), in which rituals are defined as meaningful symbolic acts that often reinforce an individual's values (2014). Rituals are considered separate from, although related to, special interests and circumscribed interests of autistic individuals. Rather, rituals describe those acts which are repeated, predictable, and resultingly enable a propensity for action.

The very definition of rituals holds that they are *meaningful*. The assumption, then, is that they are not empty, purposeless acts. Instead, they can hold value in the person's life and thus can impact well-being.

Over 90% of neurodiverse individuals have sensory processing disorder (SPD) or sensory processing differences (Crane et al., 2009; Dellapiazza et al., 2020). Sensory processing disorder is a neurological condition in which the brain cannot process sensory input effectively (Miller, 2014). Sensory processing differences can be a significant source of anxiety due to the unpredictable nature of the sensory environment. This lack of control can feel overwhelming for someone unable to modulate or filter out unnecessary sensory stimuli. Thus, they fall back on what they can control, such as their rituals. The rituals serve as a kind of shield from an unpredictable world. For example, an autistic female might engage in mindful breathwork through guided diaphragmatic breathing in

see Rituals on page 33

The Silent Roadblock: Understanding the Ripple Effects of Feeding Difficulties on the Spectrum

By Dena Kelly, LPC, BCBA, BSL
Founder and CEO
Focused Approach

While it's widely documented that autism spectrum disorder (ASD) affects social interaction, communication, and behavior, there is a less spotlighted, yet pivotal, piece to these neurodivergent children: feeding difficulties. It's estimated that up to 80% of autistic children have some form of feeding challenges. To ensure holistic success, these feeding issues must be acknowledged by the industry and caregivers and promptly and appropriately addressed.

Feeding Hurdles in Autism: Common Challenges

Autistic children frequently encounter a range of feeding issues, including sensory sensitivities, selective eating, and aversions to certain textures or tastes, which can significantly impact their progress in other therapies and overall well-being. For example, gastrointestinal disorders (GID) are common in children with ASD due to nutritional deficiencies and can include constipation, vomiting, diarrhea, and abdominal pain. Feeling physical pain, whether chronically or intermittently, can prevent progress in all other areas of the child's life.

Moreover, these feeding difficulties often manifest in problematic behaviors during mealtimes. Children may employ strategies to avoid specific foods or entire food groups, exhibiting actions such as screaming, crying, irritability, aggression, attempts to move away from the chair, expressing distress, turning their head away, chewing without swallowing, spitting out, and even vomiting.

Prevalence of Pickiness in Autistic Kids

It's been found that children with ASD consume less fruit, dairy products, vegetables, proteins, and starch than children without a diagnosis. Results of a study conducted on children aged three to five showed that those with ASD, with respect to typically developing children (TDC), preferred foods of a certain consistency (68% vs. 5%), are choosier about food (79% vs. 16%), more hesitant to try new foods (95% vs. 47%) and assumed a restricted variety of food (58% vs. 16%).

This restive eating isn't something they will simply grow out of. In a recent longitudinal study, 52 parents of autistic children were surveyed 20 months after completing an initial questionnaire. The results found no change in food selectivity level and a stable, significant relationship between food selectivity and sensory over-responsivity. This underscores the need for early interventions to increase the variety and promote healthy eating among children with ASD.

Is it Medical or Behavioral?

If you recognize that your child or the child under your care is experiencing notable challenges with feeding, it's natural to feel a strong desire to support and assist them. Before determining the best approach to addressing the feeding problem - it's important to identify if it's a medical or a behavioral issue. This may require

see Feeding Difficulties on page 40

Establishing Sensory Inclusive Theater Experiences

By Lauren Tucker, EdD,
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for the Performing Arts

Image 1. Theater Sensory Bag

Many performing arts venues have incorporated sensory-friendly (SF) or relaxed performances (RP) to increase access to the arts for all patrons. Often, these events are geared towards children or younger audiences and for individuals who experience hypersensitivity. SF or RP often incorporate environmental and performance accommodations to reduce sensory stimuli and provide options for patrons.

This article will share the case of The Bushnell Center for the Performing Arts in Hartford, Connecticut. The Bushnell has been offering SF/RP for over a decade but is evolving to offer accommodations during all events to consistently increase inclusivity.

Performance Modifications

Some touring performances offer an SF/RP option. Generally, these performances have reduced auditory and visual stimuli. There might also be warnings before an unexpected event. For example, before a louder noise, a visual cue might be provided in anticipation. If strobe lights are typically utilized within a scene, they might be eliminated for an SF/RP. The performances might also be held in smaller spaces to reduce the crowds. In addition to performance modifications, the venue itself also modifies the environment.

Environmental Modifications

Increasing flexibility within the theater environment can benefit a variety of patrons. During SF/RP, the house lights are often kept on, and patrons can move about the theater during the performance. This adapted lighting can reduce anxiety and improve their seats' lighting. The auditorium door might sometimes be kept open as a visual cue for patrons to exit at any time. Changing the expectations of theater etiquette can remove significant pressure on patrons and caregivers. If individuals need to take a break, use the restroom, or have a snack, they can move about throughout the performance.

Beyond Sensory-Friendly and Relaxed Performances

However, beyond these specific events, there are ways for performing arts venues to increase access for individuals across sensory needs. SF/RP generally cater to individuals with hypersensitivity, whereas others might have a hypo-sensory profile and may crave sensory stimulation (Lefebvre et al., 2023). Therefore, providing additional support at all times, during any performance, increases choice and options for all patrons, especially autistic individuals.

In a focus group of 24 autistic adults, MacLennan et al. (2022) outlined six principles of sensory environments: recovery, sensoryscape, space, adjustments, understanding, and predictability. The Bushnell has considered these principles when identifying accommodations available for all performances.

Visual Supports

The theater has created a support package available at all events. First, sensory bags are available at the customer service booth for adults and children. Image 1 above displays the sensory bags. They include noise-canceling headphones, earplugs, sunglasses, fidgets, and communication supports. The items available in the bags can be utilized to address any challenges within the sensoryscape of the event and can be used at the patron's digression.

The bags also include a mini core communication board with theater-specific

see Inclusive Theater on page 35

Inclusive Housing: How Sensory-Friendly Features Can Help Address a Growing Need

By Ann Carrick, MA
Communications Manager
Madison House Autism Foundation

Home should be a place where you can relax, feel safe, unwind from the day, and feel like it is your space. However, not everyone has that option. In our work of supporting the inclusion of autistic adults for over 16 years at Madison House Autism Foundation, we have found that housing is the most significant national concern. Autistic adults often face barriers to home environments that fit their needs. Most housing options lack autism-friendly and sensory-friendly features. If autistic adults and family members happen to find housing that fits those needs, they often face additional roadblocks, such as high costs, disconnected services, multi-year waitlists, support service workforce shortages, and more (Kameka Galloway & Martinez, 2023). With an estimated 5.4 million and growing adults on the autism spectrum in the U.S. (Dietz et al., 2020), more low-barrier, inclusive housing that accommodates sensory and other needs is imperative. Increasing the quantity of sensory-friendly housing stock, or even creating your own sensory-friendly home, can help to reduce some of these barriers.

What Does Sensory-Friendly Mean?

One common challenge for autistic adults is their sensitivity to different sensory experiences. Some are sensitive to sensory inputs, such as sounds, smells, fabrics, light, and more. Others have low sensitivity to these experiences and seek ways to boost that input. Still, others may have a combination of low and high sensitivity. You might have someone who seeks out soft textures to feel calmer but still gets overwhelmed with multiple strong inputs, such as loud noises and bright lights (Elwin et al., 2016; Morgan, 2019). Looking at neuroimaging with autistic individuals, researchers found that there is evidence of hyperreactivity in some autistic individuals' brains when presented with sensory stimulation. This hyperreactivity is in combination with the brain staying reactive longer. The parts of the brain that help regulate emotions and return to their normal baseline state are slower to make that process happen than in neurotypical populations and those without high sensory sensitivity (Green et al., 2015). Sensory-friendly design keeps these sensory sensitivity challenges in mind and accounts for them, whether through less stimulating features or spaces that offer more user control over sensory input, such as lighting, noise, colors, fabrics, etc. This accommodation can be an essential tool for preventing anxiety and depression (Morgan, 2019).

The Current Housing Market

Very few data sets exist that track housing characteristics that meet the needs of autistic adults and others with intellectual and/or developmental disabilities (I/DD; Resnik & Kameka Galloway, 2020). The growing need for data and inclusive housing sparked a recent chain of I/DD-focused housing market analyses in cities across the U.S. (First Place AZ, 2023); however, more research is needed. Despite this scarcity of data, one can start seeing more diverse housing options trying to meet the critical and rising demand with the small

see Inclusive Housing on page 42

Autistic Lived Experience: Unable to Be There for a Friend in Need

By Sam Farmer
Neurodiversity Community Self-Advocate, Writer, Author, and Public Speaker

In hindsight, I view my sophomore year of college as being the most challenging year of my life. Up until then, I was living in the sweet bliss of unawareness. I had no concept of how compromised my self-esteem was or what self-esteem even meant. I had a flawed sense of how my words and actions shaped what others thought of me and how their opinions influenced how I felt about myself. I had no idea how inflated my expectations were of myself and those I knew. I was essentially too self-absorbed to be self-aware, much less aware of the wants and needs of the people around me.

I was a not-yet-identified autistic on a college campus with a student body that was significantly more complex, diversified, and sizable than that of the private high school I had attended. As such, socialization became considerably more challenging, resulting in emotional hardship for which I was unable to find a remedy. I chose to hang out with a group of people who lived in my dormitory with whom I had hoped to form meaningful friendships, only to eventually realize that I felt more like an outsider looking in. My two love interests' not feeling the same for me as I felt for them didn't help matters. Perhaps because of the impact my social struggles

Sam Farmer

had on my emotional state, I lost interest in my primary passion in life, jazz piano. Unthinkably, I decided not to enroll in private lessons for the second semester despite how much I liked my professor and how integral my piano playing was to my sense of self.

My social struggles and the emotional fallout that resulted helped contribute to the gradual dismantling of what I think of today as my "sphere of unawareness and self-absorption," the psychological safety net on which I had always depended for relative peace and tranquility during my formative years. I became aware of the aforementioned realities about myself, which hit me quite hard. Consequently, I started to feel melancholy, lost, and relatively alone.

Then, an incident occurred which I will never forget. An esteemed dorm mate of mine was given unimaginably horrifying news. When Vishal found out that he had suddenly lost both of his parents in a plane crash, the tight-knit community that was our section of the dormitory appropriately rushed to his side to comfort him. All of us, except me. Understandably, a friend called me out for keeping my distance, not just from Vishal in his time of need but from our community in general.

It was truly heartening to see how the community came together for him, shared in his anguish, and genuinely empathized with him. And yet, I continued to shy away. In retrospect, I feel as though the weight of the burden I was shouldering that year had something to do with why I was unable to be there for him. But there's more to it than that.

I remember trying to imagine how much pain Vishal was having to endure. I thought about what might lie ahead for him in the wake of this tragedy. I worried about whether he would ultimately be okay and find a way to move forward, given all he had lost at too young an age. What he had been through remained fresh on my mind for some time, and it was easy to recall 33 years later when it dawned on me that this was a lived experience worth writing about.

I empathized with Vishal, though I was doing so differently than my dorm mates: in private and at a distance, though very deeply. I was empathizing in a way that many autistics do and which, regrettably, is all too often misconstrued by others as a lack of empathy on our part.

This is not at all true and is a false and extremely hurtful stereotype that the neurodiversity advocacy community has been trying to bury for some time. We feel empathy toward others, though it often does not manifest the same in autistics as it typically does in non-autistic individuals. For this reason, we are misunderstood and stigmatized.

The fact that there is more than one way to exercise empathy did not occur to me back then. Because of this, and because I did not yet know I was autistic, much less understand the distinction between how autistic and neurotypical individuals typically show empathy, I wondered what was wrong with me. Why was I the only one not bonding with Vishal and the folks in our corner of the dormitory in the way they were bonding with each other after word surfaced of this horrific disaster? I felt separated, alone, and confused. An outsider wanting in but not knowing how to open the door and walk through.

All the adversity I was up against that year prompted me to turn to my mother that spring and tell her I needed help and that I wanted to work with a talk therapist

see Friend in Need on page 39

Advocating for Sensory-Inclusive Education: IEPs, Classrooms, and Schools

By Amanda Bailey
Support Specialist
Association for Autism
and Neurodiversity (AANE)

There are many lists and suggestions for sensory-based accommodations for autistic students. Gaining a sense of your student's unique sensory profile – what causes distress or helps them stay regulated – is important. They may be impacted differently at school than at home. How can a caregiver ensure their child's or teen's sensory needs are met at school?

In the Individualized Education Program (IEP) or 504 Plan

Request that the occupational therapist observe the classroom and school environment as part of an OT assessment. They can identify situations and environmental changes that may help avoid sensory overload. For example, if a teacher shares that a student is struggling with the transition into the classroom, the occupational therapist may be able to pinpoint the pertinent issues. Is the busy environment causing the student to get distracted? The student may need to come in a bit before or after everyone else to ease successfully into the day.

Ask the team to review your child's IEP or 504 plan to see if accommodations pass the stranger test. Accommodations should be specific enough that a person reading the document for the first time can support your student. "Preferred seating," "access to flexible seating," and "movement breaks as needed" are all too vague. For instance, preferred seating refers to the student's preference, not the teacher's. This may be front and center or where the student can move around and easily access the door. Staff will not know which types of equipment (standing desk, hokki stool, etc.) to have in the room unless these types are listed specifically in the IEP or 504 plan.

When providing sensory-related accommodations, consider if there is a related skill that can be taught. *Self-awareness* (the student knowing their accommodations and recognizing when they need one) and *self-advocacy* (asking for the accommodation) are critical skills that can be written into IEP goals and objectives.

Include consultation between the occupational therapist and the rest of the team in the service delivery grid. This can occur in the spring and early fall to ensure that a student is set up for success at the beginning of the school year. This can also be done on an "as needed" basis to troubleshoot the implementation of accommodations or suggest new ideas.

In the Classroom

The instance when an autistic student is most likely to need a sensory-related accommodation may be when they are least able to request it due to overwhelm. Natural opportunities for regulation can be built into the school day. For instance, having a student be a designated equipment carrier after gym is an opportunity for heavy work. A student who dreads the commotion of breaking into small groups may be given the chance to walk a note to the office instead. Encourage the team to get creative.

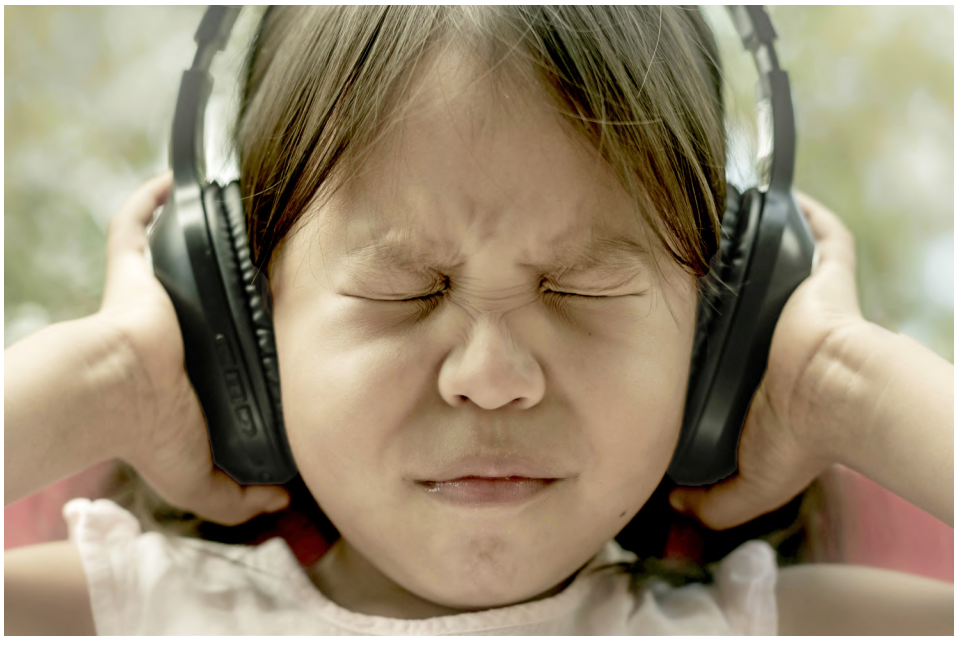
Sensory breaks are not rewards and should never need to be earned. A student's accommodations are necessary for them to stay regulated and ready to learn. Taking away accommodations as punishment may set off a behavioral spiral and increase a student's anxiety.

Normalize that we all have sensory needs – things we seek out or avoid to stay comfortable. Non-autistic students also benefit from permission to move as they need, stand, stretch, or draw at their desks while attending a lesson.

see Advocating on page 34

Nurturing Comfort: Sensory Processing Through an Autistic Lens

By Annie Kent, MA
Mental Health Systemic Advocate,
Educator, and Freelance Writer



What grates on your nerves? The slurping sound made by an open-mouthed eater or by someone smacking gum and popping bubbles? What about ticking clocks? Or the coworker who repeatedly clicks their pen, ad nauseam?

Why do such noises bother autistic people? Maybe it's because sensory stimuli are hard to tune out.

The Human Sensory System

Humans have eight senses in the body:

1. Visual (sight)
2. Auditory (hearing)
3. Olfactory (smell)
4. Gustatory (taste)
5. Tactile (touch)
6. The Vestibular System (sense of head movement in space)
7. Interoception (knowing what is happening in your body, for example, if you are hungry, thirsty, warm, cold, etc.)
8. Proprioception (sensations from muscles and joints of the body)

Sensory regulation is a crucial process through which our nervous system integrates and adjusts sensory input, enabling us to maintain balance and optimal levels of arousal/energy. Essentially, sensory regulation involves our neurological capacity to respond to various sensory stimuli in our environment. A regulated sensory system processes and integrates sensory input to allow smooth navigation of the world around us.

The senses commonly related to sensory dysregulation are tactile, vestibular, proprioceptive, and interoception.

Sensory Processing Differences in Autism

The fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (2013) was the first to include sensory reactivity in the diagnostic criteria for autism. It described three categories of sensory differences:

- **Sensory hyper-reactivity:** an over-responsiveness to sensory stimuli.
- **Sensory hypo-reactivity:** an under-responsiveness to stimuli.
- **Sensory seeking:** an excessive interest in sensory stimuli. (Rudy, 2015)

Hypersensitivity occurs when our body's senses are overstimulated to a point where we can't cope. Our brains are receiving more sensory information than can be processed. People experiencing sensory overload may feel irritable, anxious, or emotional. In any case, they're in significant distress (Mount Sinai Today, 2022).

Hyposensitivity is muted responsiveness, which may result in safety concerns. Hyposensitive people may appear fearless, failing to respond to such things as the sound of an alarm, pain signals, heat and/or cold, or heedlessly running into traffic or deep bodies of water.

What Happens When an Autistic's Senses Are Overloaded?

Too many competing sensations cause our bodies to panic to protect us from too much stimulation. To neurotypicals, panic may look like either complete withdrawal (shutdown) or a meltdown (Neff, 2023).

This sensory dysregulation is generally

see Nurturing Comfort on page 40

I'll Always Be a Sea Creature

By Cathryn Salladin
Former US National Swim Team Member

At swim practice, I would pretend I was a sea creature. And when I got a little older, I'd still chase the magic rainbow glimmers at the bottom of the pool with my arms in a tight streamline.

Later still, as I'd silently panic in team meetings, as the fluorescent lights bored holes into the corners of my eyes, and as the energy of the people around me seared through my arteries like battery acid…I would remind myself over and over that I would be fine as soon as I dove in the pool. I just needed the water.

For as long as I can remember, I have felt like there was something "wrong" with me. I've felt like an alien: never quite comfortable, never quite belonging. But I also was never afraid of drowning. I, in fact, have often felt the most alive while holding my breath. In the water, staring at that black line, I could let my mask dissolve. I relished in the buoyant embrace against my body. I worked my muscles to a burn that fueled my self-worth, my identity, my passion, and my dreams. At first, it was just the water, but soon my love became about swimming.

Swimming was the only thing that was truly mine. Homeschooled since 2nd grade, I would spend all day staring at my textbooks, trying to ignore the noise of one sibling pounding at the piano and the other in a screaming match with my mother. I'd *plead* for time to go by faster so I could escape to swim practice.

Cathryn Salladin, Former US National Swim Team Member

I was raised in a conservative Christian environment, where everything related back to Jesus. Until COVID-19, which was when I began to question the way I grew up, I was fully invested: I was involved in church, I believed wholeheartedly, and, just as I was told, I attempted to put my full identity in Christ. When I look back at my dozens of journals between the ages of 12 and 20, I see pages upon pages of self-loathing and depression followed by compulsive prayers and written cries to Jesus to "fix" me.

Looking back at how little autonomy I had over my studies, my religion, my food, my sexuality, and even my personality, it makes sense why swimming became my haven. I had no control over anything in my life except for swimming. No matter how difficult the practice was, I felt safest in that water. I didn't know then that my aquatic, alien-like feeling was related to my neurodivergence, and that swimming felt like it was my everything because it *was* my everything. I clung to swimming like the lifesaver it was.

At my very first 10k Open Water National Championships in 2017, I made the National Team, and something shifted. As I signed the papers to commit to representing the United States at the World Championships, the immediate heaviness of the expectation to make it again the next year settled into my body. My name, scrawled in my shaky, 17-year-old signature, was like a branding of sorts — a pledge stating from that moment on, all that mattered was making the National Team again, making the Worlds again, and, of course, making the Olympics someday. Swimming was no longer just mine. Success stole my safe space, and I couldn't shake the pressure.

When threatened with these demands, my nervous system became unregulated. I have vivid memories of standing behind the blocks before races, frozen and terrified, visibly trembling as I climbed up on the block and took my mark, praying obsessively that I would make it through the race without embarrassing myself; though I would do that in the years that followed.

The more the expectations and letdowns piled on, the more my coach berated me

see Sea Creature on page 28

All Are Welcome: Creating an Inclusive Festival

By Doug Blecher
Founder
Autism Personal Coach

Almost 11 years ago, I founded an organization, Autism Personal Coach, that provides coaching to autistic adults and teens to improve the quality of our lives. Within the first year of our existence, I realized that the lack of community was a glaring and alarming need for many of our clients. That is when we decided, in addition to our 1:1 coaching, to have monthly events for autistics to access this community. We have had monthly dinners, attended sporting events, visited places based on our clients' passions, such as aquariums and zoos, and volunteered in our local area. While these events were beneficial to some of the autistic people who attended, for others, these events probably weren't helpful.

I knew something wasn't quite right during those first few years of events, but I couldn't figure out what was missing. It wasn't until I learned that I was autistic a couple of years ago that it finally occurred to me. The thing that is lacking in community inclusion for autistic and all neurodivergent people is that we are an afterthought or, often, not a thought at all in the development of community events. There isn't much thought given to our different communication and sensory needs or how events in the community can truly be accessible to the 1 in 4 people in our population who are neurodivergent. The result of this lack of thought and planning often leads to overwhelm at these events in autistic people, including myself, even when we are doing things we love.

Doug Blecher, Neurodiverse Culture Festival Event Organizer, with the Wandering Royals, a company that brings princesses to your event or party

That is when I decided I wanted to create something that would put our needs as autistic and neurodivergent people at the forefront of planning so we can access that joy in our local community. I have always enjoyed festivals, but at the same time, they are incredibly overwhelming. I thought, what if I could create a festival that was inclusive and accessible to all people? I clearly couldn't do this alone, so I reached out to trusted community partners, and we created the Neurodiverse Culture Festival that happened this past September.

In the autistic community, there is a popular slogan, "Nothing about us, without us," which was precisely the approach we took regarding the Neurodiverse Culture Festival. We wanted to make sure that the needs of neurodivergent people were identified, so we communicated with approximately 30 neurodivergent people in our community in planning the festival regarding what would make it accessible and inclusive to them, along with what types of activities they would want to be there.

Based on that information, these are some of the accessibility features that were included in the festival:

Accommodate Different Communication Needs

Many neurodivergent people have experienced the anxiety that comes from going out into the community, where anyone can talk to us at any time. This anxiety is a result of not knowing expectations or of past negative experiences in communicating with people you might not know. To reduce this barrier, the Neurodiverse Culture

see Inclusive Festival on page 29

The Power of Sensory Integration: Enhancing Communication for Non-Speaking Individuals

By Corrina Riggs, MA, SLP-CCC
Director of Related Services
The Guild for Human Services

Communication is complex and extends beyond verbal expression. This is especially important to understand in non-speaking individuals. Non-verbal cues such as facial expression, body language, and sensory experiences play crucial roles in conveying and understanding messages. Sensory integration strategies are valuable tools to optimize communication by addressing individuals' sensory needs. The role of sensory processing in shaping our ability to communicate is gaining recognition, with sensory integration strategies emerging as key facilitators. This article explores the profound impact of sensory integration on communication and delves into evidence-based strategies that can be employed to enhance this vital aspect of human interaction.

Understanding Sensory Integration

Sensory integration is a neurological process in the central nervous system that involves receiving sensory information and turning it into functional responses. Successful sensory integration allows a person to feel safe in their environment and maintain an optimal level of arousal and attention by effectively processing and organizing sensory information from the environment. This process is integral to cognitive, emotional, and social functioning, impacting an individual's overall well-being. For individuals with sensory processing challenges, such as those with autism spectrum disorder (ASD), attention deficit hyperactivity disorder (ADHD), or sensory processing disorder (SPD), difficulties in sensory regulation can significantly impact communication.

The Connection Between Sensory Integration and Communication

Emotional Regulation and Social Interaction:

- Individuals with sensory processing difficulties may experience heightened stress, hindering their communication ability (Pfeiffer et al., 2018).
- Effective sensory modulation fosters emotional regulation, creating a conducive environment for nuanced and meaningful communication (Bunse et al., 2019).
- Proper sensory regulation supports emotional regulation, which is crucial for successful social interactions (Engel-Yeger et al., 2016).

Impact on Attention and Focus:

- Sensory regulation influences attention and focus, essential to effective communication (Miller, 2006). When dysregulated, individuals cannot attend to and focus on communication activities.
- Individuals with sensory challenges may struggle to filter out background sensory stimuli, affecting their ability to concentrate on communication partners and activities (Baranek, 2002).

Evidence-Based Sensory Regulation Strategies

see Communication on page 32

Sensory Sensitivities, Accommodations, and Technological Solutions

By Karl Wittig, PE
Advisory Board Chair
Aspies For Social Success (AFSS)

Karl Wittig, PE

Various organizations and venues have recently provided "autism-friendly" and "sensory-friendly" events. This is certainly a welcome trend because it not only addresses an issue that is nearly universal in the autism community but also helps promote autism awareness among the public. Much as these organizations are to be commended for their efforts and certainly deserve the gratitude of the autism community, such events can, at best, accommodate only some of the numerous sensory sensitivities that autistics live with.

These events usually emphasize reduced visual and auditory stimuli (e.g., bright or flashing lights, loud noises, and certain types of sounds, as well as large crowd sizes), but these are only a few of the things that constitute sensory violations for autistics; in particular, they only address two of the five traditional senses (sight, hearing, touch, taste, and smell), not to mention vestibular (balance and motion) and proprioception (body position and movement). It is certainly reasonable to focus on these two senses because, apart from corresponding to the more common and best-known autistic sensitivities, light and sound are the two most pervasive stimuli in that they completely permeate our environment – it is very difficult, if not impossible to avoid them in our daily lives. This is also true of smell, and some events request that those attending not use perfume, cologne, lotions, or deodorants that are scented with strong fragrances. Violations of the other senses can be avoided to a greater degree.

As to the different senses, not to mention potential violations, this recalls two familiar sayings. It is often said within the autism community that "when you've met one person with autism, you've met one person with autism." Also, we have all heard that "you can't please everyone." Both especially apply where autistics and sensory issues are concerned, given the various stimuli individuals are sensitive to. In my case, I was lucky to be spared severe sensitivities of the two common kinds (although there were some in early childhood) but had others that substantially affected my life and that I live with to this day; in particular, I have severe sensory-based eating issues (taste, texture, etc.), as well as clothing sensitivities (tactile): I eat from a children's menu and regard Temple Grandin as a fashion icon (minus the cowboy paraphernalia). Sensory issues were finally included in the diagnostic criteria for ASD in DSM-5, and it has been said that just about every autistic has some sensory issues, obscure though they may sometimes be.

The Need for Accommodation

In many cases, the solution to a sensory violation is eliminating the offending stimulus – some form of accommodation is needed. In some instances, this is easily done; in others, some ingenuity may be required. A good example involves my early childhood sensitivity to bright flashing lights; particularly, I could not tolerate a camera flash. Pictures of me were either taken outdoors, or I closed my eyes or had a very startled facial expression. When taken to a photo studio for a portrait shot, I was so terrified of the camera that it looked like the picture would not be taken. However, once the photographer learned that the flash was the problem, she addressed it by using high-intensity flood lamps and a long exposure time (slow shutter speed and perhaps a higher film speed), eliminating the need for a flash. As a competent photographer, she knew how to do these things. She had encountered this issue before – I was probably not her first undiagnosed autistic subject! This is an excellent illustration of how, with a little cleverness, a serious sensory violation can be eliminated.

In other cases, the participation of a larger community is required. As mentioned earlier, this is done where scents and fragrances are involved, and those in attendance at events where autistics with this sensitivity are present are requested to refrain from using such. Another example is often seen at autism presentations where some individuals are sensitive to the sound of hand clapping. In fact, I had a childhood sensitivity to loud, sudden sounds such as explosions. In these instances, the audience is requested to wave or flap their hands in the air instead of applauding the speaker.

Technology to the Rescue

A few things that presented serious sensory violations to some autistics in the past

see Solutions on page 43

Harnessing the Power of Nature: Outdoor Sensory Activities for Autism Spectrum Disorder

By Andrea Kormanik, OTD, OTR/L, and Alysha Skuthan, PhD, OTR/L, ASDCS
Shenandoah University

Holistic health improves when children spend time playing outdoors (Dankiw et al., 2020; Gill, 2015; McQuay et al., 2020; McCormick, 2017). Children with autism spectrum disorder demonstrate increased world connections outdoors as the natural environment affords more opportunities than a more sterile (i.e., hospital) or clinical environment (Figueroa, 2020). Natural environments improve interest, motivation, and participation in the difficult skills children are attempting to build; thereby promoting children and their families to experience the benefits of nature while meeting developmental and family-centered goals. The physical health, mental health, and social health benefits of nature exploration and suggested activities are described below.

Physical Health Benefits

Children's physical health is affected by exposure to nature (Bonham-Corcoran et al., 2022; Coe et al., 2023; Dankiw et al., 2020; Figueroa, 2020; Gill, 2015; Hammell, 2021; Li et al., 2018; Mygind et al., 2019). The physiological benefits of time spent outdoors include decreased blood pressure and heart rate, improved oxygen saturation, increased physical abilities and fitness levels, improved health choices, and better sleep (Bonham-Corcoran et al., 2022; Firby & Raine, 2023; Mygind et al., 2019). Importantly, nature offers unique opportunities to build the aforementioned skills through both structured and unstructured activities. While outside, children are able to take risks (i.e., jump over obstacles, climb trees, climb up muddy riverbanks, etc.), explore loose objects (i.e., stumps, rocks, fallen branches, etc.), and navigate creeks or other uneven terrains (i.e., sand, mud, fallen leaves, etc.). A beautiful benefit of nature exploration is that there are seasonal changes, allowing children to play in the snow and rain, further increasing opportunities to build strength, endurance, and balance (Figueroa, 2020).

Mental Health Benefits

People who spend time in nature have been found to report improved quality of life, valued hobbies, motivation, and newfound interests (Firby & Raine, 2023). Specifically for children, the mental and emotional benefits of nature include decreased stress, depression, anxiety, pain, fatigue, tension, and fear (Bonham-Corcoran et al., 2022; Kuo et al., 2018; Dopko et al., 2019). Moreover, time spent in nature improves attention, working memory, concentration, confidence, motivation (Kuo et al., 2018), self-esteem, positive self-identity (Bonham-Corcoran et al., 2022), and emotional regulation (Gill, 2015). When specifically examining children with autism spectrum disorder, Bradley and Male (2017) noted improved educational outcomes and enriched labeling and identification of emotions in natural environments. Similarly, Li and colleagues (2018) concluded that children with autism spectrum disorder demonstrated improved educational and therapeutic engagement, experienced genuine happiness, and overall improved interest and engagement while in nature.

see Power of Nature on page 39

Supporting Sensory Diversity: Building Inclusive Classrooms

By Suzanne Rappaport, OT, OTD, OTR
Director of Occupational Therapy
The Guild for Human Services

Traditional classrooms were initially designed in the early 1900s, and some school districts have retained a similar structure. These settings typically involve large groups of children seated, remaining stationary, and primarily learning through listening and reading. Traditional classrooms require mature auditory processing and good visual motor and visual perceptual skills. For those who struggle with the sensory demands of a conventional classroom, focusing and learning becomes a source of frustration, anxiety, and unseen barriers to effective learning (Mullally, 2022).

Establishing Sensory-Friendly Classrooms

Creating a sensory-friendly classroom is essential for supporting students with sensory processing differences, such as autism spectrum disorder or attention disorders (Zulkanain & Mydin, 2019). Here are some effective strategies for establishing a sensory-friendly environment in the classroom:

- **Room Layout:** The classroom should have a variety of areas for both individual and group activities, including spaces that cater to different noise levels, ranging from louder to quieter environments (Nodding, 2017).

- **Flexible Seating Options:** Provide chairs, stools, and floor seating with a variety of textures, heights, and levels of firmness. Also, consider alternative seating options like wiggle cushions, stability balls, or fidget tools to accommodate different sensory preferences (Dickson, 2023).

- **Visual Organization:** Consider the walls to balance quiet space with visually engaging elements (Notbohm & Nomura, 2008). Provide a well-organized environment that could utilize visual schedules, charts, and cues to help students understand and anticipate daily routines. Visual support can include visual timetables, social stories, and visual transition cues.

- **Lighting:** Consider the lighting in the classroom. Natural light is preferable, but if not possible, use soft and adjustable lighting. Avoid flickering or harsh fluorescent lights (Nodding, 2017).

- **Quiet Spaces:** Designate quiet corners or sensory-friendly rooms where students can retreat when overwhelmed. Equip these spaces with soft lighting, comfortable seating, and sensory tools (Dickson, 2023).

- **Noise Control:** Implement noise reduction strategies such as using noise-canceling headphones, earplugs, or providing quiet spaces to minimize auditory distractions (Dickson, 2023).

- **Sensory Breaks:** Incorporate regular sensory breaks into the daily schedule, allowing students to engage in activities that help regulate their sensory systems, such as stretching, deep pressure activities, or sensory-friendly equipment (du Preez & Combrinck, 2022).

- **Structured Routines:** Establish predictable routines to provide a sense of security for students. Consistency and predictability can be comforting for those with sensory sensitivities (du Preez & Combrinck, 2022).

After evaluating the general classroom environment, including curriculum activities and hands-on materials that can be incorporated into the school day to assist

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New Therapeutic Puppet Aids in Tele-Delivered Autism Therapy

By Devon Kerr

A talking blue stuffed toy is not what comes to mind when most people think of an autism therapist. However, as therapy has found itself transformed in the last several years with the pandemic and rise of telehealth options, a therapist now can come in all shapes and sizes - including, in this case, as a two-foot-tall toy with a bright digital animated face. This particular stuffed animal contains a tablet outfitted with the recently launched telehealth app PeerBOTs, a social robot puppet app designed to support tele-delivered therapy for children with Autism Spectrum Disorders (ASDs). The app was developed by Fine Art Miracles in partnership with the Autism Science Foundation (ASF), a not-for-profit organization dedicated to funding autism research.

Children engaging with the Peerbots robot

"During the pandemic we recognized the need to improve tele-delivered therapy" said Dr. Alycia Halladay, Chief Science Officer at the ASF. "Having an extension of the therapist in the room via a beloved doll or toy with the child increases the chance of the child engaging with the material, thus improving their outcome."

PeerBOTs functions as a remote-controlled digital puppet. Devices including phones, tablets, or computers can be outfitted with the PeerBOTs app and used to communicate with the children through a friendly animated cartoon face. The device sits in the room with the child receiving therapy, but is controlled remotely by the therapist. The open-source app is completely free and is available to download on the iOS App Store, Android Google Play App Store, as well as Windows and Linux systems. There's additionally a user guide included on the app once downloaded.

"It has become increasingly common for therapists to be in a different location from those receiving therapy," said John Choi, Lead Developer of PeerBOTs and a Research Engineer at Carnegie Mellon University. "Social robots have a proven potential to impart social and educational skills to students with varying abilities.

"PeerBOTs has the components to be an engaging and customizable resource to support the teaching and practice of communication and social goals within and outside of therapy sessions," says Allison Nahmias, a Clinical Assistant Professor at Drexel University. "I'm confident that PeerBOTs will be a valuable, practical tool for providers working with children with social communication challenges, including autism."

The app has been in development for seven years by Fine Art Miracles, a Pittsburgh-based service nonprofit that promotes the benefits of creative expression and social robotics. After finding success in small trials, the project was awarded a grant in 2020 by ASF to adapt it for children with ASD.

"PeerBOTs has successfully been used in schools, universities, and individual families' homes to deliver positive outcomes to hundreds of people over the past several years of testing," says Choi. "We already consider the app to be a huge success and are excited to see how it continues to improve as the technology matures and the usage grows."

Cruising Tips for a Fun Autism Friendly Family Vacation

By Mary Ann Hughes, MBA
Special Needs Certified Divorce Coach
Special Family Transitions LLC

Do you wish you could go on a family vacation but think it's too hard to manage with a child on the autism spectrum? With proper planning, a cruise vacation can be a great way to combine fun and predictability for all involved.

As a mom of children on the spectrum, for a long time, I was apprehensive about taking my kids on trips due to the planning required and the uncertainty of how they would do in different situations and environments. I hesitated to try a vacation at sea, but now cruises are our favorite type of vacation.

Why choose a cruise instead of another type of vacation? Logistically, cruises can be much simpler. Rather than spend a lot of time booking hotels, finding attractions and restaurants that appeal to different family members, and dealing with airport or traffic hassles, if you live near a cruise port, you can easily board a cruise ship and reduce your itinerary and vacation planning stress.

Cruising with Autism:
Planning Tips and Strategies

There are many things you can do to make things run smoother before and during your cruise to help your autistic child and your entire family have a more pleasant experience.

First, plan as much as you can. Find a cabin that will meet your needs and provide as much comfort as possible within your budget. Even though you will be out and about on the ship and when in port, you and your child may need breaks throughout the day. When you are in your cabin, you will want to be comfortable. Balcony rooms are a must for my family since we enjoy quiet time, vistas, and the sounds of the sea, as well as the experience and views of pulling in and out of ports. Having a balcony and a view makes the room seem bigger and less confining.

Regarding cabin location, choosing one more "mid-ship" may have less motion for those concerned about seasickness. Also, selecting a cabin on a quiet floor with just cabins and not a pool, dining area, or busy thoroughfare is a good idea to minimize traffic and noise when resting or if commotion tends to upset your child.

On the topic of noise, ear protection headphones are a must. When common areas do get loud, headphones help with auditory/sensory sensitivities and overwhelm.

When first booking the cruise, be sure you or your travel agent reach out to the cruise line to let them know about the passenger(s) who may have special needs. This will allow you to stand in a shorter line when going through security and check-in and to request a wheelchair if needed for a faster, less stressful experience in the terminal and boarding.

It's also a good idea to select an early boarding time to avoid the rush and stress of your family or others running late. Arriving early will give you extra time to explore the ship leisurely and have lunch before it gets too crowded. If you checked in your luggage, it's a good idea to bring a backpack with sensory toys, medications, and necessary items until your luggage is delivered to your cabin. Most everyone wears their cruise card (acts as key and ID) on a lanyard, so either bring one you will enjoy wearing and will look good in photos, or you can buy one on the ship.

If you're not sure how your child will do on a cruise, it's a good idea to start with a shorter cruise rather than one that is seven days or longer. To prepare your child for the idea and expectations of a cruise, developing a personalized social story is a helpful way to get the child excited about and familiar with the ship's layout, ports, attractions, food options, etc. Be sure to include the itinerary (with arrival and departure times for each port and the days at

see Cruising Tips on page 31

Sensory-Friendly Hospital Experiences for Children with Autism

By Elise Huntley, MA, CCLS,
Child Life Specialist,
and Sean Antosh, MD,
Pediatric Anesthesiologist
Dayton Children's Hospital

Going to the hospital is typically accompanied by fear and stress, which is never easy for any family. For parents of children with autism, it can be even more overwhelming to think about going to the doctor's office or the hospital. 95% of children with autism also have sensory processing differences (Kranowitz, 2022), and the hospital is filled with novel sensory experiences. Visually, there are bright lights, unfamiliar people, and intimidating machines. There are sounds of babies crying and monitors beeping. The room smells of sterile cleaning wipes and people's perfumes. The medicine often tastes bitter, and the food in the cafeteria is unfamiliar to your child and not what they're used to eating. The blankets might be thin and rough, and everything seems to be attached with sticky tape. If your children have sensory processing differences with their vestibular, proprioceptive, or interoceptive senses, they may feel uncomfortable sitting on the bed as it is wheeled down the hallway quickly, or maybe they don't recognize the sensation of needing to use the bathroom when the nurse is waiting on a urine sample. On top of all these potentially stressful sensory experiences, there may be communication challenges between your child and health care providers, and there will likely be a lot of waiting time and multiple transitions (Muskat et al., 2014). These factors may make you dread taking your child to doctor visits or the hospital setting.

Beds can be removed from the sensory room to create a space of exploration for our sensory seeking patients

As health care providers, we know that it's not easy coming to the hospital, which is why Dayton Children's Hospital prioritizes making adaptations to care to help children with autism come through our hospital doors. One of the key areas of our support is creating individualized coping plans with caregivers. The role of parents is critical for the successful care of children with autism in the hospital setting (Muskat et al., 2014). Families report that having a behavioral care plan for their child normalizes the experience, promotes safety, and creates a better hospital experience (Liddle et al., 2018; Winterberg et al., 2022; Broder-Finger et al., 2016). Children with autism were found to experience fewer challenges with anxiety and coping when they have adaptive care plans (Liddle & Sonnentag, 2020). Our organization's team of certified child life specialists contacts families before appointments to discuss how their child does in the hospital setting and how staff can make visits as easy as possible. Child life specialists are a standard of care in our surgery department, medical imaging department, and ophthalmology clinic that contact families before an appointment to learn about a patient's triggers, communication methods, interests, and sensory sensitives. While used during a child's appointment, the information is available in the patient's chart for unexpected admissions or emergency department visits.

The other intervention is sensory rooms in our pre-op unit and lab, along with portable items used to create an adaptive sensory environment anywhere in our hospital. Sensory adaptive environments are often used in the dental setting to support positive coping and reduce pain and sensory discomfort, allowing for successful outcomes during dental visits (Shapiro et al., 2009; Cermak et al., 2015; Fallea et al.,

see Hospital on page 41

Setting Students Up for Success: Balancing Sensory Needs in the Classroom

By Katie Schaefer, MEd BCBA, COBA,
and Jason Wojnicz, MEd
Frazier Behavioral Health

Sensory considerations play a key role in developing a classroom environment conducive to learning. When classrooms are arranged with sensory needs in mind, teachers will often see increased levels of social participation and task engagement. Some students face challenges finding their voice in a typical classroom because of various environmental stressors, which is why classrooms must be built to meet the needs of all learners. While academic needs are important, sensory and body awareness are often just as crucial. Academic and social growth can blossom when students are regulated and feel at peace in their environment. Sensory accommodations are not a one-size-fits-all approach. Each child reacts and responds differently to external stimuli.

Schools are busy environments that are noisy and disorienting to some students. The activity of students transitioning in the halls, bells signaling class change, harsh lighting, and lockers clanking all contribute to a potentially overstimulating environment for many learners. Teachers often add to the disorder without even realizing it. Many themed classroom decorations or cluttered spaces can make it difficult for students to focus and self-regulate. When planning for the flow of a class, teachers can support their students by keeping these key questions in mind:

- How can I increase sustained attention?
- Can I move away from the traditional desk/chair seating arrangements?
- How can I make the classroom quieter?
- How do I engage my students who find it difficult to cope with excessive noise or changes in routine?

Teachers are challenged to address the needs of the many types of students in their classrooms. For example, students might struggle with anxiety, attention deficits, and changes in routines, but through accommodations and modifications, the environment can meet the needs of all students. There are numerous opportunities for students to learn together and from one another. Teachers can create a community within their classroom when they consider all their students' needs. The first step is to embrace the uniqueness of each student fully. When teachers lead by example, students will foster respect and admiration for their classmates.

When sensory needs are not met, students may engage in behaviors that teachers view as disruptive or even defiant. However, it is important to remember that all behaviors serve as communication and that every behavior students engage in has a reason. Teachers can arrange the classroom environment to help all students succeed by better understanding the four functions of behavior:

1. Sensory (automatic)
2. Escape
3. Attention
4. Tangible

Many behaviors that students demonstrate in the classroom serve an automatic function, meaning that they engage in a

see Student Success on page 43

NECC Interview from page 8

Another strategy that has helped is increased recruitment overseas. We have a number of staff that have joined us from our programs in the United Arab Emirates and from around the world, and they are bringing new experiences and perspectives to our work. It's been terrific.

Tactics that all schools could consider include investing in inclusive leadership training for junior and senior staff, supporting employee resource groups, and providing ample community-building activities. I feel there is a greater societal need for an emphasis on wellness, and we are constantly enhancing our Employee Assistance Program and benefits packages to help meet that need.

David: NECC's international schools are quite unique. Could you share the story behind their establishment and how they contribute to NECC's mission and impact?

Jessica: NECC has been working with children with autism in Abu Dhabi and the Middle East for more than 25 years. We originally started consulting to families in the United Arab Emirates and established ourselves as experts in autism education and services. In 2006, we were invited to open a school as part of Abu Dhabi's initiative to bring world-class healthcare and cultural institutions to Abu Dhabi. Our first classroom opened in 2007, and we moved into the current school building that was built to replicate our school in Southborough, in 2013. Five years later, the school was renamed *the Mohammed bin Rashid Center for Special Education operated by The New England Center for Children*, which now serves 262 children.

We further expanded our services in Gulf Cooperation Council countries with the opening of the Allied Health Clinic in Dubai, a pediatric specialty clinic that provides one-on-one or group therapy services for a variety of diagnoses and severity levels.

In addition, our Global Consulting has served more than 300 students through its consultative services and work in Abu Dhabi, Dubai, and Qatar. These clinics and community-based services provide applied behavior analysis (ABA), occupational therapy and speech and language services to children and their families. We have helped students with autism in Kuwait City, Kuwait; Gurgaon, India; Riyadh and Dammam in Saudi Arabia; and in Brazil, Australia, Italy, England, and Canada.

Our mission is not only to help children with autism today, but to prepare teachers and behavior analysts to help exponentially more children for years to come. Being recognized as a leader in the field here and around the world means we are frequently called on to share our expertise widely. It's a call we will always answer.

In 2015, we received the Award for International Dissemination of Behavior Analysis from the Society for the Advancement of Behavior Analysis (SABA), the peer academic organization of applied behavior analysis. The highly respected award is given to a person or organization demonstrating a significant and sustained contribution to the dissemination and development of ABA outside of the United States.

David: Technology plays an important role at NECC. Regarding the dissemination of best practices, the ACE ABA Software System seems like an innovative tool for reaching teachers and students everywhere. Please tell us about ACE and its role at NECC.

Jessica: With our focus on maximizing independence for our students, technology plays an important role. Many students use augmentative and alternative communication (AAC) devices to help them communicate their thoughts and needs. Students also use devices for following instructions or "steps" on tasks. This is especially relevant to vocational training.

Technology in our classrooms includes SMART boards where teaching can be interactive. Additional programming from Mystery Science online curriculum to IXL math and reading programs further learning with today's students who have been exposed to technology their whole lives.

Our most important technological advantage brings NECC's best practices beyond our classroom walls to practitioners everywhere. We compiled the curriculum we were successfully using with our students and developed a patented, cloud-based software platform (Autism Curriculum Encyclopedia®, or ACE® ABA Software System). We made it commercially available for educators and BCBAs who teach learners with autism wherever they live.

ACE offers the full range of NECC curriculum and experience. The software includes skills assessments, lesson plans, over 2,200 skills, a data collection module, and reporting features to illustrate and evaluate student progress.

With more than 13,000 learners in 32 states and 10 countries benefiting from ACE, the system allows clients to create the best ABA program that fits their needs. Our own research is added into ACE in real time, resulting in an ever-improving comprehensive educational tool for those serving learners with autism.

David: I visited and toured NECC a few years ago and was really impressed by the extensive research activities taking place. Can you provide some insight into the role that research plays at NECC?

Jessica: Research is in our DNA; it's how we started in 1975, seeking to understand how children with autism best learn. Today research remains a cornerstone of all that we do. All of our educational approaches, our curricula, and our therapeutic interventions and supports are informed by research. We have several staff whose sole job responsibility is dedicated to research, as well as many senior clinicians that have active lines of research. These researchers and clinicians also supervise graduate students and junior colleagues on ongoing research projects. They identify challenges they see in current students and design studies to improve efficacy of the teaching method.

Ultimately, the results of those research projects, as well as ongoing research shared by other behavior analysts, are incorporated into our practice and the ACE® ABA Software System – so that our educational and clinical practices are always being refined and informed by that research.

Our clinicians and researchers also share this knowledge through publication; we have published more than 300 papers in peer-reviewed journals and given 2,571 presentations at international conferences in 20 different countries. The Society for Advancement of Behavior Analysis (SABA) recognized NECC for Enduring Programmatic Contributions in Behavior Analysis in 2005, and again in 2017 with the award for International Dissemination of Behavior Analysis.

David: You recently wrote an article for Autism Spectrum News titled "How to Overcome Dental Health Challenges for Children with Autism," where you discussed NECC's innovative in-house dental clinic. I would love to hear more about this initiative and the impact it has had on the children and families you serve.

Jessica: Yes, we are absolutely thrilled to have recently opened our in-house dental clinic**.** Dental care can be especially challenging for individuals with autism – the sights, sounds, smells, and sensations produced by dental care can be frightening and uncomfortable, and many individuals with autism have trouble tolerating dental visits. In addition, finding a practitioner who is familiar with the population and suitable accommodation can be difficult.

Earlier in my career at NECC, I helped supervise a research study that broke down a dental visit into smaller and more manageable steps, and we showed a way to desensitize a student with autism to a dental exam with this approach. Our students were much more successful after treatment, but the challenge was that we would still have to transport our residential students to a hospital in Boston for dental care.

Having the dental clinic in-house allows students to practice visiting the dentist before an appointment, which makes a tremendous difference. In addition, having a provider familiar with our students and who knows how to best support them has increased their success during appointments. And practically, having the clinic on-site means that less time and resources are committed to traveling to appointments. Instead, students can pop downstairs, have their dental appointment, and return to the classroom to re-engage in learning. It's been amazing.

We are so grateful to Supersmile® and the New England Dental Group for this opportunity that has truly been a game-changer for our students and staff.

David: To conclude our discussion, I would be interested to know your opinion on the greatest challenges autism service providers are facing today and the most effective ways to address them.

Jessica: Our biggest challenge - and this is true for most autism service providers - is finding mission-driven professionals to fill direct care positions. The workforce shortage that emerged in the last three years has hit education and behavioral healthcare very hard. Nonprofit service providers cannot compete with for-profit companies dangling remote opportunities, flexibility, and seemingly unlimited compensation. This field is not easy and certainly not glamorous.

That said, at NECC, we are finding creative ways to incentivize staff, encourage referrals, and offer more flexibility with scheduling. But we also believe that the intangible benefits of working with children with special needs provide great joy and fulfillment every day.

Creating a positive, supportive, and engaging workplace is key to retaining employees. The training and professional development programs I mentioned earlier are vital. I believe that staff development will not only make our program stronger but help to contribute to the greater autism community with well-informed, experienced, and thoughtful professionals.

I've also noticed the detrimental effects on quality care that private equity investors bring in their roll-up acquisition strategy. This is another challenge we face. We've seen the negative effects of these business practices in the bankruptcies and sudden closures of many schools, which negatively impact the reputation of our industry.

Finally, all providers struggle with local, state, and federal funding for special education. As an industry we must continue educating and lobbying our governments to raise awareness and funds for our important and life-impacting work.

For more information about The New England Center for Children, please visit www.necc.org or call 508-481-1015.

The New England Center for Children's in-house dental clinic

Monica Carr, PhD, Joins Autism Spectrum News Editorial Board

By Staff Writer
Autism Spectrum News

Mental Health News Education, the nonprofit organization that publishes Autism Spectrum News, is proud to announce that Monica Carr, PhD, a Research Fellow at The University of Melbourne, Australia, and a Research Associate at The University of Waikato, New Zealand, has become the newest member of the ASN Editorial Board.

Dr. Carr currently serves as a Consulting Editor for Preventing School Failure, USA, and is a member of the Board of Directors (Academics) at Genesis School for Special Education in Singapore. Monica completed her doctoral training in evidence-based best practice for individuals diagnosed with autism spectrum disorder. While her thesis addressed the identification of behavioural interventions to support independent functioning, she also drew heavily on her background in mathematics and statistics to explore the technical aspects of calculating strength of treatment effect. Monica's ongoing research interest lies in identifying and disseminating scientifically backed support strategies and technologies, and she is involved in research collaborations in Australia, New Zealand, Ghana, and the USA.

Monica is an experienced project leader and team player who embraces new technologies and organizational change. She has conducted single-case design research using the KneoWorld platform of serious games in special education classrooms and provided forward-thinking and meaningful interpretations of results to key corporate executives. Monica continues to act as a special advisor while the product continues to evolve and deploy widely across New York, Florida, and select educational markets globally.

Monica frequently publishes in leading international neuropsychological and educational journals. Her work has been named amongst the top 20 most read publications in her field, and several of her papers have been listed on the national database of the Autistic Society in the UK. She regularly presents her research at autism and mathematical conferences around the globe and is an active member of autism societies in the USA, Europe, and the Asia-Pacific region.

David Minot, Executive Director of MHNE and Publisher of Autism Spectrum News, stated, "Monica has been publishing articles with Autism Spectrum News since 2015 and brings a wealth of experience in research collaborations, technology integration, and international outreach. I look forward to working with Monica in her new role as we continue on our mission of providing a trusted source of science-based information, education, and advocacy for the autism community."

To view the full listing of the Autism Spectrum News Editorial Board, click here.

Monica Carr, PhD

Five Comfort Tools to Empower Your Driving

By Andrew Arboe
Autistic Self-Advocate
and Public Speaker

When driving a vehicle, sensory issues are important considerations for autistic people. Driving uses almost every sense in the body, like sight, smell, and sound, and all these senses are processed simultaneously, every time you get behind the wheel of a car. If you're not able to process specific senses, that sensory issue could become a dangerous barrier to driving.

Comfort tools (tools that help address sensory needs) can address specific sensory issues and help ease issues when driving. Here are five comfort tool driving tips that have worked for me.

1. Music

Music can be a powerful comfort tool during driving. Research indicates that music, when self-chosen, can improve focus and decrease mind-wandering during tasks that require constant attention. Personally, once my favorite music is playing when I drive, I become hyper-focused, which enhances my driving. While my taste in music ranges from video game songs to Al Jolson and classic Hollywood movie scores, everyone's taste varies. As long as you're listening to the songs you prefer, you can increase your driving focus and experience. Please note that beginner and inexperienced drivers may find music to be more of a distraction than an aid.

2. Clothing

Comfortable clothing may also help during drives, especially if you have sensory issues with certain fabrics or tags. Wearing clothes that are comfortable can help cut down on sensory distraction and let you pay more attention to the road.

If there is a favorite piece of clothing that you own, wearing it while you drive may also help you feel confident and comfortable when you're behind the wheel. For example, I have a favorite shawl I like to wear when I go on any major trips, such as a conference or tour. It helps me feel self-assured and relaxed, which makes me a better driver. The next time you're heading out to your car, try grabbing that item of clothing you love and see if it helps.

3. Sensory Toys

The main reason for having a sensory toy in your car is for familiarity and comfort. Touching your favorite sensory toy when it's safe to do so can help you self-regulate if you're getting overstimulated. For me, I keep a Pokémon plushie hanging on my rearview mirror. I like to touch it to help keep me calm during traffic stops before the light turns green.

4. Mounted GPS

Having a mounted GPS in your car can be helpful and make your trips easier to manage. Mounts are especially useful since you do not need to move your eyes or head that much to get a quick glance. That leaves all your focus on driving itself. Please always drive safely and limit the use of other devices until after driving.

5. A Favorite Drink

Even mild dehydration can worsen reaction time and concentration, so staying hydrated is important when you're driving. A favorite drink can also help you find comfort when you're on a trip. Personally, cold coffee energizes me and calms my mind, but if caffeine gives you anxiety or other unpleasant sensations, you might consider water, decaffeinated tea, or something similar instead.

Overall, finding comfort tools can help you fulfill or regulate your sensory needs so you can drive safely the way you want to. What works for me may not work for you, and that's okay. The cool thing about comfort tools is that there are boundless possibilities for finding the right items for you, and when you do, you can drive anywhere.

Andrew Arboe is a self-advocate currently employed at FOCUS Center for Autism. To contact him, email arboea@gmail.com. For more information about Andrew, please visit andrewarboe.weebly.com.

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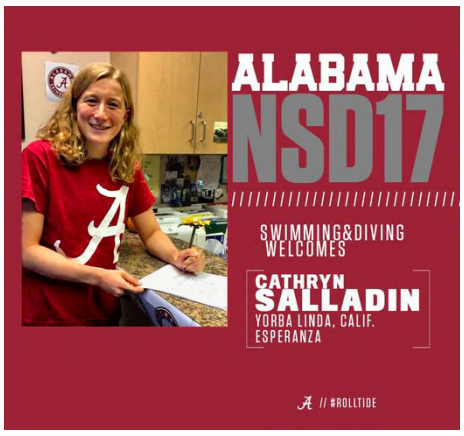
for being inconsistent, for "getting fat," or "not caring enough," and the more dangerous my beloved sport became. I didn't realize it at the time, but I was responding out of trauma.

Just like countless other autistics assigned female at birth (AFAB), I was diagnosed with a whole slew of mental health conditions by the time I was 12. I was told I had panic disorder, ADHD, Major Depressive Disorder (MDD), and Generalized Anxiety Disorder. By 16, they'd tagged on "treatment resistant" to the MDD, and by 20, they'd added suspected Bipolar Disorder and Borderline Personality Disorder. Not only did I collect diagnoses like Pokémon, but I was prescribed (and unprescribed) countless different medications, treatments, and therapies. From Zoloft to Strattera, from Transcranial Magnetic Stimulation to Neurofeedback, and from Cognitive Behavioral Therapy to Brain Spotting. If it's a treatment for mental health conditions, I've likely tried it.

After I made the team, after the World Championships, after a shoulder injury, after surgery, after severe Overtraining Syndrome…practice went from the best part of my day to the worst. But, at the time, I did not have the language, knowledge, or insight to understand why. Why couldn't I just be like other athletes who seemed to relish in their success and who kept achieving more and more?

As soon as I began my career as an NCAA athlete, the little control I had left over the day-to-day aspects of my training was stripped from me. I wasn't allowed to decide if I was "sick enough" to miss practice. When I was at my lowest, sleeping less than two hours each night, I was still expected to train. Even my suicide attempt



Announcing Cathryn Salladin to the 2017 University of Alabama Swimming and Diving Team

was not seen as a valid excuse to miss practice and that very night, I was told, "See you tomorrow." Although I transferred schools in hopes of a better environment, more autonomy, and genuine respect — all things that were promised to me when I committed to the school — the culture of the NCAA still pervaded.

Long COVID ultimately ended my career in 2021, but as I was essentially "owned" by my coach and the university, swimming no longer felt safe; it felt dangerous.

Nothing has ever relieved the crushing symptoms I've experienced or seemed to fully fit *any* of the conditions I'd been diagnosed with. That is until I began doing my own research in 2022. Furiously and incessantly, I read and watched anything I could find about autism and ADHD (dubbed, as I found out, "AuDHD"). I was dumbfounded when I came to understand that I was right: I didn't really fit the criteria for most of those other conditions! When I discovered my autism and discussed it with my providers, everything changed. Now, I have an explanation for why I am the way I am, and it has absolutely changed my life.

As I've come to understand my AuDHD brain and my tendency towards Pathological Demand Avoidance (PDA), it makes sense that I look back on making the national team as the first crack in my now-fragmented love for swimming. Now, I can understand that it was traumatic to lose the only sense of autonomy I'd ever known. For many autistic people, PDA spawns from a place of trauma, whether it be through our parents, society, or our own apparent lack of control over how we feel. Just growing up autistic can result in our brains and bodies perceiving any kind of demand as a threat to our autonomy and our safety.

In the last few months of my career, when my gut knew it was time to retire but my heart couldn't let go, I would have flashes of memories from a time when swimming was mine. I would notice the bubbles dancing alongside my body or the sounds of my teammates splashing around me, and I would remember being a sea creature — a sea creature who wasn't afraid of swimming. The tears that filled my goggles at those memories were out of grief, not just for the end of my career but for everything I lost during those last five years. As I learn more about myself and the role swimming played for me as an undiagnosed neurodivergent kid, the more painful and deeper my grief becomes. I didn't just lose the sport of swimming. I didn't just lose my drive for success, my teammates' camaraderie, or my athletic identity. I lost what gave me autonomy, my deepest special interest, my source of confidence, and the only thing that made me feel that being "an aquatic alien" might be ok. If you swim fast, no one cares if you're weird.

November 1st marked the anniversary of my retirement, and it still feels like I've barely scratched the surface of healing. Even though I avoided anything athletic for months, I still tear up when exercising because my body hasn't forgotten the dysregulated, panicked state it lived in for years. I know that it is going to be a long road to healing my relationship with swimming and exercise, in general. But it is one that I intend to pursue and see through as long as I am able. Swimming gave me so much joy, purpose, and love for so many years.

I genuinely believe in a future where swimming becomes an integral part of my life once more. I see myself, perhaps months or years from now, holding my breath, diving in, and feeling alive once more. When I feel the overwhelming grief of all that I have lost — my success, my passion, my sense of self — I also have to remind myself of all that I have learned about myself through swimming. There is a facet of hope in all my layers of mourning, a deep knowing that the water is my home, and I will return to it once more. In my mind, I see someone who is older, wiser, and safer, slowly stroking through a lake or an ocean, the fog enveloping them like a blanket of peace. I see someone who is in love with the simple act of swimming once more.

I see my future self.

I see the sea creature.

Cathryn Salladin is a former US National Swim Team Member and current Social Worker and Therapist. She was diagnosed on the spectrum in 2022.

This article has been reprinted with permission. You may view the original article, published on November 28th, 2023, at www.neurodiversitypress.com/2023/11/28/ill-always-be-a-sea-creature.

Tools and Resources from page 14

toys that offer various pitches and sounds to stimulate the child.

Signs of hypersensitivity to auditory input include the child presenting as anxious or upset or covers their ears when loud, high-pitched tones are heard, such as a pencil sharpener in the classroom, a siren from a passing fire truck, or a fire alarm.

Regulation strategies:

- Encourage the child to listen to calming music/nature sounds as a break.
- Utilize a "quiet corner."
- Provide the child with noise-canceling headphones.

Hearing is a key component of socialization and language. Though adults should follow the child's lead and utilize the auditory modifications listed above when needed, they should also encourage a child to engage in different sound and conversational environments to further develop their social reciprocity.

Conclusion

Implementing the sensory modifications above into a child's routine is a great way to support sensory functioning; however, additional steps should be taken. It is important to always refer to your child's occupational therapist before adapting new sensory modifications to ensure that the listed suggestions above enrich sensory development. Additionally, there are resources for caregivers to help further navigate sensory regulation. "Raising a Sensory Smart Child: The Definitive Handbook for Helping Your Child with Sensory Processing Issues" by Lindsey Biel and Nancy Peske is a book that details how to support a child with sensory dysregulation. The book's website also has a thorough review of sensory processing tips and activities, along with journal articles and podcasts.

AHRC/New York City was founded by parents of children with disabilities 75 years ago when support and services were unavailable to meet their children's needs. Today, AHRC/NYC is the largest organization supporting children and adults with intellectual and developmental disabilities in New York State.

The goal of all AHRC/NYC schools is for students to be well-prepared and able to live the most productive, worthwhile, and independent lives possible. AHRC/NNYC's Early Learning Centers and School-Age Programs offer various services and supports for students with disabilities and developmental delays, including services for students with autism, ages 3 to 21, to families living in New York City.

Samantha Weinstein, MSOT, OTR/L, is an Occupational Therapist who works with children from ages 11-22 years old on the autistic spectrum at AHRC Middle/High School. Samantha has been practicing occupational therapy for two years after graduating from Columbia University's Occupational Therapy Program in February 2022.

Elizabeth Fox, MSOT, OTR/L, is an Occupational Therapist at AHRC James P. Murphy Staten Island Preparatory School, working with children ages 5-12. Elizabeth has been an Occupational Therapist at the school since it opened its doors to serve the Staten Island community in 2020. Elizabeth works with children displaying a variety of unique strengths and challenges, many of whom are diagnosed with autism spectrum disorder.

Footnotes

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NYU Libraries Opens Low-Sensory Room for Neurodiverse Students and Others Who Benefit From a Calming Environment

By New York University Division of Libraries

NYU Libraries has opened a low-sensory space on the first floor of Bobst Library, providing students who are neurodiverse with a dedicated room to support their academic success.

With the new space, and two more study rooms scheduled to open on the 9th floor in the spring of 2024, Bobst becomes one of only a handful of academic libraries to offer specially designed places for students who identify as having acute sensory needs.

A collaboration with NYU's Moses Center for Student Accessibility and NYU's Disability, Inclusion, and Accessibility Provostial Working Group, the first-floor room is outfitted with a sensory pod, high-backed chairs and table desks, bean-bag pillows, yoga mats for floor seating, adjustable lighting, and noise-canceling wall paneling. It can accommodate about 12-14 students at one time.

The rooms are tailored for library users who identify as being on the autism spectrum, who have ADHD or otherwise identify as neurodivergent, and those who have a mental health disability, such as Post Traumatic Stress Disorder or anxiety.

Planning for the low-sensory spaces began in 2019, when a graduate student in NYU's Occupational Therapy program approached NYU Libraries about the benefits of dedicated rooms for neurodiverse students, explains Lauren Kehoe, Accessibility and Accommodations Librarian.

The number of students enrolled in the Moses Center's Connections Program who identify as neurodiverse has increased 45 percent in the last three years, according to the center, which works with students to determine and implement accommodations and to connect them with programs and resources. One of its programs, Connections, aims to support neurodiverse students by providing individual and group services and by promoting a culture of acceptance and belonging.

Bobst Library has opened a study space designed to meet the needs of neurodiverse students and others. Photo by Tracey Friedman.

"The need for the space has grown due to the enrollment of more neurodiverse students in higher education and as a result of societal shifts to more openly discuss mental health and wellness across university campuses," Kehoe says. "Since this first introduction, the Libraries has worked towards opening a unique academic space for the sole purpose of reducing stress and anxiety and to provide accessibility features so that neurodiverse students are able to customize their sensory needs."

Similar rooms have opened in public libraries around the country, according to the American Libraries Association.

"We are so pleased to lead the charge to make academic libraries more inclusive and welcoming to all users. We are thrilled to welcome neurodivergent students into our new sensory space - and to help facilitate equal access to the resources and support services they need to thrive at NYU," says Austin Booth, Dean of the Division of Libraries.

The Libraries will facilitate the use of the first-floor space, with input and support from the Moses Center. (Students in the Moses Center's Connection Program will automatically have access, based on availability, but any eligible student can request access from NYU Libraries directly.) The opening of two additional spaces in the spring is expected to expand access, library officials note.

The sensory rooms were developed with funding from the New York State Serving Students with Disabilities in Postsecondary Schools grant program and with help from the Moses Center for Student Accessibility, the Occupational Therapy program at NYU's Steinhardt School of Culture, Education, and Human Development, the NYU Ability Project, and the Disability, Inclusion, and Accessibility Provostial Working Group.

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The NYU Division of Libraries comprises five libraries in Manhattan, one in Brooklyn, and one each at its Abu Dhabi and Shanghai campuses. Its flagship, the Elmer Holmes Bobst Library on Washington Square, received 3 million visits last year. The Libraries' online catalog provides access to a world of content, such as millions of book volumes, e-books, serial titles, oral histories, and documents from more than 43,000 linear feet of archives. For more information about the NYU Libraries, please visit http://library.nyu.edu.

Inclusive Festival from page 21

Festival created a set of interchangeable communication stickers to specify communication preferences. In addition to these stickers, we also had ASL and Spanish language interpreters by request for anyone who needed one.

Accommodate Different Sensory Needs

I am grateful when there is a sensory space at an event. It means at least some thought is given to accommodate those with different sensory needs. However, one space can't accommodate the different needs of all people who may attend an event. That was why we created different types of sensory spaces at the festival. We worked with a local county board that had a mobile sensory van at the event. Some people need lots of movement to reduce their sensory overwhelm, so we also had a self-guided sensory loop so people could get that type of input. Some of us needed an extended distraction to get our minds off the overwhelm we were dealing with, so we had an art space with activities that people could engage in at the festival. We further understand that one of the most overwhelming parts of a festival is that the activities and spaces can be so crowded. We made a concerted effort to spread out the activities at our festival to reduce this likelihood.

Adult Changing Station

The festival took place here in Ohio, and 4% of Ohioans can't access public restrooms due to there not being a height-adjustable changing table in these spaces for their continence care. That is undoubtedly a huge barrier to accessing festivals and other community events. We worked with a local county board of developmental disabilities that provided a portable and accessible changing table so those who needed this support could access it at the Neurodiverse Culture Festival.

When you meet one autistic person, you have met one autistic person. However, we have a lot in common, and for the festival, we tried to include some of the things we love at the event. This included a drag show performance, a rock band, and a musical. These performances were composed almost exclusively of neurodivergent people. As a community, we also love animals, so we brought in a guide dog and an owl. We also had discussions on medical marijuana, a simulated forest habitat inside a 38-foot vehicle, an opportunity to view your DNA, a drum circle, and much more.

I didn't know what to expect. Would anyone show up? Would we get sponsors to cover the cost of the event? Would people enjoy the experience and feel like this was a safe, accessible, and inclusive environment? However, by any measure, this event was a massive success. This has spurred us on to bring the Neurodiverse Festival back in 2024. We will take the lessons we learned from this event and make next year's festival even better.

The most important thing that came out of the Neurodiverse Culture Festival is that this was evidence that we, as neurodivergent people, can imagine and create a world we want to live in. Any event can do the same if it prioritizes accessibility and inclusion.

To learn more about Autism Personal Coach, visit www.autismpersonalcoach.com or email doug.blecher@autismpersonalcoach.com with any questions.

Rockability, an all-neurodivergent rock band performing at this year's festival

Dental Care from page 1

Many families find that patients with ASD have difficulty with oral hygiene at home and seek out a dentist once it is apparent the patient has cavities.

"Patients with autism spectrum disorder may have heightened sensitivity to sensory stimuli, which can make routine dental procedures challenging," said Dr. Jayni Bradley, a pediatric dentist based in Watkinsville with years of experience treating patients with ASD. "I enjoy the challenges. It seems to come naturally to me since I grew up observing how my mom interacted with her special needs brother. Every person is so different, and their care needs to be customized for them. We take extra time to evaluate a patient and plan accordingly. Many times, extra time and patience are all that's needed. Our goal is to take care of the disease in a calm, compassionate manner. There are times when the use of a dental anesthesiologist is needed to allow the child to tolerate multiple procedures without being traumatized." Communication difficulties are another major challenge for patients with ASD. Patients with ASD may have difficulty communicating their needs and understanding instructions from dental staff. This can make it hard for dental providers to determine what treatments are needed or to explain procedures to patients. "Communication is key when working with patients with autism spectrum disorder," remarked Dr. Alyson White , a general dentist in Athens, Georgia who treats patients with ASD. "Our patients with mild/moderate ASD do very well with repeated instruction and sometimes shorter appointments. We try to be patient and never push them to anything that is uncomfortable. Sometimes it means rescheduling or just talking through things in great detail. For patients that cannot tolerate dentistry while conscious, there are options for anesthesia in hospitals, surgery centers, and dental offices that hire anesthesiologists to come to the practice."

John Hansford, DMD

Anxiety and fear are also common issues for patients with ASD when seeking dental care. Patients with ASD may feel anxious or fearful about dental procedures, especially if they have had negative experiences in the past. This can make it difficult for dental providers to build trust and establish a positive relationship with patients. "Dental visits can understandably be very intimidating for parents and difficult for children with ASD.

Successful visits are possible through early intervention and repetition so parents should try to schedule their first appointment at an early age, and return to their dental home often," added Dr. Ben Popple, a Newnan-based pediatric dentist who specializes in treating patients with ASD. "We may need to use techniques such as positive reinforcement, distraction, or sedation to help patients stay calm and cooperative during dental procedures."

Behavioral issues can also be a challenge for patients with ASD seeking dental care. Patients with ASD may have difficulty sitting still, following directions, or cooperating with dental staff during exams and procedures. This can make it hard for dental providers to perform procedures safely and effectively. "We need to work with patients and families to create a calm and reassuring environment and use techniques such as distraction or positive reinforcement to help patients stay calm and relaxed during dental procedures, said Dr. Trudy Frazer, a pediatric dentist based in Smyrna and Douglasville who worked extensively with patients with ASD in her pediatric specialty residency. "If this fails, we will refer the patient to a hospital that provides dental services or a dental practice that hires a dentist or physician anesthesiologist to come in a provide sedation for the patient"

Limited access to care is another challenge that families and patients with ASD may face when seeking dental care. Many dental providers may not have the training or resources needed to provide appropriate care for patients with ASD. This can make it difficult for families to find dental providers who are equipped to meet their needs. "Access to care for patients with any condition that prevents them from tolerating dentistry with local anesthesia or mild sedation and local anesthesia is a problem that can be likened to being on a life raft in the ocean, you're surrounded by water, but you can't drink any of it," said Dr. John Hansford Jr., a pediatric dentist and dental anesthesiologist who works with patients with ASD. "Historically, there have been anesthesia providers and dental providers, but they haven't been able to work together for financial, legal, or myriad other external factors. Thankfully, northeast Georgia has several avenues for compassionate care: A few dentists have anesthesiologists come to their office, and a couple of dentists have surgery center and hospital privileges to take their patients in for anesthesia services to facilitate their dental surgery. Patients just have to go through the headache of searching for participating dentists on patient insurance websites, and then calling all the offices to discover the doctor's training, policies, and protocols in regard to ASD patients. This is probably the most accessible, safe, and affordable care there has ever been."

Overall, patients with ASD and their families face a range of challenges when seeking dental care. Dental providers who work with patients with ASD need to be equipped and prepared to address these challenges, from sensory issues to communication difficulties. By working together, dental providers, other healthcare providers, patients, and families can ensure that patients with ASD receive the dental care they need in a safe and supportive environment.

Known Georgia dentists that are experienced treating patients with ASD and accepting new patients:

- Dr. Jayni Bradley at Athens Area Pediatric Dentistry
- Dr. John T. Hansford Jr. at Greenpoint Pediatric Dentistry
- Dr. Michelle Harmon and associates at Athens Dentistry for Children
- Dr. Sam Kwon and associates at Kwon Pediatric Dentistry
- Dr. Merissa Nelms at Hilsman Health Center
- Dr. Ben Popple at White Oak Pediatric Dentistry
- The Dental Bridge of Georgia

Other dentists may be experienced with caring for patients with ASD. Feel free to reach out to any office you're interested in to inquire about the services they provide.

Dr. John T. Hansford Jr., is a double board-certified specialist in pediatric dentistry and dental anesthesiology and is the Owner, Pediatric Dentist and Dental Anesthesiologist at Greenpoint Pediatric Dentistry. He practices in Watkinsville, Athens, Lilburn, and Newnan, Georgia. For more information, email dr.john@greenpointpediatricdentistry.com.

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Cruising Tips from page 24

sea), as well as pictures of the actual ship and the attractions you plan to visit at each port. A social story tailored to your child's level of understanding can help all family members prepare for what to expect and look forward to during the cruise.

A big part of the cruise experience is the dining. If your child does not like to wait for food or is picky about what they will eat, the plentiful buffets offer various options to satisfy various preferences and dietary needs. We enjoy buffets for breakfast and lunch, but for dinner, choose the early reserved seating in the dining room. If your child has allergies or food sensitivities, you can special order the next night's meal at the end of dinner, and the waitstaff will bring it out quickly to your table the next day. By having a reserved table and time, you will likely have the same waitstaff and more predictability for your child. On the flip side, waiting for an available table on a walk-in basis at different times

Mary Ann Hughes, MBA

each evening of your cruise will likely result in being seated at a different table and having different waitstaff each night. It may increase your child's stress level. My children loved having a predictable evening routine each night of the cruise: dressing up for dinner, sitting at a familiar table, having the same attentive waitstaff bring them lots of delicious food we had preselected, and then going to a show.

Another tip I can share is to avoid crowded areas of the ship when possible. For example, instead of cutting through the casino, avoid sensory overload by finding a more quiet, less traveled route. Also, your family might find more calm in a different pool or even a hot tub instead of the main pool.

When planning port activities, hiring a private guide, or exploring a destination alone might be less stressful than joining a large group on a crowded ship excursion with little to no flexibility or ability to adjust the pace to meet your child's needs.

If you feel you might need an extra pair of hands or additional help, there are companies, such as Autism on the Seas, that cater to helping families with autism on cruises and provide respite services so parents can have some downtime. Bringing relatives or helpers can also give caregivers a break and can be a great opportunity for family fun and adventures.

Remember, this is a vacation, so have fun and be okay with allowing downtime and changes in plans and routines. Even with the best efforts, there may still be some anxiety or meltdowns. So, after everyone has a chance to relax, cool down, and recharge, go back out there and explore what the cruise offers. Your kids might just surprise you and make some great memories of exciting new experiences.

Mary Ann Hughes, MBA, is a Special Needs Certified Divorce & Transition Coach and Founder of Special Family Transitions LLC. For more information and resources on special needs divorce or transitions, please visit SpecialFamilyTransitions.com and follow on Facebook, Instagram, and YouTube. You can also reach Mary Ann at maryann@specialfamilytransitions.com.

Autism Award from page 10

To purchase tickets and learn more about "How to Dance in Ohio," visit howtodanceinohiomusical.com**.**

Autism Society of America

The Autism Society's mission is to create connections, empowering everyone in the Autism community with the resources needed to live fully. As the nation's oldest leading grassroots Autism organization, the Autism Society and its approximately 70 local affiliates serve over half a million members of the Autism community each year. It envisions a world where everyone in the Autism community is connected to the support they need, when they need it – including education, advocacy eff1orts, and supports and services throughout the lifespan. For more information visit the Autism Society at AutismSociety.org, Facebook, Instagram or X.

The Daniel Jordan Fiddle Foundation

The Daniel Jordan Fiddle Foundation was the first not-for-profit and all-volunteer-run organization in the United States to focus on adult Autism and has been blazing trails since 2002. The Foundation creates paths leading to fulfilling and potential-driven lives. Their model programs, resources, public policy, and awareness initiatives are person-centered and derive from the needs and hopes of the diverse population of adults diagnosed with Autism and their families. The Daniel Jordan Fiddle Foundation's visionary leadership in establishing the first and only adult Autism focused endowment funds located at Yale, Brown, the University of Miami, Rutgers, and Arizona State University assures a global focus on cutting-edge program development, research, family support, vital resources, and public policy for decades to come. The Daniel Jordan Fiddle Foundation Leader in Adult Autism Award is presented annually by the Autism Society of America to recognize and inspire the world by honoring exemplary individuals and endeavors that highlight the strengths and potential of all individuals with Autism to live their best lives.

How to Dance in Ohio

Based on the award-winning HBO documentary, "How to Dance in Ohio" tells the story of seven Autistic young adults and their families as they prepare for their first-ever formal dance - a challenge that breaks open their routines and sets off hilarious and heartbreaking encounters with love, stress, excitement, and independence. The show is breaking significant barriers in accessibility and representation in entertainment. Leading the cast are seven Autistic actors, all making their Broadway debuts, offering a visible platform for the Autistic community in a way that has never happened before on Broadway (both on and off the stage).

Linda J. Walder and Chris Banks with the cast and crew of " How to Dance in Ohio"

Linda J. Walder with the "How to Dance in Ohio" producers (L to R: Ben Holtzman, Sammy Lopez, and Fiona Howe Rudin

Communication from page 22

There are many evidence-based sensory regulation strategies that speech-language pathologists, teachers, and caregivers can employ to facilitate an environment in which an individual can engage in effective communication. Before interweaving communication with sensory-enriched opportunities, it is paramount to remember to ensure safety, present sensory and communication opportunities, tailor activities to present a 'just right' challenge, and support a child's intrinsic motivation to play (O'Brien & Kuhaneck, 2020).

Body Awareness:

Body awareness or proprioceptive activities, such as heavy work (i.e., an activity that pushes or pulls against the body) and resistance exercises, provide information from the muscles and joints. This essential sensory input supports self-regulation and attention (Ayres, 1972; Bundy et al., 2019).

Activity idea: A two-obstacle course with a rewarding item at the end can motivate and build listening and focus skills. These can include picking up medicine balls, rolling on a scooter, or doing wall pushups. You can have pictures of each activity and have the individual choose what they want to do and in what order.

Sight:

Our visual system interprets what we see. Visual supports, including visual schedules and pictures, have been shown to enhance communication for individuals with autism spectrum disorders (ASD) and other sensory processing difficulties (Mesibov et al., 2005). Vision is also important in reading body language and other non-verbal cues during social interactions.

Activity idea: Create a communication board to accompany an activity to provide the language scaffold needed to participate. For example, create a Play-Doh Communication Board that includes actions (push, stretch, roll), colors, and requests to facilitate turn-taking and commenting.

Rhythm:

Music therapy, including incorporating rhythmic and melodic elements, has demonstrated positive effects on sensory regulation and communication outcomes (Wigram et al., 2002).

Activity idea: Use a metronome or metronome app to create a regulating rhythm and then sing a favorite song incorporating gestures or symbol-based communication (For example, have pictures of the animals from "Old McDonald has a Farm" that the individual can choose).

Touch:

Tactile or touch strategies can have a grounding effect and help the individual understand their body positioning or body

Corrina Riggs, MA, SLP-CCC

in space (Schaaf et al, 2018). Tactile preferences can vary widely among individuals. Individualized approaches considering each person's sensory profile and preferences are important when implementing tactile interventions (Watling & Hauer, 2015).

Activity idea: Touch or tactile cues are sometimes used in articulation therapy. Using simple tactile cues, such as a light touch on the top of the throat to produce the /k/ sound (as in "kick"), can provide a cue that is regulating and helps develop a motor plan. (Note: PROMPT therapy is a method of articulation intervention focusing solely on touch cues.)

Movement and Balance:

The vestibular system, located in the inner ear, provides information about the position and movement of the head concerning gravity. Physical activities like swinging or bouncing can help individuals regulate their sensory systems, positively influencing communication (Case-Smith et al., 2015).

Activity idea: While an individual is swinging, say "1-2-3," and then assist or model the word "go." Individuals can be encouraged to ask for more when the swing is stopped.

Environmental Modifications:

Creating sensory-friendly environments by adjusting light, noise levels, and textures can contribute to improved communication outcomes (Reynolds et al., 2017). This article from Living Autism provides insight into creating an autism-friendly environment that recognizes individual differences.

Mindfulness and Sensory Awareness:

Mindfulness practices that heighten sensory awareness contribute to improved self-regulation and communication skills (Keng et al., 2011). Mindfulness is not "one size fits all" and should be viewed through a lens of neurodiversity regarding individuals with autism. Be aware that certain traditional practices may not be regulating. For example, using a bell or chime to indicate the start or ending of a meditation may be dysregulating to an individual with sound sensitivity.

While this article does not cover communication and sensory integration strategies for the gustatory and olfactory systems (taste and smell), it's essential to acknowledge the significance of these systems in achieving proper sensory regulation. This regulation, in turn, supports emotional regulation and safety, a crucial factor for successful social interactions. Additionally, taste and smell play an important role in therapy for feeding and swallowing issues.

Collaborative Approach in Healthcare

The value of interprofessional collaboration in therapy planning and goal development cannot be underestimated when providing support to complex communicators with sensory integration needs. Allied health professionals such as speech-language pathologists and occupational therapists frequently collaborate when problem-solving complex clinical issues. They are a logical team to address the intersection of communication and sensory integration.

Conclusion

Sensory integration is a fundamental component of effective communication, impacting attention, emotional regulation, and social interactions. By understanding the connection between sensory processing and communication, individuals, caregivers, and professionals can implement evidence-based strategies to create supportive environments that foster improved communication outcomes. As research in this field continues to evolve, incorporating sensory integration into communication interventions holds promise for enhancing the quality of life for individuals with diverse sensory needs.

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Low Vision from page 12

work and independent living, Perkins recently announced its Life Launch Program. The Life Launch Program is Perkins' latest offering, targeting transition-aged youth looking to enter the world of work and independent living. This work-based, residential transition program is designed for students who are blind or visually impaired, with multiple disabilities (including autism), and who have goals of finding meaningful work and community participation after high school. The program recognizes that students with BVI are employed at lower rates than their non-disabled peers. To prepare these students to meet the challenges of employment and independent living, the Life Launch curriculum features specialized instruction, intensive transition planning, and individualized experiential learning.

The Life Launch Program will begin accepting applications in January 2024 and will welcome the first class of students to campus in the Fall of 2024. For more information, visit www.perkins.org/transition-center/life-launch.

Perkins also offers a range of impactful programming and resources designed to assist more academically oriented students with BVI to transition to post-secondary higher education programs, including colleges, universities, and Comprehensive Transition and Post-secondary (CTP) programs. For more information on these programs and resources, visit www.perkins.org/college-success.

Ernst VanBergeijk, PhD, MSW

Alexandra LaVoie, MSOT

Ernst VanBergeijk, PhD, MSW, is the Founder and President of Ernst Equitable Education Solutions, a consulting firm that helps parents find appropriate educational settings and solutions for their children and helps organizations evaluate and design programming for special needs children, youth, and young adults. He has over 35 years of experience in the special education field, including working as the executive director/dean of two college-based transition programs for students with various disabilities.

Alexandra LaVoie, MSOT, is the Director of the Transition Center at the Perkins School for the Blind and is a licensed occupational therapist and special education administrator. Alex has worked in the field of blindness education for over ten years and has a deep understanding of the unique supports and accommodations that are needed for BVI students to achieve their post-secondary goals. She is passionate about Perkins' mission to empower students with disabilities to unlock their potential and live as independently as possible.

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Rituals from page 17

her car before entering a social environment.

The nature of rituals is that they are repeated, predictable, and enable a propensity for action. These characteristics are known to be preferred by autistic individuals. They benefit from predictable, repetitive tasks. For example, when an autistic individual takes the time to line up his shoes in an organized manner, in the same order every time, he is acting in a way that aligns with his values (i.e., the values of orderliness, predictability, and logic).

Every human engages in regulating behaviors, and often, these are unconscious. Some twirl their hair, and some shake their legs or twiddle with their pencils. These small, ritualized acts are regulating. They are the body's way of stabilizing cortisol, or stress levels. These ritualized behaviors look similar in autistic individuals but can often be exaggerated. Some autistic individuals rock back and forth, some flap their arms, and some engage in vocal scripting or tics. These small, ritualized acts, also known as "stimming," are often regulating but pathologized and labeled negatively. These rituals are often helpful, if not necessary, for autistic individuals to function successfully in their social and physical environment.

Autistic adults have difficulty applying social pragmatic rules and modulating sensory input. These difficulties often result in an unpredictable and anxious experience of the physical and social environment. The ritualized patterns of behavior that have been pathologized in autistic individuals are what they often need to rely on for emotional and psychological stability and well-being.

Sharon Eva, OT/L

Research has widely shown that individuals with autism have decreased well-being (Engel-Yeger & Dunn, 2011). If engaging in their rituals promotes well-being, we would be remiss to prevent or neglect neurodiverse individuals the opportunity for meaningful engagement.

In my practice as a mental health occupational therapist, I work with neurodiverse adults who greatly benefit from the identification and engagement in positive rituals. Often, these acts promote *presence* when their temptation is to disengage or dissociate. Rituals combat the state of dysregulation in the nervous system and promote neurological regulation.

People with autism have difficulty recognizing and adjusting to the small changes in socialization and the sensory environment. These nuances that neurotypical people can unconsciously adapt to often require a conscious effort on the part of autistic individuals. This effort carries a cognitive load and can be mentally and emotionally exhausting.

This is why they fall back on patterns of predictability and routineness. These patterns promote a sense of control over their environment and themselves. Rituals can promote both sensory regulation and emotional regulation.

Rituals are normalized in the neurotypical population and are widely recognized as meaningful consistencies that promote regulation, such as Nadal's pre-serve ritual or a mother's alone time. For neurodiverse individuals, rituals promote the regulation more profoundly.

In a world wrought with unpredictability and change, rituals can be a stabilizing and grounding anchor.

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Hire Autism from page 16

Limited Accommodations

Non-accommodating workplaces provide even more of a challenge for autistic job seekers. Under the Americans With Disabilities Act (ADA), autistic job seekers can request reasonable accommodations supporting their success in the interview or workplace. Despite common belief, accommodations usually bear little to no cost to implement. A recent study by the Job Accommodation Network (JAN) found that the average accommodation has a one-time cost of $300, with half of the 3,528 employers surveyed reporting that "the accommodations they made cost absolutely nothing to implement ($0)."

What Can Be Done

The big question is, how can organizations help combat these high unemployment rates? The good news is that much can be done to support meaningful employment and success for autistic adults.

Employers can begin by taking the following steps:

- Pursue learning opportunities and training
- Include autism in your DEI statements and hiring practices
- Build a more inclusive workplace by offering accommodations and listening to the needs of your prospective and current staff

Learning and Training Opportunities

The best way, and often the first step to understanding autism, autistic job seekers in the workplace, and how to best support inclusion throughout the hiring process and on the job is to learn about it. This can include but is not limited to exploring different online resources, taking training courses, independently researching, and asking questions. Education and training, like the Uptimize Neurodiversity in the Workplace Training or The University of British Columbia's Autism and Neurodiversity In Workplace Training, are great programs to help executives, managers, and staff gain a better understanding of autism in the workplace and how to support current and future autistic staff best.

Courtney Carroll

Include Autism as Part of Your Hiring Initiatives

As job seekers explore different job opportunities and companies, they will be looking to see if the organization includes autism or neurodiversity as a part of their hiring initiatives and DEI statements. Not only does this encourage autistic job seekers to apply, but research has shown that having neurodiversity in your DEI initiative "creates an environment where neurodivergent employees may feel more comfortable seeking supports and accommodations without fear of retaliation, helping increase productivity as well as enhancing inclusion and belonging" (American Bar Association).

Build a More Inclusive Workplace

However, autism inclusion in the workplace is more than just having autism stated in DEI or hiring statements; it is about fostering a workplace that is inclusive of the needs of autistic job seekers and current autistic employees. Offering accommodations to those who need them is essential for both the success of job seekers in the interview process and employees within the workplace. Understand that every person is different, and what they might need to succeed will not look the same as someone else applying for the same role or doing the same job.

Common interview accommodations:

- Having a copy of questions in advance of an interview
- One-on-one interviews instead of a panel interview
- Time extensions or multiple attempts for on-demand interviews
- Phone interviews instead of video interviews or being allowed to have their camera off during a video interview (Hire Autism)

Common on-the-job accommodations:

- Shadowing a colleague during training
- Receiving a written copy of verbal instructions, or vice versa
- Receiving meeting agendas beforehand (Hire Autism)
- Wearing noise-canceling headphones
- Flexible or modified work schedules that factor in a break (Absence Soft)

Not all job seekers will disclose or request accommodations. Regardless, asking them is the best way to learn what any person needs to succeed. During the interview process, ask the candidate if they need anything on the job to support their employment. For your current employees, send out a survey and get a pulse on whether changes can be made to help increase their productivity and happiness.

It is important to note that in some circumstances, an accommodation request may be modified by the employer or may not be honored if it causes an undue hardship on the business.

Hire Autism is Here to Help

Hire Autism's mission is to improve employment opportunities for autistic individuals and help businesses create more inclusive workplaces. We offer a free job board to support this mission where employers of all sizes and fields can post their available job listings. These can be full-time or part-time positions, internships, or contract roles. They can be in-person (based in the US), remote, or hybrid.

Becoming a Hire Autism Employer Partner allows companies to post job listings, directly connect with and recruit talented autistic candidates, and access training and support.

In a recent OARacle newsletter article, Hire Autism job seeker William Sowell shared that finding his current employer on Hire Autism encouraged him to apply for the position.

"If I had found them on Google, I might not have been as inclined to apply, but seeing them on Hire Autism gave me a lot more confidence that it would be a respectful and inclusive working environment," Sowell said.

Sowell found employment with Hire Autism Employer Partner Compost Nashville LLC as a Collections Driver. For Dale Harper, operations and human resources manager at Compost Nashville, hiring the right member for the team was his highest priority.

"Choosing to recruit with Hire Autism gives confidence that we are accessing all talent pools in the Greater Nashville area," said Harper. In Sowell, they found the right person to join the team.

All employer partners are granted one user account to the Uptimize Neurodiversity in the Workplace Training and continued support from Hire Autism staff about inclusive hiring practices.

At Hire Autism, we understand that knowing where to start can be challenging for many employers, but we are here to help. Get started by creating an employer account on Hire Autism or contacting us at mail@hireautism.org.

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Advocating from page 20

In the School

Here are some ways to consider sensory advocacy more broadly in your student's school community:

Paula Kluth, in *Don't We Already Do Inclusion?: 100 Ideas for Improving Inclusive Schools*, suggests making every classroom a "sensory room." She recommends brainstorming a list of items with educators that they need to create sensory-friendly spaces for all students. This should be done with an occupational therapist. Consider seeking students' input, too!

Advocate for the right to recess. The American Academy of Pediatrics has stated recess "should not be withheld for academic or punitive reasons." See if there is a policy in your district that protects students' right to recess. You can also see if the school provides structured recess options. These may include pre-planned games, activities, or alternate settings.

Work with your principal, parent-teacher organization, or parent advisory councils to install a sensory path in the building or on the playground. These can be a pre-packaged kit or done very simply and temporarily with painter's tape.

Some caregivers have successfully advocated with parent-teacher organizations or local parent networks to implement sensory-friendly periods ahead of community events. Starting in a low-key environment before others arrive can help acclimate students to a space and ensure they can participate.

There are many ways to go beyond a general list of accommodations to see that students' sensory needs are part of the school's life. If you're still unsure how to effect change, the Association for Autism and Neurodiversity (AANE) is here to help, whether through a brief call, parent coaching, or an IEP review.

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This article has been reprinted with permission. You may view the original article, published on March 3, 2022, at aane.org/autism-info-faqs/library/sensory-advocacy-at-school/.

Amanda Bailey

Inclusive Theater from page 18

fringe vocabulary to facilitate communication. Image 2 displays an example of the core communication. In addition to a printed version available in the bags, the core communication board is also available for download on The Bushnell's website.

The theater website also includes a variety of visual supports that can be used before, during, and after the event to enhance the predictability for patrons. In addition to the communication board, there is a choice board depicting the options always available at every event, including sensory bags, drinks, break space, headphones, shopping, ear plugs, and a bathroom.

The links to these resources are always available on The Bushnell's public website and at the customer service desk. Assistive listening devices are also available to be used by patrons to have an improved auditory experience of the performance. These universal access supports have expanded the inclusivity of the theater for patrons with a continuum of sensory needs.

Front of House Training

To address the principle of understanding, the Bushnell front-of-house staff and volunteers are trained on all accessible services that the venue offers. The Front of House Management offers an accessibility webinar held annually in the winter for all 600 volunteers and 40 part-time staff. For SF/RP, the staff and volunteers assigned to that specific performance are given a training manual. This manual reminds them of the accommodations made to the lighting and sound, the items available at the resource table, the behaviors they might expect, who to report any issues to, and where certain rooms are (family restrooms, quiet space, etc.). They are also updated as any additional supports are adjusted.

Lauren Tucker, EdD

Catt Gruszka Vadala

"Nothing About Us Without Us"

Charlton (1998) emphasized the importance of including the voices of individuals with disabilities with his quote, "Nothing about us without us." Similarly, when designing inclusive events, consulting with members of the disabled community is crucial. Theater managers should seek input and feedback from members of the disabled community to ensure all perspectives are considered. The Bushnell Front of House Manager consistently confers with community members for feedback. This collaboration includes feedback surveys and focus groups. The Bushnell continues to increase opportunities for members of the disabled community to share their perspectives and needs with the organization.

After each SF/RP, a survey is distributed to patrons to gather information and suggestions. Within the past year, approximately five events, the most popular supports were the fidgets, coloring options, and quiet spaces. The survey also provides an opportunity for patrons to make suggestions. One patron suggested having sunglasses for any visual sensitivities. The Bushnell subsequently added adult- and child-size sunglasses available at all events.

Patrons are also asked to share any additional thoughts regarding their experience. One crucial quote was:

"Thank you. I cannot express how much it means to my family that my young child with autism has access to theatre in a way that isn't stressful for him or me. It honestly changes our life."

Other responses emphasized that the event was inclusive, stress-free, and a safe environment.

Curtains Up for All

Choices within community spaces are essential for individuals with unique sensory needs, especially in the performing arts. SF/RP removes many barriers for individuals to access live art performances, specifically for those with sensory hypersensitivity. Beyond these unique events, organizations should also consider universal accommodations for all events to increase access. Evaluating experiences through the six principles of sensory environments: recovery, sensoryscape, space, adjustments, understanding, and predictability (MacLennan et al., 2022) can enhance access for all individuals across sensory needs. Venues and organizations should also work with individuals within their community to establish accommodations and support to be accessed during performances beyond just SF/RP.

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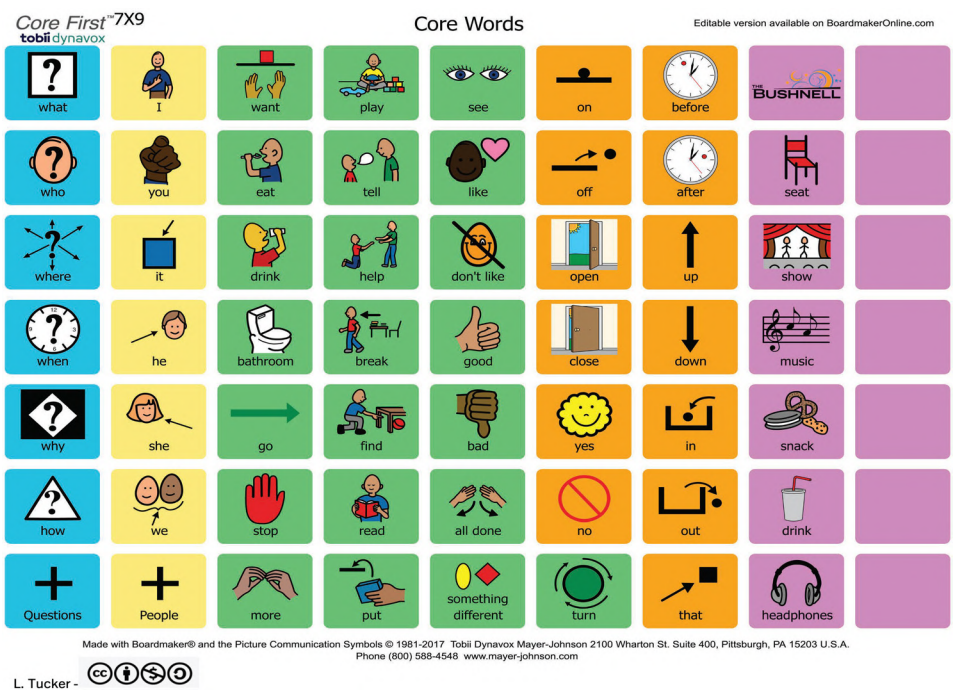

Image 2. Core Communication Board

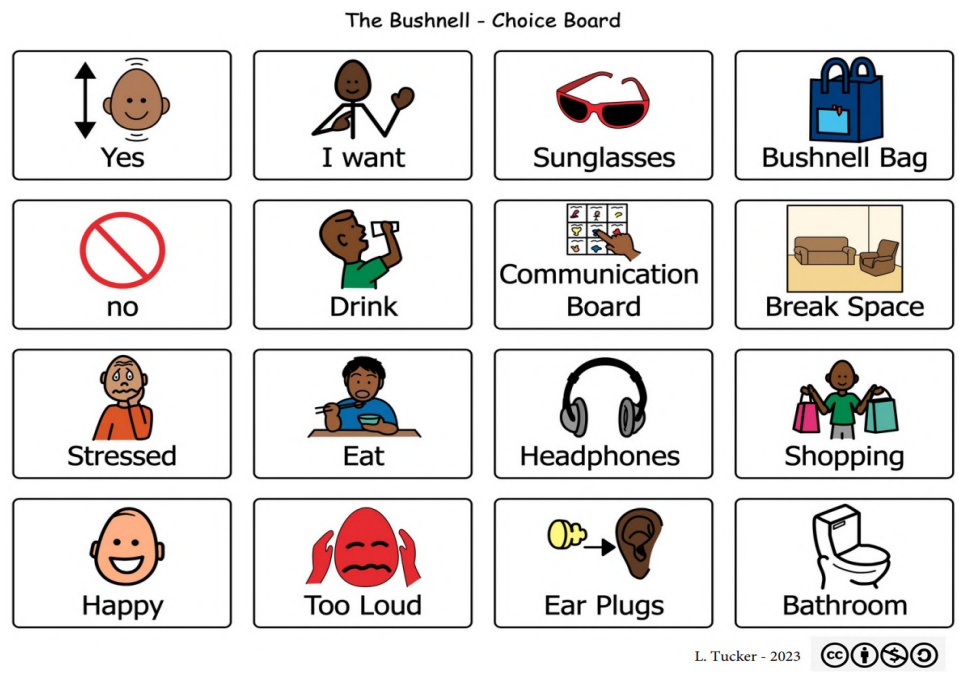

Image 3. Choice Board

Inclusive Classrooms from page 17

curriculum, and performance expectations are needed (Cahill & Bazyk, 2020).

Examples of sensory strategies designed to provide the inclusive classroom with regulation are included below.

Movement Strategies

- Provide student-specific jobs/roles required at natural times of entering/exiting a class that involve full-body engagement (carrying the equipment back to recess, holding the door open for the line, pushing desks, stacking chairs, etc.).
- Add movement components within an assignment (morning work, worksheet). For example, if the students write the word of the day, select a class movement to perform after writing each word – jumping jacks, toe touches, star jumps, etc. Encouraging movement, especially first thing in the morning, not only alerts the body to learning but also promotes the ability to sustain attention to seated work.
- Positioning suggestions include leaving space between peers' desks (Ashburner et al., 2008), having students face away from the door, and allowing students to occasionally complete work on a vertical surface, such as a wall or whiteboard, or while lying on their stomachs.

Visual Strategies

- Natural lighting is preferred to fluorescent lighting. If natural lighting is too dark, supplement with softer lighting.
- Use a visual schedule (age-appropriate) to increase the predictability of activities.
- Integrate high contrast boundaries, such as highlighted paper, to increase visual attention. Encourage a variety of writing utensils that write in thicker lines (such as a marker) or a color that contrasts the designated worksheet, such as red.
- Keep an organized classroom and limit visual distractions.

Oral Strategies

- If a student is biting on clothing or pencils, collaborate with the school-based occupational therapist to determine if packing gum and/or a water bottle with a bite-suck valve may be helpful. Chewelry necklaces may also be another tool for lower-elementary-aged students.
- Encourage students to bring crunchy and/or cold snacks (i.e., raw vegetables or fresh fruit) and incorporate this as a tool to promote attention.

Marissa Hunter, MEd, MOT, OTR/L

Alysha Skuthan, PhD, OTR/L, ASDCS

Auditory Strategies

- Be mindful of background noises and integrate options such as binaural beats or rhythmic drumming. Background noises or music with a consistent beat are calming and can promote regulation. Have headphones synced to pre-approved sound(s) available for student use during academic tasks.

Environmental Strategies

- Before instruction, designate an area within the classroom where a student can pace, stand, lean/push against the wall while listening to content delivery.
- Always set a clear expectation that the opportunity for movement is to help the student do their best work. The regulation tool is no longer effective if it distracts a student or the student's peers (Mugavero et al., 2023).
- Have a designated area in the classroom with regulation tools such as a Buddha Board, sandbox, palm-sized weighted medicine ball, mermaid sequin fabric/different textures, gum or sour hard candy, a yoga ball, and/or a rocking chair. Allow this space for students to access freely to self-regulate.
- Flexible seating or fidgets in a classroom can be helpful but must be trialed with students individually to promote engagement within the learning context (Mugavero et al., 2023).

How to Advocate

Advocacy can begin now. Organizing a meeting to discuss a child's unique needs is a great way to bring all team members together, as interdisciplinary collaboration is a critical component to addressing a student's sensory needs (Edwards & Skuthan, 2022). Open communication with teacher(s), school administration, and even fellow parents through organizations such as the Parent Teacher Association or Special Education Parent Teacher Association can be great avenues to foster support. If more support and/or more individualized strategies are needed, consult the school-based occupational therapist through your school's referral process or in an outpatient setting.

Conclusion

Inclusive classrooms are necessary for promoting attention and success in the learning environment. Although each student may have individualized needs, there are steps the educational team can take to foster an inviting and collaborative learning environment. Specifically, interprofessional education, strategic environmental setup, and school-specific routines can address sensory processing needs that limit success with complex academic skills, such as writing, reading, and math.

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Self-Regulation from page 13

and belly breathing. Having the teachers and assistants engage with the group helps to facilitate co-regulation skills.

When appropriate, classrooms can use a program called "Zones of Regulation" developed by Leah M. Kuypers, MAEd OTR/L. It is a curriculum designed to foster self-regulation and emotional control. It uses a color-coding system to help students express what "zone" they are feeling. They can then use tools or activities to help them get into a zone that works for the given situation. The classrooms have a toolbox with items or pictures of activities (i.e. breathing directions) that they can explore and use to help regulate their system. They also have a color-coded Zones sign-in board, in which they pick their zone when they arrive in the morning and have sporadic check-ins during the day. They can independently access the board and the toolbox as needed throughout the day.

The therapeutic practices discussed above addressing self-regulation have been proven successful at First Children School. The school is an approved private school for children with multiple disabilities and many who also have been diagnosed with ASD. Incorporating self-regulation strategies throughout a student's school day can greatly impact their ability to attend and function in the classroom setting.

Renee H Sebok, MS, OT, Mary Frese OT RYT, Mary Reilly, OTD, OTR/L, and Kim Apel, OT, are Occupational Therapists, Howard Savin is Clinical Advisor, and Kristen Daneker, MS, BCBA, is Director of Quality and Outcomes at First Children Services.

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Sensory Diversity from page 23

diverse learners may be beneficial. Certain individual tools can be accessible to students in the classroom, possibly on a designated "sensory shelf," or as part of classroom work (Noddings, 2017). These tools might encompass the following:

- Portable fidgets and squeeze balls in different textures and firmness levels suitable for hand-size use.
- Headphones with options for noise-canceling, silent, or music settings.
- Lap weights for sensory grounding.
- Fine-motor activities designed for accommodations and sensory diversity.
- Colored glasses to tone down visual input or block flickering from fluorescent lights.
- Stretch or resistance bands for movement breaks.
- Massage balls or foam rollers for tactile stimulation.
- Chewing tools like pencil toppers, pendants, or gum for oral sensory needs.

The Zones of Regulation

Another method to consider in implementing a sensory-friendly classroom is the Zones of Regulation curriculum, which targets the teaching of self-regulation skills by integrating executive functions, emotional regulation, and sensory processing. The Zones of Regulation curriculum is designed to assist children and adults in developing self-regulation skills. It classifies a child's emotions and alertness levels into four distinct zones:

1. **Blue:** Sad, bored, tired, sick.
2. **Green:** Happy, focused, calm, proud.
3. **Yellow:** Worried, frustrated, silly, excited.
4. **Red:** Overjoyed, elated, panicked, angry, terrified.

The curriculum instructs children on recognizing their current zone and understanding the influence of their actions on

Suzanne Rappaport, OT, OTD, OTR

others' thoughts and feelings. Additionally, it provides strategies for managing emotions and sensory experiences.

Existing literature extensively covers interventions for individuals, focusing on enhancing executive function skills, emotional regulation, social-emotional learning skills, and sensory processing and their impact on developing self-regulation skills (Hubert et al., 2015; Sawyer et al., 2015; Wells et al., 2012). However, there is a noticeable gap in the published literature regarding systematic interventions for cultivating self-regulation skills across the entire class, encompassing students with and without disabilities (McQuaid, 2018).

Collaboration with occupational therapy practitioners to develop evidence-based practices, ensure the fidelity of the interventions, and carryover of sensory-friendly environments is essential (Sanger, 2021). Occupational therapy practitioners can significantly contribute to the educational team by providing direct instruction and collaborating with teachers.

Summary

Traditional classrooms, rooted in early 1900s designs, persist in certain school districts, posing challenges for effective learning and causing frustration and anxiety (Mullally, 2022). Educators who acknowledge these limitations are developing a growing emphasis on establishing sensory-friendly classrooms, notably to support students with sensory processing differences like autism spectrum disorder or attention disorders (Zulkanain & Mydin, 2019). Strategies for creating sensory-friendly environments encompass diverse elements such as room layout, flexible seating, visual organization, lighting, quiet spaces, noise control, sensory breaks, and structured routines (Nodding, 2017; Dickson, 2023; du Preez & Combrinck, 2022). Integrating individual tools like fidgets, headphones, and sensory-friendly materials addresses diverse learning needs (Noddings, 2017). The Zones of Regulation curriculum, categorizing emotions and alertness levels, provides a valuable method for teaching self-regulation skills (Sanger, 2021). By incorporating these strategies, educators can create a more inclusive and supportive sensory-friendly classroom environment, helping all students thrive academically and socially.

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Gender Gap from page 11

ASD in females when using the diagnostic algorithm of the ADI-R." In this instance, the people who are primed to look for symptoms common in boys are the ones who designed a diagnostic tool for ASD. Beggiato et al. write that the DSM-5 criteria for ASD "probably reinforce this bias…."

Girls and women are also underrepresented in autism studies. In a 2014 review of autism research literature, Watkins suggested that males are overrepresented in some studies and noted that few studies involve only female participants (Watkins, 2014).

Taken together, the narrowing of the male-female gap and the apparent biases toward studying and diagnosing boys suggest that our understanding of the actual composition of the autistic population is not as straightforward as we would like.

Let's return to my first question.

Why Are There So Many More Autistic Males Than Females?

One 2020 study used genetic analysis to address this question (Zhang et al., 2020). The researchers looked at 174 different genes and compared how they are expressed in males with ASD, females with ASD, and unaffected control participants.

Among the autistic subjects, females were likelier than males to express the genes the researchers studied. The authors cited this as evidence for a "female protective effect" such that "a higher threshold of genetic liability is required for [autistic] females as compared with [autistic] males.

I am not here to argue with their conclusions or to criticize their methods, as I am not a geneticist. Instead, I would like to explore a question the authors raised further.

They wrote that "a higher genetic load was required in females to reach the threshold *for a diagnosis*" of ASD.

The italics above are mine. Zhang et al. chose their words with appropriate care. I

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read them as an acknowledgment that having autism and being diagnosed with it are not always the same thing and that their research can be linked only to *diagnosis*. Elsewhere in the article, they addressed issues similar to the ones I've raised above, pointing to research that suggests bias in the way we diagnose autism and specifically in the way that we diagnose females. These issues "might influence the sample and some conclusions," the authors wrote. That brings me to my last question.

As Researchers Make Connections Between Autism and Genes, How Do We Account for the Shortcomings of the Diagnoses Their Research Rests On?

Put another way: How do we acknowledge that the people who receive an autism diagnosis may represent a specific subset of the autistic population? In the parlance of the Zhang et al. genetics study, to what extent is the "higher genetic load" of autistic females typical of females with ASD or typical of females who *get diagnosed*?

The underlying question isn't specific to the genetics of autism. It is likely relevant anytime we seek to associate genes with psychological conditions that are complex to diagnose.

There is no simple answer except to call for caution when connecting genes and complex psychologies. Those of us who know how frequently conditions like autism are misdiagnosed - or missed altogether - need to be vocal about our concerns.

No matter how carefully genetics researchers avoid overstating their case, "genetics" carries an aura of certainty. It is natural for journalists and the public to want to reduce complexity and uncertainty, but a consequence can be unmerited conclusions.

I do want to end on a hopeful note. Earlier this year, I attended an autism conference in Stockholm (INSAR 2023) to present some findings. Looking around the conference halls, one change that could help to reduce bias in autism research was evident. Although males are more common than females in the autistic population, my observations at that conference suggested that the same cannot be said of the population of autism researchers.

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Workplace from page 15

were shaped by blending my unique perspective with the input gathered from other autistic professionals.

Work Environment

Instead of relying on traditional offices and conference rooms, incorporate a variety of collaboration areas into the workspace, ranging from standard conference rooms to open spaces. I suggest transforming conference rooms into inviting "dens" decorated with art in muted colors, large tables with dining-room-like chairs, and a large screen for video conferencing. To reduce sensory input, enclose the conference room with frosted glass rather than clear glass. Outside the dens would be open meeting areas featuring sofas and accent chairs, providing conducive environments for spontaneous collaborations.

Instead of adopting the standard linear office layout where offices are together, usually down a long hallway, I propose constructing "suites" — clusters of approximately ten personal offices — that share a communal space. Each office is equipped with adjustable standing desks and optional wooden rocker boards that offer

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sensory stimulation that can be calming and regulating for autistics who engage in stimming behaviors. The communal spaces feature an open layout with diverse seating options, ranging from tables with dry-erase tops for writing down ideas to more intimate working spaces with seating arrangements accommodating no more than four chairs each and ample windows or skylights inviting natural light. The atmosphere is enhanced by strategically placed plants throughout the area.

The suite and communal space arrangement promotes collaboration while providing offices as designated havens for individuals seeking solitude. The hallways connecting the suites incorporate cork-covered walls, allowing autistic employees to run their hands along the wall for a tactile sensory experience. Additionally, cork is an effective noise reducer.

Leisure Areas

Workspaces serve not only as places for work but also as places for leisure. Research has found that play is linked with less stress, increased creativity, and friendlier work atmospheres (Petelczyc et al., 2017; Van Vleet & Feeney, 2015). In addition to suites and dens, the building would have three separate leisure spaces: low, medium, or high sensory.

The low sensory area, designed for those with hyper-sensory needs, provides employees with a tranquil space. The room would consist of soft or natural lighting, sound-reducing carpeting, built-in bookshelves that house books donated by employees, and large plants scattered around the room. Within this room, individuals can relax in accent chairs, read a book, or play with Legos at a specific "Lego table."

The second area, a medium sensory area, provides employees with a multi-sensory experience. The room would be outfitted with small seating groups for intimate conversations, wobble boards to balance on, tables to sit and play board games, several dart boards, and baskets of sensory fidget toys. In addition, a door would lead to an outside flower garden.

The third area, high sensory catering to hyposensitive individuals, would be designated as a social room for those craving higher sensory or social interactions. The room would be outfitted with a ping pong table and serve as a hub for mingling.

Finally, the entrance would be one spacious open area featuring a wall showcasing a map of the entire building, creating a visual structure to help autistic individuals easily navigate the workplace. Past the initial wall would be intimate seating clusters, a coffee shop, and a cafeteria where individuals could grab their morning coffee, breakfast, lunch, or a quick snack. Additionally, a self-checkout center would allow

see Workplace on page 42

Power of Nature from page 23

Social Well-Being Benefits

Spending time in nature leads to a sense of belonging and inclusivity (Firby & Raine, 2023); increased creative and cooperative play (Coe et al., 2023); positive relationships (Bonham-Corcoran, 2022); and improve self-control, self-awareness, and communication (Gill, 2015). When children engage in group play outdoors, they have increased opportunities for collaboration to solve problems presented by the environment (Dopko, et al., 2019). Rather than a caregiver leading social activities, children are able to seek support and ideas from each other on their own time, with the support of the caregiver as needed. This allows for a more natural initiation of social engagement, with the caregiver present to guide and coach rather than direct. One study found that when children on the autism spectrum spent time in nature, they were able to more accurately identify and name emotions both experienced and observed (Bradley & Male, 2017).

Integrating Nature into Daily Life

The importance of engagement with nature cannot be overstated due to the opportunities it presents to enhance physical health, mental health, and social well-being. Many healthcare professionals can provide strategies and recommendations for nature exploration including occupational therapists. The ultimate goal of nature-based occupational therapy services is to promote daily life skills and foster development. Outside of structured therapeutic services, unstructured outdoor play encourages creativity, exploration, and ultimately a sense of independence.

More structured outdoor sensory-based family activities include:

- Have a simple scavenger hunt by looking for birds, rocks, leaves, sticks, or items of interest to your child. This activity will target skills including attention, problem-solving, safety awareness, visual perceptual skills, identification of objects in the environment, social engagement, and many more. For added fine motor and visual motor skill components, write down or check off objects you find.

- Collect items found during a scavenger hunt or walk to create nature-based crafts such as leaf rubbings, nature collages, etc. Many children enjoy collecting items; this activity can expand upon the enjoyment of collecting objects to encourage further creativity as well as fine and visual motor skills.

- Take a family walk or hike or find a park to spend time in together. Simply be together. Let go of the pressure you may feel to entertain your children or to provide enrichment activities - allow your children and yourselves to simply enjoy being outdoors. Notice how this unstructured time affects everyone in the family.

- Schedule an unstructured outdoor play group with friends, look for local meet-up groups online, or create one yourself! Invite other families to meet up at a park or other outdoor location to allow the children to interact with and/or near one another. Do your best not to intervene unless there are safety concerns.

- Include your children in household tasks or chores such as lawn care, gardening, and animal care. These tasks not only involve children in the family culture and responsibilities, but target a multitude of skills previously mentioned.

- For cold climates, get creative! Bundle up and head outside for a bonfire, build snowmen, make snow angels, or have a snowball fight.

All of the aforementioned activities are suggestions to integrate nature into daily life and can truly improve the well-being of children with autism spectrum disorder and their families as we can all benefit from time spent outdoors.

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Want more information? Contact Andrea Kormanik, OTD, OTR/L, at kormanika19@gmail.com for a free nature how-to handout.

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Friend in Need from page 19

upon returning home for the summer to chart a way forward. This was one of the best decisions I have ever made. Since she was a talk therapist herself, I intuitively knew that she could work her professional connections and find the right person for me to see, and she did just that.

Positive, productive clinical experiences can be transformative. My post-sophomore year therapy sessions in June of 1990 certainly were, as was the neuropsychological evaluation in the Summer of 2009, what led to my identification as being autistic. Accordingly, I do not look at many of my experiences in the same light as I did all those years ago. I can now imagine how differently I would have responded to Vishal in his time of grieving had I known then what I know now about myself.

If I could do it all over again, I would have extended myself to him, told him that I shared in his pain, and that the memory of his parents would be a blessing to him and to all the lives they touched. I would have promised to be there for him and support him as best I could.

Not that my unique approach to empathy back then was wrong with respect to Vishal's loss. It reflected what I knew and did not know at the time, as well as the challenging circumstances with which I was contending. As I grew older, worked on myself, sought help for what I wanted to address, and learned, among other things, that I am autistic, my outlook on life changed rather dramatically. The core of who I am as a person, one who cares about others, who works toward making a positive difference, and who sees the value of empathy, has never changed, and will not change going forward.

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Feeding Difficulties from page 18

consulting with the child's medical doctor and/or sending them for a referral to be cleared medically. Some symptoms, like vomiting or chewing/swallowing challenges, might be because of medical reasons, and establishing the solution to that problem will be essential to success in feeding therapy. In other situations, the restrictiveness and selectivity to food, as well as inappropriate mealtime behavior, is a manifestation of autism and environment/interaction with caregivers. The children can quickly create associations between what behaviors elicit access to what they want and gain the escape from what they don't want. Both medical and behavioral reasons can happen at the same time during a kid's development.

Feeding Challenges Impact
More than Mealtime

By ensuring that autistic children are well-nourished and comfortable during mealtimes, we create a foundation that amplifies the benefits of occupational, speech, and other therapies. Therapists across fields often run into children who exhibit behaviors that make it difficult to conduct a productive therapy session. One of the biggest underlying factors of that difficult behavior is being hungry. As adults, it is easier to recognize when we become irritable to

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grab a snack and we feel better. Most autistic children with feeding difficulties cannot identify the correlation, and therefore, the irritability intensifies. Once those children establish a routine during feeding therapy and allow nutritious food to consistently enter their mouth, their whole body feels better, which in turn improves their overall demeanor, ability to focus, and energy level. This highlights that feeding therapy is not an isolated intervention but a catalyst that, when integrated into a holistic treatment plan, optimizes the overall effectiveness of therapeutic efforts.

Feeding difficulties extend beyond physical and sensory realms; they create social implications that can lead to isolation and stigmatization. The reluctance to try new foods or eat in public becomes a barrier to developing friendships, perpetuating societal misconceptions about autism. Feeding therapy becomes a powerful tool to break down these barriers. By incorporating social skills training within the context of feeding therapy, we empower autistic children to navigate social interactions, fostering a more inclusive environment that transcends mealtime.

Why a Behaviorally-Based
Approach to Feeding is Best

A good behaviorally based approach to feeding will focus on the consumption of the food rather than interaction with the food. There is no proven benefit to encouraging children with significant feeding difficulties to play with food other than, for some, it might be a fun activity. Most families will often choose a non-behaviorally based approach at first, as it appears like the easier, gentler approach, but then typically hit a brick wall and struggle to move forward to make the progress they were hoping for, such as a sustained increase in variety and volume of food the child consumes. Applied Behavior Analysis (ABA) is the only empirically validated treatment for feeding disorders. When children display significant food refusal and it begins to impact their weight, nutritional intake, social interactions, and more, finding a quick and effective solution is essential. Treatment of feeding disorders utilizing ABA consistently appears in the research and continues to be proven effective when implemented correctly.

Empowering Clinics and Caregivers

Feeding therapy, positioned as a fundamental catalyst for comprehensive care, demands attention from clinics, healthcare executives, and caregivers. This often-overlooked therapy should be integrated into existing programs to enhance the overall impact of interventions. Clinics are urged to collaborate with feeding therapists, recognizing the far-reaching benefits of incorporating feeding therapy into their offerings. The call to action is clear: by embracing feeding therapy, clinics can not only meet the unique needs of autistic children but also elevate the effectiveness of their comprehensive care.

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Nurturing Comfort from page 20

explained as resulting from an imbalanced central nervous system due to an excess of sensory input. Autistic people react instinctively to uncomfortable or intolerable sensory stimuli with what I liken to a fight or flight response. We may withdraw, nearly paralyzed by sensory overload. Or we may lash out in a panic that can look like aggression.

But how does this happen, and why? So far, neuroscientists only have theories, one of which is Monotropism, a theory of autism developed by autistic people.

Monotropism postulates that the human brain has an "interest-based" processing system. Autistic brains can only pay attention to a small amount of information at any given time, leaving fewer resources for other processes. It's like our brains have "tunnel vision," which gives rise to the often-observed special interests autistics exhibit, as well as sensory processing disorders.

Sensory Dysregulation Through
The Eyes of an #ActuallyAutistic

I am an Aspie,* a high-functioning, high-masking autistic who once might have been diagnosed with Asperger's Syndrome. As an infant, I screamed for hours each day but fought against being held. During childhood, my mother struggled to find school clothes I'd wear. Turtleneck tops made me feel as if I were a head with no body. Leggings with elastic waists were too constricting, and the fabric gave me the heebie-jeebies. Finding shoes was nearly impossible in one particularly bad year because all girls' and women's shoes had pointed toes. Worse than uncomfortable, there was something positively alien about them. Once puberty hit, bras felt like torture devices.

Annie Kent, MA

Think back to the example of the pen-clicking coworker. If you're like me, you can't tune out that annoying click-click-click, and you might lose it, grabbing all of their pens and pulverizing them under your well-worn Goth boots. The survival part of my brain believes it's being attacked, resulting in an autistic meltdown.

Accommodating Autistic Sensory Needs:
Sensory-Friendly Environments

People on the spectrum experience the world very differently from neurotypicals. Autism presents in so many ways that accommodating every possible sensory profile is impossible. Therefore, the goal of sensory-friendly environmental design is to provide a calming and soothing space for everyone.

Autistic-friendly environments aim to reduce bright lights, excessive noise, odors, crowds, lines, and overly hot or cold environments (Accessible Environments, n.d.).

A key element of autism awareness education is "to increase public understanding of the five core features of autism and to give people [an] understanding of the actions they can take to help autistic people" (Accessible Environments, n.d.). Because if all people see is autism when they look at us, they're missing "loving, smart, funny, sweet, insightful, unconditional, emphatic, uniquely observant, impeccably talented, ever so intelligent [people] capable of creating extraordinary change in the world" (National Autism Association, 2023; Accessible Environments, n.d.).

*While the term "Aspie" is a nickname for Asperger's, I prefer it to autist, aspergian, person with autism, and neurodivergent. Therefore, it is the term mainly used in this article.

Annie Kent, MA, spent two decades working in public sector disability, mental health, and infectious diseases advocacy and education. Diagnosed with three closely related categories of neurodiversity, a lack of awareness and understanding led to autistic burn-out and retirement from the field. She remains an active advocate, learning and engaging remotely with several Autism and ADHD organizations and forums, including the Canadian ADHD Resource Alliance (CADDRA). For more information, visit her website, www.aspiefemmepress.ca, or email Annie at ajollymo@lakeheadu.ca.

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2022). Our sensory rooms include adjustable lights and projectors, bubble tubes, weighted blankets, textured toys, gel floor tiles, floor mats, and various sensory toys. These rooms are adapted based on the child's particular needs identified in the coping plan, and the environment is enriched with items depending on whether the patient is seeking or avoiding sensory stimulation. For example, certain triggers, such as the hospital bed, can be removed and replaced with sensory chairs or the floor mat. For patients who might benefit from a sensory room but have an appointment in another part of the hospital setting, our child life specialists use portable carts with sensory items to create an adaptive sensory environment wherever the patient is meeting with their health care providers.

Not every hospital has established support systems, such as child life specialists, coping plans, or sensory rooms. Still, there are ways caregivers can help make hospital visits a little easier. The first thing to do is share background information about your child with health care professionals because you are the expert on your child (Muskat et al., 2014). Talk to staff about how your child communicates their wants or needs, how they express when they're anxious, and how you know when your child is in pain. Behavior is communication, so let staff know if there are behavioral changes that help you understand what your child is thinking or feeling. Communicate to staff if there are triggers and what the best way to respond is when your child is upset. For example, should staff continue a procedure until it is complete, as quickly as possible, or does your child do best if given a short break to recover? Share with staff if your child is sensory seeking or sensory avoiding and their sensory sensitives. Every child is different, and you, as the caregiver, know what's best for your child and be the advocate so that care can be unique and tailored to your child (Fraatz & Durand, 2021).

Even at hospitals that are not equipped to help children with sensory processing difficulties, there are adaptations that you can do to make the environment easier to manage. This may include turning down the lights, removing or rearranging furniture in the room, requesting a bigger room or one further down the hall and away from the crying baby's room, or putting a sign on the door to remind staff of important information about your child. If the hospital doesn't have sensory items, such as projectors or weighted blankets, maybe an extra lead apron can be borrowed from an X-ray, or a crib projector from an infant care space can be used for your child. For outpatient visits, some families find it helpful to wait to do vitals and blood pressure until the end if it escalates their child. Advocate for an appointment based on what time works best for their child's routine and potentially request that you break a long clinic visit into two separate appointments to limit how much waiting your child will need to do while you talk to the health care providers. Before a visit or a procedure, prepare yourself and your child so you know what to expect. Reach out to the hospital to see if they have child life specialists who can provide developmentally appropriate education or ask for details about the procedure so you can figure out how to best prepare your child. Some families find the visual schedule or preparation books help make procedures easier.

Every hospital has different systems in place and resources available for families during the stressful experience of coming to the hospital. But the one thing your child always has is you. You, the caregiver, know your child best; you know what works and what doesn't. You've been with your child for their previous hospital experiences, while the staff caring for them have often just met your child for the first time. Even if your child has minimal exposure to the hospital, you've supported your child through a variety of new or stressful experiences. Tell the staff if there are strategies you've developed or identified for taking vitamins, getting haircuts, or anything hard for your child to get through. Create your coping plan outlining triggers, communication, interests, and who your child is to share with hospital caregivers. They rely on you as the expert on your child, and you are the best resource for support.

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To learn more about the Dayton Children's Hospital sensory program, please visit www.childrensdayton.org/the-hub/our-sensory-program-sets-gold-standard-patient-care.

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amount of current research and directories. "However, publicly funded programs do not come close to fully meeting the high volume of unmet housing needs among adults with autism and/or I/DD," shares researchers from a groundbreaking 2020 report on housing and community options for neurodivergent adults (Resnik & Kameka Galloway, p. 189). "Existing federal and state programs also do not adequately support the development of residential options to accommodate the diversity of needs and preferences within this population" (Resnik & Kameka Galloway, p. 189). Many autistic adults and others with I/DD are at high risk of homelessness or sudden displacement due to inaccessible, non-inclusive housing and aging caregivers (Resnik & Kameka Galloway, 2020).

What You Can Do

If you want to create a sensory-friendly housing community or modify your home, here are some tips for getting started.

Consider Different Physical Amenities

Sensory-friendly housing design involves finding ways to keep noise levels low and visual design simple and relaxing. This type of amenity could look like extra soundproofing, quiet appliances and soft-close cabinetry, muted-color flooring and walls, and soft lighting. Softer textures throughout the design can also be supportive. Built-in relaxation options can also boost sensory serenity, such as incorporating small nooks or rooms for quiet spaces or adding reinforced beams for hammocks and swings. Smart-home amenities are an additional resource as they can automatically set lighting and other features as you want them as the environment changes. For example, automatic lights and blinds can create accessible sensory safety as daylight changes (Resnik & Kameka Galloway, 2020).

Ideas for Larger Housing Communities

Housing communities with extra space

Ann Carrick, MA

on the property may be able to have extra amenities that smaller homes and apartments cannot. Walking paths with quiet nature can be an excellent option in rural areas or areas where it is possible to block out most of the noise from the city. Larger sensory rooms are also an option on community properties. Sensory rooms can incorporate dimmable lighting, extra soundproofing, soft pillows and textures, beanbags, slow-motion art, soundscape and music options, and more (Resnik & Kameka Galloway, 2020). On-site pools can also be a calming sensory experience (Lawson et al., 2019; Musiyenko et al., 2020), especially if there is a reservation option to have quiet time in the pool without others around.

Other Tips to Keep in Mind

When designing for autistic adults, it is important to remember that each individual has unique challenges, abilities, and preferences. What works for one may not work for another. However, the more accessibility options you provide, the more inclusive you can make your project or housing community. A helpful first step is to look at some existing, successful models of sensory-friendly housing across the U.S. (Autism Housing Network, 2023). However, no matter your project, consult with autistic individuals to get their feedback or use information that reflects the voices of autistic adults. They have lived experience that provides the best source of information.

"There is a great quote in the disability community: *Nothing about us, without us*. The autistic community doesn't always have a voice, and it's not just because some of us are non-verbal" (Birch, 2021). Thoughtfully constructing sensory-friendly housing and listening to the voices of autistic adults helps to make it feel like it is their space, their place in the world.

More information about the Autism Housing Network or its parent organization, Madison House Autism Foundation, can be found at autismhousingnetwork.org. Questions and feedback can be sent to Ann Carrick, MA, Communications Manager at Madison House Autism Foundation at ahn@madisonhouseautism.org.

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employees to check out tablets and wireless noise-canceling headphones while at work.

Designing workplaces with the specific needs of autistic individuals in mind could potentially enhance the overall work environment for everyone. When employees feel more at ease in their surroundings, they are better positioned to deliver their optimal performance. This article underscores the significance of considering the sensory issues of autistic individuals in the design of workplaces. While some may think my design ideas are imaginative, this thinking can catalyze change. By integrating sensory-based design principles and creating diverse office spaces, companies can foster inclusivity, creating environments where all employees, including those with autism, thrive.

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behavior because it feels good and fulfills a sensory need. Playing with hair or clicking a pen are simple examples of automatically reinforced behaviors. Students may engage in these behaviors because of how the behavior appeals to their senses, such as how it looks, smells, feels, sounds, or tastes.

There are numerous ways to target sensory-maintained behaviors, and proactively providing sensory input may reduce a need to seek it out in maladaptive ways. For example, collaborating with an experienced occupational therapist to assess a child's need for a sensory diet will be helpful. Sensory breaks in a "calm down spot" or a "zen zone" can also give students time and space to regulate their emotions. These areas can even be within the classroom, like in the back or a corner with a small tent or a beanbag and pillows. Sometimes, noise-reducing headphones or sunglasses can also support the idea of a sensory break. Visual supports help demonstrate deep breathing or the use of other coping strategies.

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While it may seem overwhelming to restructure a classroom environment, there are some simple ways to make the setting more conducive to all learners. The first step is to reduce distractions in the room by clearing clutter and covering toy shelves with curtains or doors. Consider dimming the overhead lights by using lamps or magnetic light covers. Natural light is even better. When decorating, use muted colors and ensure that everything on the walls has an educational purpose. Finally, create a safe space in the classroom for students to decompress and regroup. When sensory needs are considered proactively, teachers will find a calmer classroom community of students working together and actively engaging in lessons.

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are no longer problematic, thanks to subsequent technological developments. Shortly after my initial diagnosis, I read an article that mentioned the sensitivity of some autistics to the motion of an elevator. I immediately recalled having had the same issue in my childhood. I also remember my family telling me that, when taken in an elevator as an infant, I started screaming uncontrollably the moment it started moving. I had a significant vestibular sensitivity. It was addressed by taking either the escalator or the stairs. As I got older, I somehow learned to tolerate this feeling, unpleasant as it was. Eventually, it bothered me less and less. I did not realize that, during that time, elevator control technology had reduced the large accelerations and decelerations when the elevator started and stopped moving to the point where they became less and less perceptible.

As a New Yorker, I especially remember the first time I went to the observation deck at the World Trade Center shortly after it opened in the 1970's. The tour guide told us about the design of the elevators, which very rapidly ascended 110 stories with little perceptible effect. I was very pleasantly surprised when I barely even noticed the motion. From that time on, that was usually the case when I rode in an elevator, except occasionally in an older building. This was a triumph of control systems engineering: what was once a substantial sensory violation for some autistics had been effectively eliminated, to everyone else's benefit. I have not heard of any such case in my years of involvement with the ASD community. Being an engineer and on the autism spectrum, I can appreciate this.

Other Technology-Based Issues

A few sensory violations are the result of modern technologies. One of the best-known involves fluorescent lighting. A feature of fluorescent lamps is that, unlike old incandescent bulbs, the flicker of their light in response to the 60-cycle-per-second AC power is within the limits of human perception. Although most people can barely (if at all) notice this, let alone be bothered by it, some autistics were strongly affected, to the extent that they needed to avoid environments having fluorescent lights or else wear dark glasses or hats that reduced exposure to such. With the development of the compact fluorescent lamp (CFL), however, the operation was increased to over 20,000 cycles per second – well beyond the limits of visual perception. This technology was later retrofitted to existing commercial fixtures (using electronic ballasts). Although some autistics are made uncomfortable by fluorescent lamps' spectrum (color), I have heard much less about this being an issue than it had been years before. These technologies were designed for economic efficiency considerations but benefited the autism community, even if unintentionally.

Recently, LED lighting technologies have replaced incandescent and fluorescent lights. These devices have no visible flicker (when properly designed and operated) and can be made in various spectral ranges and colors. As such, they can be designed to prevent just about any autistic sensory violation (if they don't already). The engineers who design and develop these technologies will need to take issues of autistic sensory sensitivity into account in the future.

Also common are sensitivities to certain types of sounds, particularly continuous high-pitched ones, such as the feedback that often happens in public sound systems (a problem at many autism events). This is an annoyance for everyone and must be eliminated however possible. Another violation that was often reported involved the high-pitched "squeal" from older television receivers and computer monitors. These used a cathode ray tube (CRT) that displayed the picture and was operated at high voltages (around 20,000 volts) with a horizontal line frequency of 15,750 cycles per second. This produced a substantial sound within the upper limit of human hearing (20,000 cycles). Once again, this might be annoying, but for some autistics, it constituted a major sensory violation – they often could not sit close to a TV or even use a computer (since one had to be directly in front of the monitor).

Yet again, technology came to the rescue with the development of flat-screen LCD and LED displays. These do not require high voltages or emit any high-pitched sounds. As before, a technology developed for entirely different reasons eliminated another sensory violation.

Given the variety of sounds that permeate our environment and constitute sensory violations for some autistics, technological solutions to this problem would be most welcome. Noise-cancelling headphone technologies have the potential to help here. Some autistics already use these, and the technology can probably be adapted to the needs of individuals with specific sensitivities. Once again, engineers working on such technologies will need to consider these issues.

I can only conclude by saying that the issue of sensory sensitivities is one of the most ubiquitous and varied issues faced by the autism community. Consequently, much must be done to address it.

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