3-2018

Exploring Occupational Therapists' Approach to Treating Children with Autism in the School Setting

Melissa Brauner

Exploring Occupational Therapists' Approach to Treating Children with Autism in the School Setting

By:

Melissa Brauner

****

Senior Thesis

Submitted in partial fulfillment
of the requirements for
Honors in the Department of Sociology

UNION COLLEGE

Schenectady, NY

March 2018

ABSTRACT

BRAUNER, MELISSA Exploring Occupational Therapists' Approach to Treating Children with Autism in the School Setting. Department of Sociology, March 2018.

ADVISOR: Ilene Kaplan

Autism spectrum disorder is one of the fastest growing developmental disabilities, affecting more than 3.5 million Americans. In order to ensure that the autism population receives the highest quality of care, it is extremely important that health professionals be equipped with the knowledge to care for individuals with the disorder in an effective manner. Occupational therapists play an important role in assisting people on the autism spectrum**.** For many children with autism, occupational therapy services are primarily received in the school setting. This study explores occupational therapists' approach to managing the treatment of children on the autism spectrum in the school setting. Using in-depth interviews, it was found that collaboration with colleagues and parents, adapting to individual needs, problem solving, flexibility, and therapists' training were the most effective treatment approaches.

ACKNOWLEDGEMENTS

Thank you to the Union College sociology department for your assistance in completing this project. To Professor Kaplan for encouraging me to pursue a topic I was truly passionate about. To Professor Stablein for being my second reader and an amazing academic advisor the last four years. To Professor Goldner for being a friendly and encouraging face throughout this whole process. A major thank you to my mom, my entire family, and my friends for your unconditional support. And lastly, to the girl that started all of this for me- Thank you, Lizzy, my forever camper, for constantly being my inspiration as I go forward in pursuing a career in occupational therapy. This project is just the beginning, and it would not exist without you.

TABLE OF CONTENTS

Chapter One: Background on Occupational Therapy

What is Occupational Therapy?

Many individuals have heard of the profession of occupational therapy, but do not have an understanding of what it actually is. The field of occupational therapy is largely based on the concept of "occupation," a term that is commonly misunderstood in the context of the profession. As a result of the way the word is often used in society today, in hearing the term "occupation," many people believe it is in reference to positions within the labor force. There is therefore a common misconception that occupational therapists work to assist individuals in finding employment (Breines 2008). Another misconception that individuals have is that occupational therapy is synonymous to physical therapy. Though the two professions definitely have overlaps, they are very much two distinct careers. So if occupational therapy is neither career counseling nor physical therapy, then what is it?

In reality, in defining occupational therapy, "occupations" refer to anything individuals may desire to find meaning and fulfillment in their lives (Krishnagiri 2017). An individual's occupation may refer to his or her work, play, education, daily living activities, self-care habits, or societal participation (Boone 2017). Occupational therapists are concerned with understanding an individual's occupational nature, that is how a person's occupation may shape his or her identity and contribute to one's overall quality of life. The need for occupational therapy comes into play when individuals face conditions that may impair their ability to successfully carry out these occupations (Preston 2016). Occupational therapy is the only profession in existence that works to help individuals across the lifespan perform essential everyday activities (American Occupational Therapy Association 2017).

Through the use of various therapeutic interventions and techniques, occupational therapists work to support individuals living with disabilities (Boone 2017). According to the American Occupational Therapy Association, "Occupational therapy maximizes health, well-being, and quality of life for all people, populations, and communities through effective solutions that facilitate participation in everyday life," (American Occupational Therapy Association 2017). Occupational therapists work in a variety of settings which may include but are not limited to schools, day care centers, skilled nursing facilities, hospitals, mental health facilities, outpatient clinics, and patients' homes (Boone 2017). Within these settings, occupational therapists work with individuals across the lifespan who face a range of developmental, intellectual, and physical disabilities. For example, individuals with autism or Down syndrome, physical injuries, brain and spinal cord injuries, illnesses such as Multiple Sclerosis and Parkinson's disease, among other conditions may face limitations that require them to work with occupational therapists. Occupational therapy assists individuals facing these various limitations in learning essential skills used in self-care, work, play, and everyday living activities (Breines 2008). Occupational therapists work with individuals and teach them how to adapt to their environments, in order to ensure they can participate at or as close as possible to the same level as others who don't have limitations. No matter the setting or the population being dealt with, the goal of occupational therapy remains the same. Through the promotion of independence in completing daily activities, occupational therapy works to help individuals reach their full potential (Preston 2016). By promoting health and preventing injury, illness, and disability, occupational therapists ultimately work to enable individuals of all ages to live happy, successful, and independent lives (American Occupational Therapy Association 2017).

History of Occupational Therapy

The field of occupational therapy was founded on March 15, 1917 by George Edward Barton, Dr. William Rush Dunton, Jr., Susan Cox Johnson, Thomas Bessell Kidner, Isabel G. Newton, and Eleanor Clarke Slagle (Breines 2008). The founding meeting for the National Society for the Promotion of Occupational Therapy (NSPOT) was held at the Consolation House in Clifton Spring, New York (American Occupational Therapy Association 2017). Barton, an architect, Dunton, a psychiatrist, Johnson, a teacher, Kidner, another architect, Newton, a secretary, and Slagle, a social worker, although from different areas of practice, came together with the common belief that the care provided in hospitals was inadequate. Stemming from Barton's interest in the use of occupation to improve quality of care, the founders believed that providing patients with activities to do in the hospital had the potential to improve their healing process. Three years later, in 1920, the field of occupational therapy was officially coined by name (Breines 2008).

Though the profession was not officially established until 1920, the development of the field of occupational therapy began much earlier in time. The arts and crafts movement, specifically, played a role in the profession's history. An international movement in the decorative and fine arts, the arts and crafts movement began in Britain and spread throughout Europe and North America between 1880 and 1920 (King 2009). The field of occupational therapy as it was then adopted many of the handcrafts that were common during this era and adapted their uses for therapeutic purposes. Whether it was ceramics, woodworking, fabric crafts, printing, or jewelry making, these crafts were analyzed and adapted from an occupational therapy perspective to be used within the healing process (Ikiugu 2007). Occupational therapy in its beginnings was an extremely artistic profession and attracted

many professionals with creative backgrounds. Up until the 1990's, art classes were a required component of occupational therapy curriculums. Today, arts and crafts are considered an implicit component of the profession, and the focus of the profession has shifted toward more scientific interventions. As a result, craft based courses within occupational therapy programs have been removed and replaced with intense scientific and theoretical courses (Breines 2008). Though the profession has grown and changed overtime, occupational therapy remains to be a very creative profession in the modern day (Preston 2016).

Approach to Occupational Therapy: Putting the Client First

When approaching treatment, the role of the client is an important aspect in the field of occupational therapy. While occupational therapists have the knowledge to make textbook recommendations for their patients' conditions, these recommendations may not always be suitable for patients' specific needs and capabilities (Breines 2008). Therefore, occupational therapists work to adapt their style of practice in response to their patients' needs. Known as a person-centeredness approach, this technique emphasizes the importance of using science to diagnose and treat clients properly, but it also involves understanding the clients' challenges on an emotional level (Preston 2016). In carrying out this approach, occupational therapists work to understand the client, their environment, and their desired occupations. All three of these aspects are taken into account when carrying out their assessment and intervention, as they all contribute to unique goals and needs of the client (Persch 2013). The best occupational therapists are said to have strong awareness of their clients' emotions, needs, and what is truly meaningful to them (Breines 2008).

In order to better understand the challenges their clients face, the social model of disability provides guidelines to help occupational therapists work to understand the ways in which disability can limit individuals within society. The model centers around the belief that society creates many barriers that restrict individuals with disabilities from being able to participate fully (Breines 2008). The social model of disability emphasizes that individuals with disabilities should be able to live the lifestyle of their choice regardless of their personal challenges or the barriers posed by society. Furthermore, the model emphasizes the role that occupational therapists play as a resource in providing the knowledge and expertise that can help individuals with disabilities fully participate in society (Preston 2016).

While traditionally, occupational therapists and medical professionals as a whole have taken an active role in the assessment and identification of problems before deciding on the most appropriate interventions, using the person-centeredness approach, the client and/or their caregiver assumes a more active role in defining both the goals and the desired outcomes of treatment (Preston 2016). In an occupational therapy session, with the therapist's assistance, the client establishes which activities are meaningful to him or her. In working with their patients, occupational therapists establish a give and take relationship, in which the therapists help their patients achieve their desired goals. Overall, occupational therapy is not simply about what the therapists do for their patients. Instead, it is a collaborative effort between the therapist and patient that works to help the patient develop the skills they need in order to participate as fully as possible in society (Breines 2008).

Occupational Therapy Assessment and Treatment

When assessing their clients, occupational therapists take into consideration individuals' unique needs and abilities, as well as environmental and social factors that may affect their performance (Molineux 2017). One specific approach that occupational therapists use within assessment and treatment is called the client-centered process. As with the person-centeredness approach, within this process, occupational therapists work to understand their clients' needs and set long term goals that align with both the desires of the therapist and the client. Within the medical field at large, client-centered therapy is common because in addition to just treating their patients, medical professionals are looking to contribute to their clients' overall functioning and well-being (Pollock 1993).

When conducting these assessments and evaluations, occupational therapists use various tools that allow them to gain a greater understanding of their clients' varying circumstances and necessities (Pollock 1993). For example, the *Canadian Occupational Performance Measure (COPM)* is an evidence-based outcome measure used in more than 40 countries, including the United States. This measure is an important resource for guiding occupational therapists in their treatment sessions, as it works to assess and understand an individual's self-perception of their occupational performance. In carrying out the COPM, occupational therapists conduct an informal interview in which they ask their client questions pertaining to the three areas of occupational performance: self-care, productivity, and leisure. Occupational therapists prompt their clients to identify the challenges they may face within specific occupations that fall under these categories. The clients rate their experiences with these occupations using scales according to their perceived levels of performance and their perceived levels of satisfaction. Occupational therapists take the results from this assessment,

discuss them with the client, and ultimately work with the client to prioritize the challenges and occupations that will be addressed within therapeutic treatment sessions. The COPM can be used as an outcome measure throughout treatment, as therapists may ask their clients to re-evaluate and rate their occupational challenges at any stage of the treatment process (Molineaux 2017).

The *Canadian Occupational Performance Measure* (COPM) is extremely advantageous for occupational therapists for multiple reasons. The measure is not only client-centered, but it is also applicable to all individuals across the lifespan. Furthermore, because it is individualized, it also allows for assessment of all individuals, including those with cognitive and physical limitations. When clients with limitations are unable to identify challenges they may face, a caretaker is able to respond to the measure. The COPM takes into account clients' occupations and what is expected of them in fulfilling their roles within their specific environments. Assessing clients with the COPM allows for occupational therapists to establish different goals for treatment, which may include the development, maintenance, or restoration of function, or prevention of change. Overall, the COPM encourages the client and/or caregiver to play a role in the therapeutic treatment they receive, and plays an extremely important role in contributing to the clients' successful development of necessary skills needed to participate in society (Pollock 1993). It is important to note, however, that the *Canadian Occupational Performance Measure* (COPM) just one form of assessment that occupational therapists may use. This assessment is extremely generalized and can be applied to all occupational therapy clients with varying conditions. As occupational therapists work to understand clients' needs and conditions more specifically, more specific assessments and evaluations are used in addition to the COPM.

After conducting an assessments and evaluations, occupational therapists then work to develop treatment plans for their clients. When selecting the therapeutic activities to be used within treatment sessions, occupational therapists must take into account clients motor and cognitive abilities, as certain skills are going to be necessary to perform specific activities during therapy sessions. Assessments such as the COPM allow occupational therapists to develop an understanding of their clients' physical and mental capabilities. These evaluations are critical in helping occupational therapists determine what they believe to be their clients' full potential (Preston 2016). This knowledge is important because occupational therapists want the activities they have their patients do in treatment sessions to be challenging, but attainable, as occupational therapy sessions are designed to foster improvements in they want to see their clients make improvements in specific occupational skills each time they meet with them. Furthermore, occupational therapists want to ensure that the therapeutic activities they choose to do with their patients are well-suited for their clients' capabilities and that the tasks align with their clients' desired occupations. In keeping the clients' desires in mind, occupational therapists work to select activities that are meaningful and interesting to their clients. Occupational therapy can cause frustration for clients, as they bring individuals' challenges and limitations to the forefront, therefore, occupational therapists see more success in their sessions when they provide their clients with interesting and fun therapeutic activities to do (Breines 2008). Overall, occupational therapists are extremely strategic in planning their therapy sessions, as they want to find the most effective ways to help their clients' achieve their occupational goals and reach their full potential.

Education and Training Required for Occupational Therapy Certification

In the United States, there are multiple levels of education that an individual can receive in order to become certified to work with in the field of occupational therapy. The first and lowest level is the occupational therapy assistant (OTA). Individuals may receive this technical degree through attending community colleges, private junior colleges, and some four year colleges and universities. Occupational therapy assistants work under the supervision of certified occupational therapists (OTR). They are directly involved in providing treatment to patients, but typically perform support activities. Working as an occupational therapy assistant is a great option for individuals who have an interest in entering the field of occupational therapy but do not hold a Bachelor's degree (Lehmann 2015).

Next, in order to work as a certified occupational therapist, an individual can earn an Entry Level Master's degree, a Post-Professional Master's Degree, or a Doctorate Degree in Occupational Therapy. These degrees differ from each other depending on the level of education an individual has when entering the program. In order to participate in an Entry Level Master's degree program in occupational therapy, individuals must hold a Bachelor's degree in a related field or they need to have fulfilled specific prerequisite course work that qualify them to enter the program. A Post Professional Master's degree program is an option for individuals that already have a professional degree in occupational therapy, but want to enhance their occupational therapy skills in a specific area of the field. Post professional Master's programs benefit individuals who want to specialize in a certain aspect of the profession such as pediatrics, geriatrics, or assistive technology. Lastly, while not required to practice as a certified occupational therapist, a Doctorate Degree in Occupational Therapy is

necessary for individuals who desire to do independent research in order to contribute knowledge to the field as a whole. Those individuals with PhD's in occupational therapy may choose to spend their time diagnosing and providing treatment to patients, conducting research, or both. Regardless of the type of occupational therapy program one attends, it must be accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) (Lehmann 2015).

Within all types of occupational therapy programs, individuals must complete specific coursework. An occupational therapy curriculum consists of coursework in subjects such as anatomy, physiology, kinesiology, neuroscience, physics, and occupational therapy application skills (Lehmann 2015). During and after the completion of these courses, occupational therapy students are required to have multiple fieldwork experiences, in which they are sent out to locations to observe certified occupational therapists in their workplace and are taught to design and implement their own occupational therapy treatment plans. Fieldwork may occur in a variety of practice settings, including medical, educational, or community-based facilities. Fieldwork is an extremely vital step that occupational therapy students take in transitioning from the role of a student to one of a practitioner, as students learn to apply the theoretical and scientific principles they learned in their academic programs to actual clients within real practice environments (American Occupational Therapy Association 2009).

In most occupational therapy programs, there is both Level I and Level II fieldwork experiences. Individuals complete their Level I fieldwork at the same time they are completing their academic coursework. It acts as a supplement to enrich what is being taught in the classroom, providing occupational students with the opportunity to observe the

profession and participate in select aspects of the process. Level II fieldwork, on the other hand, occurs at the end of occupational therapy programs. Providing students with the opportunity to deliver full occupational therapy services to clients, it acts as the last in-depth experience students have before entering the field as total professionals. Fieldwork is an essential bridge between individuals' classroom education and fully-fledged occupational therapy practice (American Occupational Therapy Association 2009). Overall, occupational therapy is not a field that individuals can simply decide to enter with no previous experience. Entering the field of occupational therapy requires a great amount of education, dedication, and time, as professionals working in the field must have specialized training and experience in assessing and providing therapy to individuals with disabilities.

Ongoing Training for Occupational Therapists

Formal Training

In addition to the schooling required for initial occupational therapy certification, the American Occupational Therapy Association (AOTA) also provides ongoing training to occupational therapy practitioners throughout their careers. The AOTA requires occupational therapists to periodically update their knowledge and skills in their practice areas to ensure continued competence and learning as professionals (Johnson Coffelt 2017). In order to uphold state licensure, occupational therapists must satisfy specific competence requirements that give them permission to continue to practice. Most states require the occupational therapy license or certification to be renewed annually or biennially. While the number of educational credits or contact hours to maintain state licensure varies by location, most states require occupational therapists to fulfill 20-30 hours biennially. Occupational therapists can

fulfill these hours through the publishing of books, articles, chapters, films, or videos. More commonly, occupational therapists may attend workshops, seminars, in-service training programs, and they may receive specialty certifications within the field. These various professional development tools provide opportunities for occupational therapists to identify areas of knowledge, training, or experience in which they might seek improvement. Furthermore, these tools offer the opportunity for occupational therapy practitioners to self-reflect and create future plans for learning that will contribute to their continued competence within the field (American Occupational Therapy Association 2006).

Informal Training

While many occupational therapists attend conferences, workshops, and enroll in academic coursework as ways to satisfy the formal competence requirements of the American Occupational Therapy Association, literature additionally notes the important role of informal, on-the-job learning in continuing professional competence. Informal educational activities within an occupational therapy setting may include mentorship, on-the-job training, the observation of other skilled practitioners, and collaboration with professional peers. Informal learning activities provide occupational therapists the opportunity to receive feedback from professional peers, as well as engage in active learning, as the observation of other therapists may create teachable moments which inspire therapists' future treatment sessions. Learning on-the-job is an essential part of occupational therapists' ongoing professional development, as it contributes to knowledge and self-awareness, allowing practitioners to develop new skills and improve the overall quality of care they are giving to clients. Overall, informal training within the everyday work environment is extremely

significant in allowing occupational therapists to maintain professional competence (Johnson Coffelt 2017). Continuing education both formally and informally ensures that occupational therapists remain competent professionals throughout their careers.

Chapter Two: School-Based OT, Autism, and Treatment Examples

What is School-Based Occupational Therapy?

Schools are an important place where occupational therapy, along with other types of therapy may be administered to children. Up until this point, occupational therapy has been discussed from a generalized and holistic viewpoint to provide an overview of the profession and the field. For the purposes of this project, however, the ways in which occupational therapy is implemented within the school setting will be addressed.

Occupational therapists are important contributors to the education team within schools. Occupational therapy within the school setting is designed to enhance students' ability to be able to succeed within the learning environment (American Occupational Therapy Association 2017). School-based occupational therapists work to support children's academic achievement and to promote positive behavior that is necessary for learning. Occupational therapists support students' academic and non-academic performance in many ways. For example, they may assist children with social skills, math skills, reading and writing, behavior management, recess, participation in sports, self-help skills, vocational skills and transition to the work force, transportation, and much more. To assist children with these various skills, school-based occupational therapists work to reduce barriers that limit student participation within the school environment, provide assistive technology to support student success, or work to determine methods for alternate educational assessment and learning (American Occupational Therapy Association 2017). Additionally, school-based occupational therapists play an important role in educating parents, teachers, administrators, and other staff members, as they work to collaborate with the education team as well as children's' families in order to support student success. For instance, occupational therapists may work with

parents to support their stress in caring for their child in the home environment. They may also work with school support staff and educators to make curricular modifications and support diverse learning abilities. Furthermore, school-based occupational therapists may work with administrators to provide training for staff and parents and to recommend ways in which schools can modify existing buildings and curriculums to allow access for children with varying types of disabilities (American Occupational Therapy Association 2017).

Occupational therapy is considered to be one type of special education service offered to support children with special needs within school-based settings. School-age children may qualify for special education services and occupational therapy services if they exhibit developmental delays, hearing impairments, speech or language impairments, visual impairments, emotional disturbance, orthopedic impairments, autism spectrum disorder, traumatic brain injury, other health impairments, and/or specific learning disabilities (Clark 2011). More specifically, classroom teachers may recommend occupational therapy services for students who struggle with handwriting, positioning, sensory processing self-care, and fine motor skills (Sepanski 2011). Though it does vary by the type of school and school district, the district, families, and community agencies work together in determining whether a child qualifies for an occupational therapy evaluation (Clark 2011).

In order to evaluate students for occupational therapy intervention, school-based occupational therapy practitioners collect data on children's academic, developmental, and functional needs within the school setting. Occupational therapists work to determine students' strengths and weaknesses, and any factors that may interfere with students learning and participation in the educational environment. To collect this information, occupational therapy practitioners observe children within environments they may struggle in, whether it be

the classroom, hallway, cafeteria, gym, bathroom, or playground (Sepanski 2011). Furthermore, in some cases, occupational therapists conduct interviews with educators, family members, and the students themselves, if possible, to get more information about the students' participation and performance. From this data collection, an occupational therapy intervention plan is developed and implemented. Occupational therapists approach their treatment and intervention with the overall goal of facilitating children's' abilities to participate in everyday tasks within the school setting (Clark 2011).

School-based occupational therapy support services fall under three specific categories: academic, developmental, and functional. Depending on the circumstances, children may receive one, all, or any combination of these three types of services. First, academic occupational therapy services consist of working with children to support their academic achievement. Occupational therapists may work with children to identify any accommodations they need in the classroom, such as modifications for standardized testing or adaptions within curriculums. As for developmental services, occupational therapists may work with children to help them develop skills for writing, using scissors, toileting, eating, dressing, communicating, and managing their sensory needs. Lastly, functional occupational therapy involves assisting students in the management of school-related materials. This may include a student's daily routines, written school work, task completion, transitions between activities, rule following, self-regulation, interactions with students and teachers, participation in leisure and recreational activities, and the use of assistive technology to support participation in the school setting (Clark 2011).

What is Autism Spectrum Disorder?

Autism is a neurodevelopmental condition that is believed to have a biological basis (Yates 2016). Approximately 1 in every 68 children will be diagnosed with autism, with it being 3 to 4 times more likely to be diagnosed in boys than girls (Kuhaneck 2015). Children with autism may experience a range of social, cognitive, behavioral, and sensory challenges (Kuhaneck 2015). However, autism spectrum disorder manifests itself differently in each individual that it affects, as children with autism experience varying degrees of behavioral, communicative, and intellectual abilities (Yates 2016).

According to the most recent version of the Diagnostic and Statistical Manual of Mental Disorders **[see Figure 1],** there are many symptoms that individuals with autism spectrum disorder may exhibit. First, individuals with autism may face challenges with cognition. For example, they may struggle with processing multiple pieces of information simultaneously, which can lead to delayed processing and black and white thinking (Nason 2014). As a result, they may have difficulties with paying attention and understanding rules, may have a lack of awareness for others feelings, and may misinterpret others tone of voice and facial expressions. Furthermore, they themselves may exhibit either a lack of facial expressions or an inappropriate use of them. Some individuals with autism may shake their head, wave, or clap at times that appear inappropriate to others. As for communication and language, in their development, individuals with autism may not acquire typical language capabilities. Some individuals may never develop communicative speech or sounds, while others may use words that are incomprehensible to others or deliver their speech with unusual pitch, speed, and volume. All of these factors can contribute to children with autism facing challenges with social interaction and developing relationships with peers, as they may

struggle to develop mutual interests, emotions, and experiences with those around them. For high functioning individuals with autism, they may seek interaction with others and put in the effort to socialize, but may struggle to connect with others as a result of appearing socially different (Yates 2016).

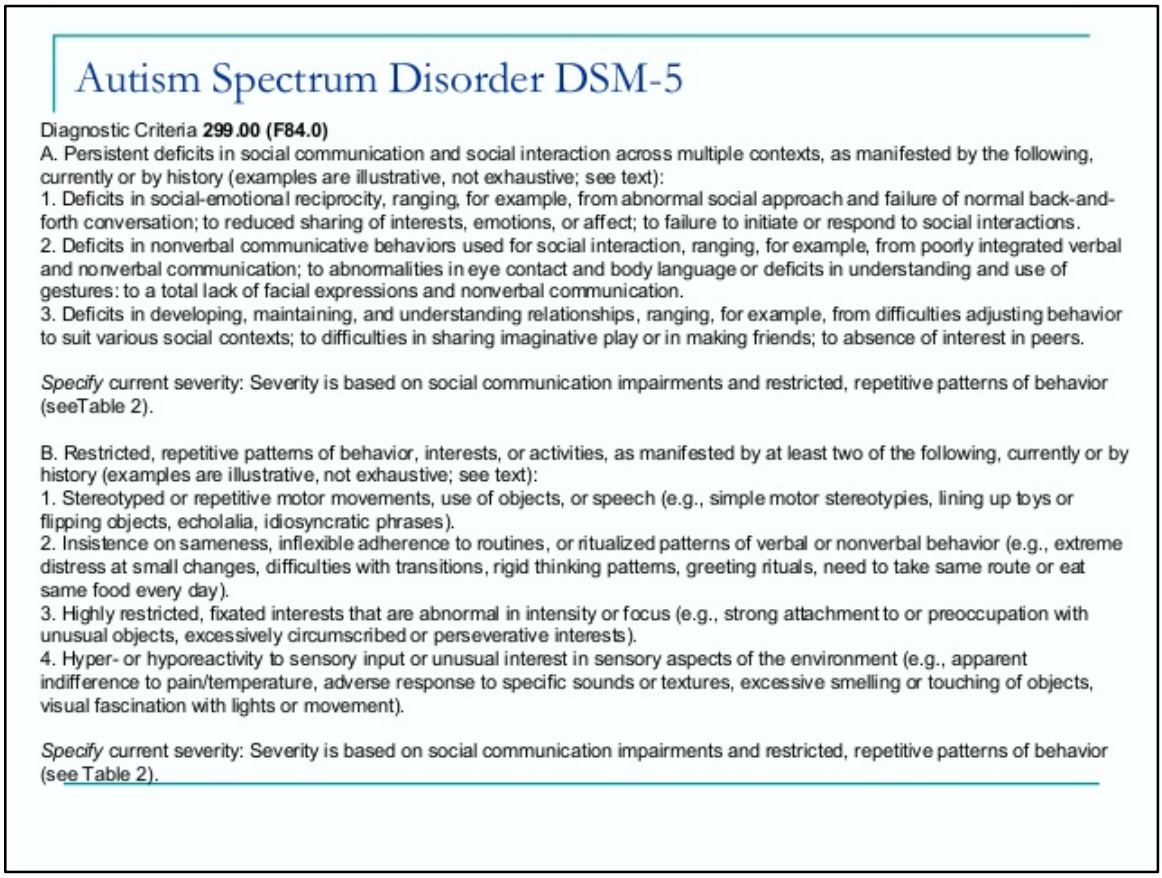
Individuals with autism might also struggle behaviorally, as they may engage in behaviors that are restricted or repetitive (Kuhaneck 2015). Those with autism may exhibit repetitive motor mannerisms such as hand flapping, finger flicking, head banging, and twirling. Additionally, they may repetitively line up objects or exhibit repetition in their speech. Delayed echolalia is a specific term used to describe the way in which individuals with autism may directly copy or imitate speech sometime after they hear it. Individuals with autism may also have restricted interests or abilities. For example, they may fixate on a single interest at an abnormal intensity. As a result, they may also have superior abilities in one or more areas of functioning such as math, memory, music, or art. While this may be a beneficial aspect of autism as it contributes to being extremely skilled in one area, some individuals with autism may be extremely resistant to a change in routine or environment due to their insistence on sameness. This may result in distress or temper tantrums. Overall, engaging in excessive rates of repetitive behavior can contribute to social impairment for children with autism, interfering with their ability to learn new skills and function effectively in everyday life (Yates 2016).

Furthermore, individuals with autism may experience sensitivity to sensory stimuli (Kuhaneck 2015). Many parents, caregivers, and teachers believe that sensory processing issues are one of the biggest challenges that children on the autism spectrum face. The ways in which individuals with autism experience sensory stimulation is often distorted. Some

individuals on the spectrum are hyper-sensitive, meaning they register stimuli at a much greater sensitivity than the typical person. They may hear frequencies and intensities of sounds that most people cannot register, pick up on distinct details, sense smells that others do not notice, and feel very slight levels of stimulation on their bodies. This can be distracting, overwhelming, and in some cases, painful, proving to be a huge disruption in everyday functioning for individuals with autism. To prevent sensory overload, hyper-sensitive individuals may wear gloves, ear protection, specific fabrics, sunglasses, hoods, or hats to decrease the stimulation they receive from the environment (Nason 2014).

On the other hand, some individuals on the autism spectrum are hypo-sensitive, meaning they do not register normal levels of stimulation. Unless they are intensified, they may not feel, hear, see, or smell common sensory experiences other people naturally pick up on (Nason 2014). For example, children on the spectrum may have a diminished sense of touch in which they are not able to feel light touches, pain, or temperature changes. Due to their lack of tactile stimulation, individuals with this issue may look for opportunities to experience "touch" by banging their head against surfaces, biting themselves, picking their skin, playing roughly with others, and wearing tight clothing (Kuhaneck 2015). Both hyper-sensitivity and hypo-sensitivity pose challenges for children with autism, as over-arousal may inhibit them from staying calm and under-arousal may cause them to be constantly fidgeting in an effort to increase stimulation (Yates 2016). Overall, individuals on the autism spectrum may struggle with different combinations and degrees of cognitive, social, emotional, behavioral, and sensory challenges.

Figure 1: Autism Spectrum Disorder Diagnostic Criteria (as listed in the DSM-5)



Autism Spectrum Disorder DSM-5

Diagnostic Criteria **299.00 (F84.0)**

A. Persistent deficits in social communication and social interaction across multiple contexts, as manifested by the following, currently or by history (examples are illustrative, not exhaustive; see text):

1. Deficits in social-emotional reciprocity, ranging, for example, from abnormal social approach and failure of normal back-and-forth conversation; to reduced sharing of interests, emotions, or affect; to failure to initiate or respond to social interactions.
2. Deficits in nonverbal communicative behaviors used for social interaction, ranging, for example, from poorly integrated verbal and nonverbal communication; to abnormalities in eye contact and body language or deficits in understanding and use of gestures: to a total lack of facial expressions and nonverbal communication.
3. Deficits in developing, maintaining, and understanding relationships, ranging, for example, from difficulties adjusting behavior to suit various social contexts; to difficulties in sharing imaginative play or in making friends; to absence of interest in peers.

Specify current severity: Severity is based on social communication impairments and restricted, repetitive patterns of behavior (seeTable 2).

B. Restricted, repetitive patterns of behavior, interests, or activities, as manifested by at least two of the following, currently or by history (examples are illustrative, not exhaustive; see text):

1. Stereotyped or repetitive motor movements, use of objects, or speech (e.g., simple motor stereotypies, lining up toys or flipping objects, echolalia, idiosyncratic phrases).
2. Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior (e.g., extreme distress at small changes, difficulties with transitions, rigid thinking patterns, greeting rituals, need to take same route or eat same food every day).
3. Highly restricted, fixated interests that are abnormal in intensity or focus (e.g., strong attachment to or preoccupation with unusual objects, excessively circumscribed or perseverative interests).
4. Hyper- or hyporeactivity to sensory input or unusual interest in sensory aspects of the environment (e.g., apparent indifference to pain/temperature, adverse response to specific sounds or textures, excessive smelling or touching of objects, visual fascination with lights or movement).

Specify current severity: Severity is based on social communication impairments and restricted, repetitive patterns of behavior (see Table 2).

(Journal of the American Academy of Child & Adolescent Psychiatry, 2014)

How Does Autism Spectrum Disorder Affect Children in the School Setting?

The school setting can be extremely difficult for children on the autism spectrum. Autism can affect children's academic performance in various ways, however, the ways in which autism affects each child is going to be different due to some children being higher functioning than others (Boyd 2010). It is nearly impossible to summarize all the challenges children with autism face in the school setting, as children in different settings and at different levels do not all focus on the same things within the classroom. Literature does note, however, some examples that hold common for numerous individuals with autism.

Children with autism may have trouble with organization throughout the school day. They may struggle with starting and completing assignments and transitioning within or between classrooms (Boyd 2010). It may be difficult for them to cope with any unpredictability during the school day and adjust to changes in the classroom environment, such as a change in lighting, sound or odors (Autism Speaks 2017). Additionally, children with autism may struggle with processing auditory information, so it may take them longer to understand and follow directions given by their teachers. They may have difficulties with filtering out background noise and focusing on the task at hand. Meanwhile, some students with autism may have a rigid style of processing information in which they overanalyze details and are unable to grasp and integrate any meaningful information (Boyd 2010).

Children with autism may also struggle socially within the school environment. Children on the spectrum may have social deficits that make it difficult for them to establish friendships. They may exhibit characteristics that contribute to them being perceived as odd or different by their peers, which can lead to them being teased or bullied (Boyd 2010). In general, students with disabilities have been found to spend less time engaged with peers, adults, and activities than children without disabilities, but according to research, this holds specifically true for children on the autism spectrum (Bagatell 2012). As a result, in unstructured parts of the school day outside of the academic classroom, children with autism run a much higher risk of becoming socially isolated and lonely (Autism Speaks 2017). As children with autism grow older, due to the social challenges they may face within the school setting, they run the risk of being diagnosed with mental health disorders such as anxiety and depression (Boyd 2010). It is important to note, however, that some children with autism cannot distinguish between playful and mean-spirited teasing by their peers, therefore it is

crucial that teachers and professionals are cognizant of the social issues children with autism may face, watch for signs, and work to prevent any teasing or bullying within the school setting (Autism Speaks 2017).

The challenges that children with autism face within the academic environment may contribute to them experiencing high levels of stress. Many children with autism struggle with communicating feelings of stress and cope with these feelings by having behavioral meltdowns. While their outbursts may seemingly occur with warning, in many cases, children with autism exhibit signs beforehand. In order to prevent children with autism from melting down and to support their academic achievement as a whole, providing children with academic, environmental, social, and sensory modifications and support within the school setting is extremely crucial (Autism Speaks 2017). Different forms of therapy including occupational therapy, speech therapy, physical therapy, and applied behavioral analysis (ABA) may be administered within the school setting to offer support to children with autism.

Recognizing and Adapting to Autism Spectrum Disorder

All children with autism exhibit symptoms in the five core areas of communication, social interaction, repetitive behaviors and restricted interests, sensory processing, and learning styles, however, the presentation and severity of these symptoms vary considerably from person to person. It is often said "if you know one person with autism; you know one person with autism" because one child with autism may have completely different symptoms from another child with autism. A mildly affected child with autism may exhibit some quirky personality traits, but be able to live a relatively typical life, meanwhile, a severely affected child might be unable to communicate or take care of his or herself (Autism Speaks 2012). In the context of occupational therapy, children on the spectrum are going to have different

therapy goals depending on the severity of their symptoms and their overall level of ability. For instance, a low functioning children with autism may work with an occupational therapist on simply making eye contact when talking to others, meanwhile higher functioning children may work on tying their shoes and improving their handwriting.

Every child on the autism spectrum experiences the disorder differently, therefore professionals that work with the population, like school-based occupational therapists, must be in tune with each individual's specific needs and adapt to them accordingly. Beyond working with children on their occupational therapy goals, occupational therapists also use specific strategies to support the children's communication, social interaction, and sensory needs to effectively support children with autism during therapy session. For instance, for children with autism who face difficulties with communication and social interaction, occupational therapists may simplify their language when talking to the child they are working with, they may supplement verbal information with pictures, visual examples, or gestures, or if the child is completely nonverbal, they may work with them using communication devices such as iPads. The communication strategies used by the occupational therapists will be different for each child depending on their specific abilities (Autism Speaks 2012).

Moreover, occupational therapists must adapt to the needs of children with autism who face sensory challenges, as it may be difficult for them to remain calm during therapy sessions. Occupational therapists may work to help the children maintain a balanced, ready to work state by integrating various play-based activities into therapy sessions. Occupational therapists are trained to know what kind of sensory input will be stimulating and what kind of sensory input will be calming for a child. They additionally have an understanding of which

activities should be used at what times to help the children they are working with remain as calm as possible during therapy sessions. Overall, there are many strategies that school-based occupational therapists may use to alter the environment and provide support for children with autism in order to make therapy sessions as productive as possible (Autism Speaks 2012). Due to each child with autism having unique needs, occupational therapists must have a strong understanding of the needs of their clients so they can adapt their treatment sessions accordingly. The following section will work to provide specific examples of the ways in which occupational therapy may be used to assist children on the autism spectrum within the school setting.

Occupational Therapy in Action: Treating Children with Autism in the School Setting

This next section will summarize three treatment examples that are representative of the many ways occupational therapy may be administered to school-age children with autism in an effort to help them function more successfully within an educational setting. The individuals discussed in the following examples range from ages 4 to 17. The children's occupational therapy goals and resulting interventions put in place by the occupational therapists differ depending on the individuals' autism spectrum disorder related challenges and age-appropriate needs.

The first two treatment examples center around children that face sensory processing and behavioral challenges. The ways in which children with autism experience sensory stimulation is often distorted as a result of receiving too much stimulation or not enough. The amount of sensory stimulation children receive affects their ability to behave and function successfully in the classroom setting. When addressing sensory processing issues in children

on the spectrum, occupational therapists work to design therapeutic activities with a sensory integration approach in mind. Activities may be designed to either increase or decrease a child's arousal in an effort to help them function more successfully in their environment. Sensory integration or the ability to control one's level of stimulation is extremely crucial for a child's ability to engage in play and interact with others. In order to successfully interact with their environment, a child must experience appropriate levels of arousal, orientation, and attention. Sensory integration is also necessary when it comes to the development of motor planning skills involved in play activities, such as constructing and manipulating objects and materials. Impaired sensory processing in children with autism is often associated with them having difficulties in attending, arousal, interactions with others, and goal-directed play, therefore it is extremely important that occupational therapists work with these children beginning at young ages (Case-Smith 1999).

The third treatment example focuses on the social and vocational side of occupational therapy, and how this may be used to treat adolescents on the autism spectrum. Adolescents with autism face similar challenges that young children with autism face, however, these challenges become more significant when these individuals reach the age where there is a greater expectation placed upon them to contribute and integrate themselves into society. At this stage, many parents hope to see their teenagers on the autism spectrum being social with their peers, participating in school social events and clubs, and gaining the skills needed to become more independent and enter the workforce, if possible. Occupational therapists therefore have multiple goals when working with adolescents on the autism spectrum. Depending on the individuals' needs, occupational therapists may work to help teenagers with autism participate in more social activities with their peers, they may help them become more

independent and responsible by learning to solve problems, by coping with every day events, and by interpreting social information, they may work to help them get and keep and job, and they may help the teenager prepare for the future. Adolescence is an extremely crucial and transitional time for individuals with autism as they begin to prepare for adulthood, therefore occupational therapists play an important role in helping these individuals successfully integrate themselves into their school, home, and community environments. Adolescents with autism may be eligible to receive occupational therapy services within the school setting up until they are 21 years old (American Occupational Therapy Association 2017). The following three treatment examples, as a whole, depict some of the specific ways occupational therapy may be used to treat children on the autism spectrum.

Treatment Example #1: *Intervention for 5-year old child with sensory processing challenges*

This first example centers around D.Y., a 5-year-old boy with autism who faces sensory processing issues. [The initials D.Y. were used to maintain confidentiality.] D.Y. was followed as he underwent a 10-week intensive occupational therapy program, consisting of 30 therapy sessions. In order to design a proper occupational therapy intervention plan, D.Y.'s mother was interviewed to determine his areas of strengths and weaknesses in relation to his participation in the school, home, and community environments. For the purposes of this projects, D.Y.'s challenges that most directly relate to his participation in the school setting will be discussed.

When describing the difficulties D.Y. faced, the 5-year-old child's mother explained that he was extremely rigid, had trouble focusing and transitioning from one activity to another, and that he had difficulty playing with and connecting to other children his age.

After assessing the child, using a sensory integrative approach, multiple occupational therapy goals were established according to the concerns of the child's mother. First, the occupational therapy program worked to improve D.Y.'s attention, focus, and participation in play with his peers. The child's difficulty in focusing and interacting with his peers was attributed to challenges he faced with sensory modulation and self-regulation, therefore, within occupational therapy sessions, the child was pushed to engaged in active, sensory motor activities such as climbing up rock walls, swinging on trapeze swings, and pushing himself up using his upper body that targeted these areas of sensory functioning. By having D.Y. participate in these activities, the occupational therapist also worked to improve his safety awareness, as the child's mother expressed concerns about his inability to play with others without supervision due to his inability to use equipment and interact with others safely. Lastly, these activities worked to improve D.Y.'s fine motor skills. The occupational therapist worked to better D.Y.'s ability to participate in fine motor activities such as coloring for longer periods of time and without redirection from an adult (Schaaf 2012).

At the end of the 10-week intensive occupational therapy program, the 5-year-old child's teacher reported that D.Y.'s attention in the classroom improved so much so he no longer needed an aide for his schoolwork. Furthermore, D.Y. was reported to be doing well socially in school, as he was having minimal difficulty in interacting with his peers. Overall, from this treatment approach, it was determined that an intensive occupational therapy program (30 therapy sessions over a 10-week period) using a sensory integration approach may be useful for children with autism whose challenges are related to difficulty processing and integrating sensory information. Though the specific interventions and results are going to be different for each child with autism, this sample case provides an example of an

occupational therapy intervention model for children with autism who have difficulties in the school setting due to issues with processing and integrating sensory information (Schaaf 2012).

Treatment Example #2: *Intervention for five pre-school age children with varying sensory and behavioral challenges*

This next treatment example details the ways in which occupational therapy using a sensory integration approach is used to treat five preschool children with autism that exhibit varying sensory and behavioral challenges. This sample case was conducted after the children had been without therapy for a month due to being on their winter break. After returning to school in January, for 3 weeks, the children attended a preschool program but did not receive occupational therapy during this beginning period. Each week, the children were videotaped in their classroom during their 10 minutes of free play. After being observed for 3 weeks, a 10-week therapy intervention phase was put into place, in which each child received occupational therapy services emphasizing sensory integration (Case-Smith 1999). The table below summarizes the children involved in the study, the behaviors they exhibited during the observation period, and the resulting occupational therapy goals put into place for the remainder of the study.

Table 1: Information about the Participants

Participant's Initials	Age	Behavioral Challenges	Occupational Therapy Related Goals
A.C.	5 years old	-Severe behavioral outbursts, physical in nature -Difficulty with transitions -Uncomfortable with sensory experiences outside of own control	-Improve ability to engage in learning activities -Improve prewriting skills -Develop higher level of play
T.D.	4 years old	-Picky eater -Does not use utensils -Poor eye contact -Limited interaction with peers and adults -Limited Speech	-Increase focus and attention to tasks -Increase use of tools -Improve participation in group activities
J.F.	5 years old	-Excessive teeth grinding -Staring -Rocking back and forth -Shaking head -Avoiding eye contact -Limited interaction with peers	-Control behavior in order to participate in classroom activities -Engage in school-based fine motor skills -Follow patterns, use simple stencils -Zip up coat
J.M.	5 years old	-Doesn't like certain textures and foods -Hypersensitivity to sounds -Limited interaction with adults and peers -Self-stimulation behaviors (tilting head, staring at spinning objects)	-Control behavior in order to participate in classroom activities -Trace letters and shapes independently -Accurately cut with scissors
J.S.	5 years old	-Sensitivity to touch -Limited interaction with adults and peers -limited eye contact -Difficulty focusing on task at hand -Aggressive in play -Limited language	-Control behavior in order to participate in classroom activities -Demonstrate higher level of play

(Case-Smith 1999)

During the 10-week intervention phase, each child received occupational therapy services emphasizing sensory integration. The one-on-one services were provided in a room next to the classroom, and each session lasted for approximately 30 minutes. The activities during each session were designed to meet the specific needs and goals for the child and varied based on the tolerance and interests of the child. First, within the sessions, the occupational therapist had the children swing on a suspended swing. This provided them with

vestibular stimulation, or the process of sending specific electric messages to a nerve in the ear that maintains balance. Tactile brushing was also used at the start and end of each session, in which the children's limbs and body were stroked with a sensory brush to provide them with sensory input. Both the suspended swing and tactile brushing were used to provide the children with appropriate levels of stimulation that would allow them better maintain focus and more successfully perform the activities planned for them during their sessions. The occupational therapists designed all the therapy activities in a playful manner and within ranging levels of structure, depending on the needs and abilities of the child. Overall, the activities planned for the children during the occupational therapy sessions provided a therapeutic balance between providing sensory input for the child and helping the child learn new skills (Case-Smith 1999).

In addition to working with the children, the occupational therapist also coached the preschool teachers on how to implement sensorimotor activities in the classroom that would further contribute to the children's occupational therapy intervention phase. She worked to establish a preschool environment that would offer opportunities for therapeutic sensory input during the children's play time. The occupational therapist encouraged the preschool teachers to use equipment within the classroom including slides, beanbag chairs, rocking equipment, and a sensory sand and water table to provide the children with various forms of sensory input throughout the school day. For instance, a tent with a bean bag chair was placed in T.D.'s classroom to help him with sensory control (Case-Smith 1999).

The children's progress was measured in terms of four categories: mastery play, non-engagement, adult interaction, and peer interaction. Mastery play measured the children's ability to interact with their physical environment in an exploratory or goal-directed manner.

Non-engagement described the children not interacting or minimally interacting with his or her environment. For example, if a child stared or wandered aimlessly, this would be considered non-engagement. Next, the category of adult interaction measured the children's ability to interact with adults physically or verbally using behaviors that were contextually or developmentally appropriate. Lastly, peer interaction referred to the children interacting with peers physically or verbally in appropriate manners. It included the children's nonverbal active communication, verbal communication, interdependent play, and mutual organization (Case-Smith 1999).

As a result of the 10-week occupational therapy intervention program, the five children with autism in the study exhibited improvements in play and engagement. Three of the five children specifically demonstrated improvements in mastery play, in which their motor planning progressed and their sensory defensiveness decreased. All but one of the children exhibited less non-engagement behaviors during the intervention phase. As for interactions with adults, one of the children demonstrated significant improvement in interacting with adults, two of the children exhibited slight improvements, and the others continued to be nonresponsive to interaction attempts and at times, needed to be lured into interacting with others. None of the children, however, improved in peer interaction, which the authors found to be expected, as interaction between two children with autism is much more difficult to produce than interaction between a child with autism and an adult. Though this treatment example recognizes that it has limited external validity due to each child with autism having their own specialized needs, the results of the study support that occupational therapy intervention using a sensory integration approach can produce behavioral changes for children with autism (Case-Smith 1999).

Treatment Example #3: *Intervention for 17-year-old adolescent in need of social and academic support*

The last treatment example centers around Jimmy, a 17-year-old adolescent male on the autism spectrum. Within his public school, Jimmy was a junior in a general education curriculum, however, he received special education support under autism spectrum eligibility to aid with his social and academic participation. This example specifically focused on Jimmy's occupational challenges in the culinary club at his school. Jimmy faced issues in participating in the club because he often forgot to attend the events and meetings, struggled with independent meal preparation, had difficulty making friends, and faced challenges with organizing and managing his time. After his mother requested an occupational therapy evaluation by the school, the school occupational therapist stepped in to help Jimmy. Using the Canadian Occupational Performance Measure (COPM), the school occupational therapist, Nadia, identified organizational skills, independent meal preparation, and the development of social skills to make friends as the occupational goals she would work on with Jimmy (Tomchek 2017).

The treatment example details the various interventions the school occupational therapist used to assist Jimmy. First, in order to help Jimmy organize himself to regularly attend the culinary club, Nadia coached Jimmy in learning how to use an app on his iPhone that would allow Jimmy to set reminders and schedule various tasks for himself associated with the culinary club. Nadia also worked with the home economics teacher to get lesson plans of the meal preparation activities the club would be doing each time they met. She discussed with the teacher Jimmy's interest in recipes and suggested that Jimmy should have the responsibility of handing out the weekly recipe to the group. Having read evidence that technology-enhanced visual supports could increase the number of steps one could do

independently, Nadia additionally worked with Jimmy to use simple iPhone cues to increase Jimmy's independence with meal preparation. She also coached the home economics teacher and Jimmy to solve issues related to improving his organization and safety (Tomchek 2017).

In order to improve Jimmy's social abilities, Nadia developed a social skills group in which Jimmy and three other boys participated in. The group also included two peer tutors who would provide peer-mediated interventions. This social skills group met every day over the course of 10 weeks, with each member taking the lead in selecting a topic to talk about, organizing a daily activity, and facilitating group discussion and task participation. Nadia used guided questioning and ongoing feedback to provide correction, pose talking points, and redirect conversations if the boys got off track. In creating this discussion group, Nadia worked to foster interaction and social responses between the boys, increase the boys understanding of verbal and nonverbal cues, and the ability to talk about a variety of topics (Tomchek 2017).

As a result of Nadia's various occupational therapy interventions, Jimmy was able to increase his culinary club attendance from 25 percent to 90 percent. Additionally, the strategies Nadia posed taught Jimmy how to independently prepare a meal, and as a result, Jimmy was assigned an internship during the school day in the food industry. For this internship, he was paired with a member of his social skills group, as the group helped the boys form a friendship based on their similar interests. Nadia's occupational therapy interventions were clearly successful in helping Jimmy develop skills that benefitted him within the school setting (Tomchek 2017).

In summary, the three treatment examples described in this chapter provide an overview of some of the ways occupational therapy may be used to assist children with autism

within the school setting. First, these examples demonstrate the versatility of occupational therapy intervention, showing that occupational therapy can be used to treat children of all ages who face a variety of different challenges. Moreover, these examples emphasize the flexibility of the occupational therapists themselves and their ability to adapt to the needs of children on the autism spectrum.

Occupational therapy sessions are not a simple formula in which each client receives the same type of treatment. Due to occupational therapy being client-centered, occupational therapists design treatment sessions according to their clients' needs. The challenges children with autism face are extremely varied, as each child with autism has different communicative, social, sensory, behavioral, etc. needs. Therefore, occupational therapists must adapt to the varying needs of children on the autism spectrum and design treatment plans accordingly. As described, the occupational therapy interventions used to assist Jimmy, a high functioning 17-year-old adolescent boy on the autism spectrum are evidently very different from the strategies used to treat the young children with sensory processing disorders in the first two treatment examples. Overall, the occupational therapy treatment examples discussed in this chapter emphasize the fact that no two children with autism face the exact same challenges, therefore, it is up to the occupational therapists to recognize their clients' specific areas of need and to design their therapeutic intervention accordingly. The findings from Chapter 1 and Chapter 2 together pose the overarching question that will be explored in this project: What approaches are helpful to school-based occupational therapists in managing the day to day treatment of children on the autism spectrum?

Chapter Three: Methodology and Results

Methodology

Purpose of Study

In an effort to foster the highest quality of care for individuals with autism by increasing knowledge about treatment, the purpose of this study is to explore occupational therapists' approach to managing the treatment of children on the autism spectrum. There is a vast amount of existing research that recognizes the widespread challenges that children with autism face whether these challenges be sensory, communicative, behavioral, social, or vocational. Literature additionally recognizes the client-centered aspect of occupational therapy, emphasizing that occupational therapists must be in tune with their patients' needs and develop treatment plans that align with their clients' capabilities and occupational therapy centered goals. Consequently, there are many existing case studies that describe the various therapeutic interventions used by occupational therapists to assist children on the autism spectrum. From a clinical perspective, these case studies demonstrate the versatility of occupational therapy and the many ways it can be used to assist children of different age groups and with varying needs. Though research from a clinical perspective is abundant, literature detailing occupational therapists' day to day approach to working with children on the autism spectrum is sparse. Through the use of in-depth interviews, this study attempts to gain an understanding of occupational therapists' everyday approach to managing the treatment of children with autism in the school setting.

Sampling Population

For my in-depth interviews, I contacted five school-based occupational therapists from three different schools to talk to them about their day-to-day experiences and approach to managing the treatment of children on the autism spectrum. The first two interviews were with occupational therapists that work at Academy 360, a private school for children with autism in Verona, New Jersey. The next two interviews were with occupational therapists that work at the Kevin G. Langan School in Albany, New York. This school is a part of the Center for Disability Services and offers care to children with autism, traumatic brain injuries, and multiple disabilities. The last interview was with an occupational therapist from the Wildwood School, a private school for children with autism and other neurological impairments in Schenectady, New York. Interview participants were found primarily through snowball sampling. After obtaining oral consent from the participants to record the interviews, the interviews were conducted over the phone and in a conversational manner. A prepared list of questions was used when speaking with participants, and follow-up questions were asked when more information was needed. Participation in the interviews was voluntary, and all information was kept confidential. Though the sample population was small, the interview participants were knowledgeable about their area of practice and provided an abundance of detailed information on the various topics discussed.

Description of the Interview

Interview participants were first asked to provide basic information about themselves including their age, level of education, and number of years they have been working as an occupational therapist. Furthermore, they were asked to describe the school they work for,

how occupational therapy services are funded at the school, and the structure and organization of the school's therapeutic services. After obtaining basic information, the participants were asked about the specific experiences they have had while working as an occupational therapist with children with autism. They were asked about why they chose to work with children with autism, the kinds of challenges they have faced in working with this population, and the differences they have experienced in working with lower functioning versus higher functioning children with autism. Moreover, they were asked about the role that parents, teachers, and other therapists play in treating children with autism. After that, the participants were questioned about their education and training, more specifically whether they feel their occupational therapy education properly prepared them to work with children on the autism spectrum and how much of their schooling they actually use in practice. Lastly, the participants were questioned about overall their approach to managing the treatment of children with autism. They were asked about where they learn the tools to manage children's challenging behaviors, any instances where they may not have known what to do, and they were asked to provide examples of times they have had to think outside the box or improvise when working with children with autism. At the end of the interview, the school-based occupational therapists were asked to share anything else they felt was important about their approach to managing the treatment of children with autism. (See **Appendix** for outline of interview questions)

Results

Academy 360- Verona, New Jersey

The first set of occupational therapists interviewed were from Academy 360, a private special education school in Verona, New Jersey. Aiming to deliver the highest quality educational and therapeutic services to school age children who face various academic, social, and emotional challenges, Academy 360 works to support children on the autism spectrum, as well as children with related disabilities. Academy 360 provides services for children who have needs that cannot be met by their public school districts. The students' tuition is paid for by their school districts, and all therapy costs (occupational, physical, and speech) are included within tuition costs. For the occupational therapy services, Academy 360 contracts a therapy company that works within the school. The therapy team consists of supervisors, senior occupational therapists, and regular occupational therapists, with their titles differing from one another based on how much administrative work they are responsible for. A supervisor and senior occupational therapist were interviewed for this study. Both respondents had their Master of Science in Occupational Therapy.

Collaboration

The respondents first discussed collaboration as an important part of their approach to managing the treatment of children on the autism spectrum in the school setting. They explained that collaboration is an essential step that must be taken before officially setting a child's occupational therapy-based goals. Collaboration takes place with teachers and parents, but differs depending on the child's needs, as well as how involved the families are. The respondents stated that they will always collaborate with teachers to some extent. When

working with teachers, they talk to them about the children, their goals, and how they are doing in the classroom. They often ask the teachers for their insight on what is being worked on in the classroom and how occupational therapy can be used as a supplement for the children's goals.

As for collaboration with parents, the respondents stated that there are different levels of parental involvement. Before beginning a school year, the occupational therapists at Academy 360 will reach out to their students' parents either by phone or email to get their input on what they believe their child should be working on during therapy sessions. They explained that some parents are extremely hands on and will have a lot of opinions on what they want to see their child working on, while others are completely hands off and either give them limited information or don't respond to them at all. The respondents stated they will always take into account what the parents want when developing their treatment plans, but if the parents are not responsive, they will use the teachers input and their own discretion.

Adapting to Children's Needs

Additionally, in detailing their day to day approach to managing the treatment of children on the autism spectrum, the respondents from Academy 360 discussed adaptability as a necessary skill for being able to effectively treat children on the spectrum. The therapists discussed the widespread needs of children with autism, and the importance of being extremely in tune with their students' needs, desires, and abilities. They explained that in order to be a good therapist, they must tailor their treatments to the specific needs of the child they are working with, as autism can look like an entirely different disorder in each child affected by it.

Communication

The respondents explained that children with autism differ from each other in their levels of communication, therefore it is important to adapt to individuals' ways of communicating. Comparing high functioning children with autism versus low functioning children, they explained how their communicative abilities may be extremely varied. Very often, high functioning children with autism have the ability to fully express their needs. They are able to tell therapists what activities they want do, when they need a break, and even when they may need more sensory input to calm their bodies down. When working with a high functioning child, therapists are able to easily adapt their therapy sessions to the desires of the student.

On the other hand, if a child with autism is low functioning, they may be unable to communicate. Some children may be able to use basic language and gestures to express their needs, while others may have no language at all. Furthermore, some children may be able to effectively use iPads and other communication devices to express themselves, while others may just be learning how to use these forms of technology. Due to children having different communicative abilities, the respondents explained that they have to be extremely cognizant of their students' behavior, as children may have different ways of expressing their basic needs, whether they are hungry, need to use the bathroom, or need a sensory break. Moreover, they have to adjust the activities done during treatment sessions to the communicative levels of the child, so the child can actively participate in therapeutic activities. Overall, the respondents explained that adapting to children's different communicative abilities is an essential part of being successful in treatment.

Activities

Whether a child on the spectrum is high or low functioning also affects the activities that are able to do during treatment sessions. One of the respondents explained that a child's occupational therapy based goals are based on their level of functioning, therefore occupational therapists work to adapt activities to the children's level. For example, a high functioning child with autism who is very talkative and social, but slightly quirky is going to work on very different skills in comparison to a low functioning child who cannot speak or care for his or herself.

> "When I'm working with a high functioning child- let's say this child is a little quirky, has sloppy handwriting, and struggles with social skills- we might work on things like handwriting, writing a paragraph, and turn taking while playing games with other children. That's going to be very different than what I might work on with a low functioning child with limited language. With that child, we might work on simply pulling up pants after toileting or maintaining eye contact while playing a game."

One of the respondents additionally noted that one activity can be adapted in multiple ways to accommodate a child's level of functioning. Therapists may take the same activity and make it super easy for a low functioning child, but much more complicated for a high functioning child. For instance, when working on a color by number activity, a high functioning child may work on the activity the way it is designed to be done, in which they have to color a picture according to what the numbers tell them. Meanwhile, with a low functioning child, an occupational therapist may just have the child work on holding a marker in their hand and coloring the whole page one color to the best of their ability.

Flexibility

Lastly, the respondents from Academy 360 explained that one cannot be successful in working with the autism population if they are not able to be flexible and think on one's toes. Both respondents explained that learning how to work with children on the spectrum is not something that can be taught in the classroom, and is in fact not taught specifically during occupational therapy school. While autism as an overall diagnosis is discussed in graduate school, the respondents explained that one does not learn how to work with the population until they are exposed to it hands on. They explained that because every child with autism is so different, it requires them be extremely flexible in their treatment.

Flexibility in Treatment Sessions

The respondents stated when they go into a treatment session with a child, they always have an idea of the goals they want to work on with a child whether it be writing, typing, or finger strengthening, for example. However, while they may have an idea of what activities they might use to help the child work toward their goal, they do not always go into a session with an exact plan due to the unpredictability of the behaviors of children on the autism spectrum. The therapists explained that when working with children with autism, it is impossible to predict what type of day the child is going to have. Some children may have days where they are tired or sick, where they act more aggressively, or where their sensory needs are higher. The therapists explained that when a child is having an off day, getting the child back to a calm state becomes more important than forcing the child to work on their occupational therapy based goals.

> "When working with children on the spectrum, you can plan all you want, but nothing is ever going to go 100% according to plan. Sometimes you just have to meet a kid where they're at. Sometimes a kid might be having a really bad day and you just need to focus on getting the child back to a regulated state so they can participate in the rest of the school day."

Flexibility in Working with Aggressive Children

The respondents moreover emphasized the importance of being flexible when working with children on the spectrum who exhibit aggressive behaviors. They stated that it is important to be flexible for not only the child's safety, but for their own safety as well. One respondent stated that if she sees a child becoming agitated during a therapy session, her first instinct is to let the child take a break and relax rather than pushing the child to finish the activity and risk making their agitation worse. She explained that she does this as a preventative measure, as some children on the spectrum exhibit behaviors that are potentially dangerous to the people around them. For example, she has seen professionals who have gotten their teeth knocked out and others who have gotten brain injuries from working with violent children on the spectrum. The respondents explained that being flexible during therapy sessions and not pushing children to their limits is an essential component of working with children on the autism spectrum.

Kevin G. Langan School- Albany, New York

The next set of occupational therapists interviewed were from the Kevin G. Langan School, a school for children with autism, multiple disabilities, and traumatic brain injuries in Albany, New York. A part of the Center for Disability Services, this school serves children ages 5 to 21, and consists of primary and secondary classrooms, which students are assigned

to according to their age and level of learning. The Kevin G. Langan School busses children from more than 30 different school districts to its Albany location. The majority of children who attend the Langan School are considered to be lower functioning and exhibit behaviors that are considered unsafe in their regular school districts. While their districts do not have the proper programs to meet their needs, the Kevin G. Langan School is a place where children can go to receive an education, while also receiving the special education services that their needs require. The school's services are funded by Medicaid. Within the Kevin G. Langan School, there are nine certified occupational therapists. Both occupational therapists who were interviewed had their Master of Science in Occupational Therapy.

Collaboration

Staff Support

In approaching and managing the treatment of children on the autism spectrum, both respondents stressed the importance of collaborating with a team. The respondents explained that they have frequent team meetings with the classroom staff, school psychologists, and other therapists. Within these meetings, the staff discuss their students' challenges and specific situations where they may have had trouble getting through to a child. Furthermore, they share their ideas and problem solve together, discussing what works and what doesn't work for a child. The respondents explained that these team meetings are an extremely important resource that help guide the way they approach their treatment sessions.

One of the respondents additionally emphasized the importance of collaborating with the classroom teachers on a daily basis.

> "I like to check in with the classroom teachers every day. Communicating with the teachers is the best way to find out what is going with a child during the school day, and how you can work with a child to be more successful in the classroom. As OT's, we are only spending a few hours a week with a child. The teachers spend the most time with the kids, therefore they have insight on the student that we may not be aware of."

This respondent furthermore discussed the significance of working with the speech therapists and physical therapists. She explained that in order to provide the most benefits to students, there needs to be carry over between the different types of therapy they are receiving. She believed that children working on similar skills and goals in each of their therapy sessions is going to lead to the most successful outcomes.

Parental Involvement

The respondents additionally mentioned the importance of collaborating with the parents of their students. When developing occupational therapy treatment plans, the respondents explained that they will contact students' parents either by phone or email. When conversing with parents, they communicate to them what they want to work on with their child and ask the parents for their input. Before officially deciding on a child's occupational therapy based goals, the respondents explained that they value getting the parents' perspectives and finding out if there is anything specific they would like to see their child work on. While some parents are more involved than others, the respondents explained that they try to involve the families in treatment as much as possible.

Problem Solving

In discussing their approach to treating children on the autism spectrum, the respondents from the Kevin G. Langan school explained that problem solving is a necessary skill that they use in their day to day treatment. Focusing primarily on students' varying communication abilities and their sensory needs, they explained the importance of problem solving and using trial and error in order to assist children on the spectrum and make treatment sessions as effective as possible.

Communication

In regard to communication, the respondents explained that every child on the autism spectrum has a different way of communicating. One respondent who works primarily with lower functioning children with autism explained that when it comes to figuring out how to communicate with students, there is a learning curve.

> "Every student communicates a little bit differently. They may have specific sounds they make, use specific gestures, and they may even have their own signs that they made up. It takes a while to understand what their needs are and what they want to communicate with you, so it is important to be an active problem solver when working with them.

The respondent told a specific story about her experience in working with a student who could not verbalize and did not know how to use any communication devices. She explained that she gave a child a Pec's Book, a book that contains pictures and symbols and a Velcro strip that allows the child to produce sentences and phrases such as "Yes," "No," "I want," and "I like". While the child seemed to take interest in the book, she was still working with her to see if this would be the most effective communication method for her needs. The respondent explained that finding what communication system works best for students involves trial and

error and persistence, as some children are not able to tell you exactly what they need. She explained in this type of situation, she would turn to collaborating and problem solving with the speech therapists.

Sensory Needs

The respondents also discussed the importance of problem solving when assisting children on the spectrum with their sensory needs. First, they explained the ways in which children with autism may have varying sensory needs. For some children, they crave sensory input and cannot get enough of it, therefore occupational therapists need to find activities that will help them calm their body and mind in order to be able to learn and focus on the task at hand. Alternately, some children are extremely sensitive to sensory stimuli. They may not want to touch anything, and they may have issues with bright lights and noises. These children may have a hard time focusing because they are receiving too much sensory input. These children cannot calm down their minds and bodies for a completely different reason than the children who aren't getting enough sensory input. Ultimately, the respondents explained that the varying sensory needs of the children they work with results in them having to use trial and error and constant problem solving to figure out what kind of sensory input works best for each child. Some examples of sensory input that the respondents may use include giving a child squeezes, massaging their back with a vibrating bug, having the child use playdough, putting them on a swing, or having them wear a weighted vest or backpack.

The respondents explained, however, that the sensory needs of individuals on the autism spectrum are extremely unpredictable, therefore what helps a child one day may be

completely ineffective the next day. They explained that sometimes a child's sensory needs can even vary from hour to hour.

> "The sensory needs of children on the spectrum can change on a daily basis. One day a child may be calmed by deep pressure, but the next day, you may need to come up with something completely different to calm them down. It is definitely a challenge to figure out what will calm down a child and it requires persistent trial and error."

In detailing examples of the way she has problem solved to assist children with their sensory needs, one respondent stated that she will try to provide students with sensory breaks at the beginning, middle, and end of an activity. She explained that some children need fewer sensory breaks than others, so it is a trial and error process to figure out what works best for each child. Providing an example of a child who had extremely high sensory needs, the other respondent explained that for that specific child, she created stations in which the child would participate in a structured therapeutic activity for 2 to 3 minutes and then get a sensory break in between each station. Overall, the respondents explained that it takes time to figure out a child's sensory needs and it requires consistent problem solving, as their needs are always changing.

Training

Lastly, the occupational therapists from the Kevin G. Langan School explained that the specific training they receive is an important part of their approach toward working with children on the autism spectrum. The Langan School requires their occupational therapists and other staff to complete multiple kinds of training that ensure they are qualified to work with children on the autism spectrum who have violent tendencies. First, all staff participate

in the Responsibly Addressing Autism via Education (RAVE) Program. The RAVE program requires staff to do at least 15 hours of training, in which the participants learn how to handle the potential aggressive tendencies and behaviors of their students. The school's occupational therapists and other staff also participate in the Strategies for Crisis Intervention and Prevention (SCIP) training program. This training is required for all professionals to be able to safely work by themselves with children on the autism spectrum. This training program specifically focuses on teaching professionals how to de-escalate children with autism when they are becoming agitated. It teaches professionals different strategies to prevent students from getting "to the point of no return," in which they are too agitated to function and/or start acting violently toward themselves or the people around them. Some of these strategies include getting a student to focus on deep breathing or having them pace around the room in order to calm themselves down. Though it is not always possible to prevent children with autism from becoming fully escalated, this training equips professionals with the tools to safely handle potentially violent situations and behaviors exhibited by children on the spectrum.

Wildwood School- Schenectady, New York

The last occupational therapist interviewed was from the Wildwood School, a non-profit private school for children with autism spectrum disorders and other neurological impairments. This school serves children ages 5 to 21 and consists of elementary, intermediate, high school, and young adult classrooms. The Wildwood School serves children from more than 60 school districts within 14 counties in New York State. The school provides its students with a plethora of services that work to teach them academic, social, employment,

and functional skills. The Wildwood School ultimately strives to have their students develop skills that will enable them to live and work at the highest level of independence possible. Like the Kevin G. Langan School, the students who attend the Wildwood School have needs that cannot be properly supported by their public school districts. Therefore, their public school districts send them to the Wildwood School and pay for their tuition. All therapeutic services are included in the students' tuition, and the students are provided with the services appropriate for their needs. The occupational therapist interviewed from the Wildwood School received her Bachelor's degree in occupational therapy, as she attended school before the field started requiring professionals to get their Master's degrees.

Collaboration

Team Meetings

The respondent first stressed the importance of collaborating with a team when working with children on the autism spectrum. She explained that for every child, they will have team meetings in which teachers, teaching assistants, therapists, social workers, parents, and any other types of support the child requires will meet together to discuss the student. At these meetings, they discuss where students are in their abilities and what they want to see them work on. After receiving everybody's input, as a collaborative team, they will ultimately come up with a plan and set goals for the child. The occupational therapists take the information discussed during these meetings and design their treatment plans accordingly.

Parental Involvement

Furthermore, the respondent explained that the staff at the Wildwood School place a lot of focus on their students' families and are extremely welcoming of input from the parents.

She explained that the majority of her students' parents are very involved and vocal about what they want to see their child work on in occupational therapy sessions. As staff, they believe that the support they give to the parents is just as important as the support they are providing their students with.

The respondent additionally explained that home to school notebooks may be used for students who are nonverbal and cannot go home and tell their parents what they did at school. Therapists and teachers will either write in the notebook or make worksheets that summarize what their students' did well that day, and parents are invited to write to the staff expressing any questions or concerns they may have. Overall, the respondent explained that the parents play an extremely important role in the way treatment is approached.

Adapting to Students' Sensory Needs

The occupational therapist explained that the students at Wildwood School are unique in the fact that they have extremely high sensory needs. She stressed the importance of being aware of these sensory needs and adapting to them accordingly, in an effort to make occupational therapy sessions as productive as possible.

> "The students that I work with at Wildwood have extremely high sensory needs. You have to really know your students in order to handle their needs appropriately. If you have a student who is going to run away from you or scream when another person in the classroom is making noise, you are not going to get anywhere with them when trying to work on their OT goals."

For example, the respondent explained that for students who are more withdrawn and need more sensory stimulation, she may sing to them or use toys with music in order to get their attention. Furthermore, in order to calm down students who are receiving too much sensory input, she may provide them with deep pressure by having them wear pressure vests or

weighted vests, for instance. Added weight and pressure creates a calming effect for children with autism who may be over or under stimulated. These are just a few examples of the various methods the respondent may use to adapt to the sensory needs of children on the spectrum.

Moreover, in discussing the high sensory needs of children on the spectrum, the occupational therapist discussed the importance of catching signs of sensory overload early and handling them before they become out of hand. The respondent explained that when students experience sensory overload, they can often become aggressive. Students may act out violently, become extremely rigid, and may be unable to communicate their needs. Not being able to express themselves only further aggravates them and it becomes a vicious cycle in which they become increasingly frustrated and violent. Therefore, it is important to make an effort to calm a child down as soon as it appears they are growing upset.

When working with higher functioning children who have high sensory needs, the respondent uses a stoplight system in order to prevent students from reaching this point of sensory upset. During therapy sessions, the respondent uses a stoplight chart as a visual to monitor her students' sensory levels. When a student is calm, focused, and ready to work, she will show them that they are in the green area of the stoplight chart. When they start to get a little agitated, this means they are in the yellow area. When this happens, she will have her students take a short break, take some deep breaths, or have them do any other techniques that will help them calm down and bring them back to green. When they are in the red area, that signifies that they are not able to work. At this point, the respondent will stop the therapy session activity all together and will do whatever she has to do to bring her students back down to the yellow or green level.

Problem Solving

The respondent explained that constant problem solving is a main part of her approach to treating children on the autism spectrum. She talked specifically about an experience in working with a child who she couldn't get through to, and the problem solving process she used to finally get him to engage in a therapeutic task.

> "I had this one student that I just couldn't get through to. He was completely uninterested in all fine motor activities. I couldn't get him to hold a marker without him throwing it, putting it in his mouth, or running away. What I had to figure out, was that he needed a ton of sensory input to prep his body to be able to do the activity."

The respondent went on to explain the trial and error process she endured to find out what worked best for the student. As she started to get to know the student and his needs better, she began to integrate things he liked into his treatment sessions, such as proprioceptive input and body awareness activities. She learned that he hated sitting at the table and was easily distracted by objects around him, so she started doing activities with him on a mat on the floor, ensuring there was nothing around him that could distract him. She also learned that he enjoyed going on the swing, so she started rewarding him with the swing every time he did something successfully. Overtime, the respondent explained that she was able to get through to the student and get him to engage in activities during therapy sessions. With this example, the respondent demonstrated the importance of problem solving when treating children on the autism spectrum.

Flexibility

Lastly, the respondent stressed the importance of being flexible during treatment sessions when working with children on the autism spectrum. She explained that there are

times when she goes into treatment sessions with a set plan, but when she arrives, the student is clearly in no shape to follow that plan. When her students are sick or having a having a meltdown, she explained that she will immediately scrap her plan and make her main priority getting the student back to a calm state that will allow them to get through the rest of the school day. If she is successful in getting them back to a state where they can start working on their occupational therapy goals, she will do that, but she explained that this is not always possible, and that is okay. In summary, the respondent explained that as an occupational therapist who works with children on the autism spectrum, one has to be extremely flexible and understand that there are going to be days where students are unable to function according to plan.

Chapter Four: Discussion

The results of this study suggest that significant aspects of occupational therapists' approach to treating children with autism in the school setting include collaboration, adapting to individual needs, problem solving, flexibility, and their training.

Collaboration

The occupational therapists from Academy 360, the Kevin G. Langan School, and the Wildwood School exhibited similarities when explaining the role that collaboration plays in their approach to treatment. First, the respondents discussed the importance of meeting with other school staff members in order to get insight on students' abilities and their goals. While the respondents from Academy 360 primarily focused on the collaboration that occurs with the classroom teachers, the respondents from the Kevin G. Langan School and the Wildwood School furthermore stressed the importance of collaborating with the school psychologists, social workers, and other occupational, physical, and speech therapists. Regardless of who was involved in the collaboration, however, all respondents explained that talking with other staff members is the best way to get an all-encompassing perspective on their students' abilities and goals. The respondents explained that they take what is discussed in a collaborative setting and use that information to form appropriate occupational therapy based goals for their students to work on in treatment sessions.

Additionally, the respondents from all three schools discussed the role that collaboration with the parents of their students play in their approach to treatment. Though the respondents from all three schools welcomed input from parents with open arms, parental involvement varied by school. The respondents from Academy 360 and the Kevin G. Langan School explained that some of their students' parents were extremely involved in the

treatment process, while others were very hands off and left it up to the therapists. Meanwhile, the respondent from the Wildwood School explained that the majority of the parents at her school were very involved and vocal about their goals for their children. The respondent from this school explained that she gets the parents involved in the occupational therapy treatment process in many ways, including inviting them to observe therapy sessions at school and using home to school notebooks. The other respondents explained that their communication with the parents primarily takes place over phone or email. While this issue would need to be explored further, it can be hypothesized that parental involvement may have been greater at the Wildwood School because more personal and interactive methods were used to get the parents involved.

Adapting to Individual Needs and Problem Solving

Adapting to individual needs and problem solving was also discussed by the school-based occupational therapists as important parts of their approach to treating children on the autism spectrum. While these aspects were separated into different sections in the results section, they will be talked about together for the discussion, as problem solving was ultimately used by the respondents in order to successfully be adapt to their students' needs. While the specific examples that each respondent gave differed from each other, in reference to adapting to individual needs and problem solving, respondents from all three schools touched on adapting to children's different communication levels and sensory needs.

Communication

The therapists from both Academy 360 and the Kevin G. Langan school emphasized the role that communication plays in being able to successfully get through to a child during

therapy sessions. The respondents discussed the importance of being able to adapt to their students' methods of communicating. They described the various methods children with autism may use to communicate including iPads, Pec's Book, gestures, sign language, sounds, etc. Furthermore, they discussed the process of finding which communication methods works best for the child. The respondents from both schools explained that this is not always an easy process, as every child expresses their needs differently, and many children that they work with do not have the ability to express themselves. In comparison to the therapists from Academy 360, the respondents from the Kevin G. Langan school went into more detail about what the process of finding an appropriate communication method entails. While the respondent from the Wildwood School did not spend as much time talking about communication as the other respondents, she did mention how it is a challenge to calm down her students when they are not able to express their needs verbally. Overall, adapting to the communicative abilities of children on the autism spectrum was described a helpful part of occupational therapists' approach to treatment.

Sensory Needs

Next, the process of problem solving and adapting to sensory needs was also discussed as an important part of occupational therapists' approach to treatment. While the respondents from Academy 360 only touched on the challenges high sensory needs may create for a child, such as students' needs for increased sensory input and sensory breaks during treatment sessions, the respondents from the Kevin G. Langan and the Wildwood School, went into specific detail about the strategies they may use to handle the sensory needs of their students. Adapting to students' sensory needs was depicted as a trial and error process. The

respondents explained that one of their main responsibilities as occupational therapists is getting to know their students' individualized sensory needs in order to figure out what calming strategies work best for them. Whether that be taking sensory breaks every 2 to 3 minutes, using toys with sounds that are stimulating for the child, or having them wear deep pressure vests, the respondents explained that they always need to be thinking of and trying out different strategies that will help their students maintain a calm sensory state. Moreover, the respondents explained that the sensory needs of children on the spectrum are extremely unpredictable and may change on the daily, therefore they need to be constant problem solvers, as the sensory strategies that work for a child one day may be completely ineffective the next. As a whole, the sensory needs of children on the autism spectrum were depicted as a huge challenge for occupational therapists, as the productivity of a therapy session is influenced by whether a child is having a good or bad sensory day. It is therefore understandable why the respondents stressed the importance of being able to adapt to children's sensory needs.

Flexibility

Going along with the ability to problem solve and adapt to the individualized needs of children on the spectrum, all of the respondents emphasized the importance of being flexible when working with students on the autism spectrum. The respondents' flexibility was depicted in a number of ways. The therapists from Academy 360 described the process of adjusting therapeutic activities to make them appropriate for different students' needs, as well as being open to taking breaks during therapy sessions when students exhibit forms of aggression. Additionally, the respondents from all three schools addressed the flexibility that

is required when you do not know what kind of day a child on the autism spectrum is going to have. They explained that the possibility of their students being sick or having an off day forces them to be open to changing their plans. Though they always have goals in mind that they want to work on with their students, they explained that it is unrealistic to go into a treatment session with a set plan because there are always factors that may get in the way of students being able to be fully engaged in treatment sessions. The respondents depicted flexibility as a vital part of their approach to treating children on the autism spectrum.

Training

The subject of training differs from the above mentioned themes because it was only discussed in detail by the therapists from the Kevin G. Langan School. The respondents from this school explained that they are required to participate in the Responsibly Addressing Autism Via Education (RAVE) program and the Strategies for Crisis Intervention and Prevention (SCIP) training program in order to learn how safely work with students on the spectrum who exhibit violent tendencies. They explained that these training programs teach them strategies to help them prevent their students from becoming too agitated or aggressive. When asked if they receive any specific training to work with children with autism, the respondents from Academy 360 and the Wildwood School stated that they had not received any official training, therefore the subject of training was not covered as part of the results for these schools. The respondents from the two schools briefly explained that their knowledge about handling the behaviors of children on the autism spectrum primarily comes from what they learn on the job and their collaboration with co-workers. Academy 360 and the Wildwood School differ from the Kevin G. Langan School in the fact that they are private

schools that are funded by public school districts. Meanwhile, the Kevin G. Langan School is a part of the Center for Disability Services and is funded by Medicaid. As a part of the Center for Disability Services, the therapists at the Langan School are mandated to undergo training that is not required by the private schools, posing an explanation for why the occupational therapists receive these specific trainings at this school, but not the others.

Comparison to Literature Review

Individual Needs of Children on the Autism Spectrum

The results include many factors that were discussed in Chapter 1 and Chapter 2. First, the descriptions of an autism spectrum diagnosis proved to be extremely useful when conducting interviews, as it provided a familiarity with the language used when describing the needs of children on the spectrum. The respondents repeatedly referred to the sensory, behavioral, and communicative needs of children on the spectrum, describing them in a similar manner to the way they were described by Yates (2016), Kuhaneck (2015), and Nason (2014). Though they did not refer to all the symptoms that are part of an autism spectrum diagnosis in the DSM-5, such as repetitive behaviors, insistence on sameness, and fixated interests, having a detailed background on the diagnosis as a whole made the language of the occupational therapists much easier to understand. The subject of sensory needs, specifically, was repeatedly discussed by the respondents, therefore the descriptions of the distinctions between hypo-sensitivity and hyper-sensitivity described were extremely relevant (Nason 2014).

Furthermore, as addressed previously, the respondents stressed how individualized an autism spectrum diagnosis is and the fact that the disorder manifests itself different in every

single person that it affects (Autism Speaks 2012). The respondents provided many examples that demonstrated how no two children with autism are alike. The respondents from Academy 360, specifically discussed the differences between higher functioning versus lower functioning children on the spectrum, demonstrating how two children with autism can have completely different needs and occupational therapy based goals. Additionally, the respondents addressed the varying sensory, behavioral, and communicative needs of their students, depicting the challenges they may face as therapists in figuring out which strategies work best for each child. As a whole, the respondents' examples and stories demonstrated the individualized approach they must take when treating their clients due to the multifaceted needs of children on the spectrum. As described earlier, the profession of occupational therapy is client-centered, therefore treatment is adjusted according to the needs of client (Pollack 1993). The respondents displayed the execution of a client-centered approach in numerous ways, for example, through their descriptions of how they establish individual students' occupational therapy based goals and through their explanations of how they have to be flexible during treatment sessions depending on what kind of day their students are having.

Informal vs. Formal Training

Additionally, the concept of informal vs. formal training was an important theme in the results. As explained previously, occupational therapists receive formal certification in the form of an Entry-Level Master's Degree, Post-Professional Master's Degree, or Doctorate Degree in Occupational Therapy (Lehmann 2015). After receiving their degree, occupational therapists must also attend ongoing trainings to keep their licenses up to date, another form of formal training (Johnson Coffelt 2017). The occupational therapists interviewed in the study discussed the highest degrees they have earned, and though this wasn't mentioned in the

results, some of them talked about the types of workshops they have attended for their ongoing training. Moreover, as mentioned previously, the respondents from the Kevin G. Langan School discussed the mandated RAVE and SCIP training workshops they attended. Though formal training was mentioned in the interviews, interestingly, all of the respondents stressed the fact that the majority of their knowledge about working with children with autism did not come from their formal training, but actually their informal training in the form of collaborating with their professional peers and learning on the job. Johnson Coffelt (2017) explained the importance of occupational therapists learning from the people around them, and this proved to be an extremely significant part of the approach to treatment for occupational therapists. Many of the respondents explained that within graduate school, autism spectrum disorder was only mentioned briefly and they did not get any real exposure to working with the population until their fieldwork experiences or their first jobs. Their experiences in adapting to the individual needs of their students and problem solving on the job with the help of their coworkers acted as informal training that ultimately taught them how to be more competent professionals. The results demonstrated that informal training played a much more significant role than formal training in teaching occupational therapists how to work with children on the autism spectrum.

Chapter Five: Concluding Remarks

Autism spectrum disorder is one of the fastest growing developmental disabilities, affecting more than 3.5 million Americans. The number of children diagnosed with autism each year has increased at what some may call an alarming rate (Autism Speaks 2012). Knowing how many people the disorder affects, it is extremely important that health professionals such as occupational therapists are equipped with the knowledge that will allow them to provide the highest quality of care to individuals with autism in society.

Occupational therapists work with individuals across the lifespan who face a range of disabilities. Assisting individuals who face limitations in self-care, work, play, and everyday living activities, occupational therapists work to help individuals become as independent as possible and reach their full potential in their daily lives. Occupational therapy may be administered in a variety of settings such as schools, hospitals, skilled nursing facilities, or the home, and it can be used to assist individuals with a variety of diagnoses. For the purposes of this project, the ways in which occupational therapy is used to treat children with autism spectrum disorder in the school setting was addressed. Moreover, this project worked to explore the everyday treatment approaches of school-based occupational therapists when working with children on the autism spectrum.

After interviewing five occupational therapists from three schools in New York and New Jersey, it was found that significant aspects of occupational therapists' approach to treating children with autism in the school setting include collaboration with coworkers and families, adapting to individual needs, problem solving, flexibility, and their training. The respondents stressed that collaboration with school staff and parents allows them to get a total perspective of the strengths, weaknesses, and goals of the child they are working with, helping

them to implement the proper treatment plans for their students. Additionally, adapting to individual needs and flexibility was found to be an essential part of their approach to treatment, as every child with autism has different communicative, sensory, and behavioral needs. Not only do these needs vary for each child with autism, but they may also vary by the day, therefore it is essential that occupational therapists are always in tune with the individualized needs of their students and are ready to think on their feet if necessary. Lastly, the training that school-based occupational therapists receive was found to be important. While some respondents did receive formal training to handle the aggressive behaviors of children on the spectrum, informal training in the form of learning from coworkers and learning on the job was found to play a much bigger role in the respondents' approach, as many of the strategies they used in treatment came from what they learned from their colleagues and the experiences they built up as occupational therapists overtime.

Limitations

There were a few limitations in conducting this study. First, the sample size was a significant limitation, as only five occupational therapists were interviewed for the data collection. Though the respondents were detailed when answering the interview questions, the experiences of only a very small number of therapists who work with children with autism were represented, therefore, the results of the study cannot be generalized to the occupational therapy community at large. Furthermore, these five therapists came from only three schools. Two of these locations were private schools specifically for children with autism and related disabilities, and the third school was in conjunction with the Center for Disabilities, and was also specifically for children with disabilities. It is important to note that there were no true

public schools represented in the study, and all of the schools that were represented were specifically for children with special needs. It can be assumed that therapy services may operate differently in a public school, where there is a much smaller number of students with autism and other disabilities. Moreover, occupational therapy services in general may operate differently in other school settings, therefore the results that were found in this small study may not necessarily apply to all schools that serve children with disabilities.

Implications for Future Research

Using what was found in this study, for future research, it would be interesting to look into the distinctions between occupational therapy services in private schools versus public schools. Assuming that therapy services are funded differently in public schools and that students must go through a more involved process to qualify for therapy services in a public setting, it would be interesting to see if this has an effect on the treatment approach of occupational therapists and ultimately the care that the students on the autism spectrum receive. Additionally, it would be interesting to see if the involvement of the parents of children with autism is different in a public school setting, where special needs services are not offered to every single child and children on the spectrum are mixed into classrooms with their typically developing peers. Overall, it would be interesting to look into how occupational therapy services differ in a public school setting, and if this has any effects on the quality of care that children with autism are receiving.

References

Bagatell, Nancy. 2012. "Engaged Moments: Mediated Action and Children with Autism in the Classroom Setting." *OTJR: Occupation, Participation and Health; Thousand Oaks* 32(1):258-265. Retrieved Nov 7, 2017.

Boone, Clinton. 2017. "Think You Know What Occupational Therapists Do? Think Again!" *NewGradPhysicalTherapy.com* Blogs. Retrieved Sep 26, 2017.

Boyd, Brian A. and Evelyn Shaw. 2010. "Autism in the Classroom: A Group of Students Changing in Population and Presentation." *Preventing School Failure*54(4):211-219 (https://search.proquest.com/docview/748881406?accountid=14637).

Breines, Estelle B. *Occupational Therapy Activities.* 2008. Somerset: John Wiley & Sons, Incorporated.

Case-Smith, J. and T. Bryan. 1999. "The Effects of Occupational Therapy with Sensory Integration Emphasis on Preschool-Age Children with Autism." *American Journal of Occupational Therapy* 53(5):489-497.

Clark, Gloria F., Leslie Jackson and Jean Polichino. 2011. "Occupational Therapy Services in Early Childhood and School-Based Settings." *American Journal of Occupational Therapy* 65(6):S54 (https://search.proquest.com/docview/906329030).

Ikiugu, Moses N. and Elizabeth A. Ciaravino. 2007. *Psychosocial Conceptual Practice Models in Occupational Therapy: Building Adaptive Capability.* St. Louis, MO: Mosby Elsevier.

Johnson Coffelt, Ketti and Linda Gabriel. 2017. "Continuing Competence Trends of Occupational Therapy Practitioners." *The Open Journal of Occupational Therapy* 5(1). Retrieved Jan 21, 2018 (http://scholarworks.wmich.edu/ojot/vol5/iss1/4). doi: 10.15453/2168-6408.1268.

King, Brenda M. 2009. *Silk and Empire*. Manchester: Manchester University Press.

Krishnagiri, Sheama, Barb Hooper, Pollie Price, Steven D. Taff and Andrea Bilics. 2017. "Explicit Or Hidden? Exploring how Occupation is Taught in Occupational Therapy Curricula in the United States." *American Journal of Occupational Therapy* 71(2):7102230020 (https://search.proquest.com/docview/1891336226).

Kuhaneck, Heather M., Stephanie Madonna, Audrey Novak and Emily Pearson. 2015. "Effectiveness of Interventions for Children with Autism Spectrum Disorder and their Parents: A Systematic Review of Family Outcomes." *AJOT: American Journal of Occupational Therapy*.

Kuhaneck, Heather M. and Renee Watling. 2015. "Occupational Therapy: Meeting the Needs of Families of People with Autism Spectrum Disorder." *AJOT: American Journal of Occupational Therapy*.

Lehmann, Claudia and Karen J. Lloyd. 2015. *Introduction.* Bethesda, United States: American Occupational Therapy Association, Inc.

Molineux, Matthew. "Canadian Occupational Performance Measure - Oxford Reference.", Retrieved Oct 19, 2017. (http://www.oxfordreference.com/view/10.1093/acref/9780191773624.001.0001/acref-9780191773624-e-0087).

Nason, Bill. 2014. *Autism Discussion Page on the Core Challenges of Autism: A Toolbox for Helping Children with Autism Feel Safe, Accepted, and Competent.* London: Jessica Kingsley Publishers.

Persch, Andrew C., Brent H. Braveman and Christina A. Metzler. 2013. "P4 Medicine and Pediatric Occupational Therapy." *The American Journal of Occupational Therapy : Official Publication of the American Occupational Therapy Association* 67(4):383-388 (http://www.ncbi.nlm.nih.gov/pubmed/23791312).

Pollock, N. 1993. "Client-Centered Assessment." *The American Journal of Occupational Therapy : Official Publication of the American Occupational Therapy Association* 47(4):298-301 (http://www.ncbi.nlm.nih.gov/pubmed/8322870).

Preston, Jenny. *Occupational Therapy and Neurological Conditions.* 2016. Chicester: John Wiley & Sons, Incorporated (http://ebookcentral.proquest.com/lib/union/detail.action?docID=4456126)

Schaaf, Roseann C., Joanne Hunt and Teal Benevides. 2012. "Occupational Therapy using Sensory Integration to Improve Participation of a Child with Autism: A Case Report." *The American Journal of Occupational Therapy : Official Publication of the American Occupational Therapy Association*66(5):547-555 (http://www.ncbi.nlm.nih.gov/pubmed/22917121). doi: 10.5014/ajot.2012.004473.

Sepanski, Britani and Thomas F. Fisher. 2011. "Psychosocial Occupational Therapy and School-Based Practice." *Early Intervention & School Special Interest Section Quarterly / American Occupational Therapy Association; Bethesda* 18(1):1-4. Retrieved Nov 1,

2017.
(https://search.proquest.com/docview/856907301/abstract/245241AF846C44C2PQ/1).

Tomchek, Scott, Kristie P. Koenig, Marian Arbesman and Deborah Lieberman. 2016. "Occupational Therapy Interventions for Adolescents with Autism Spectrum Disorder." *American Journal of Occupational Therapy* 71(1):7101395010 (https://search.proquest.com/docview/1880396424). doi: 10.5014/ajot.2017.711003.

Yates, Kirsty and Ann Le Couteur. 2016. "Diagnosing Autism/Autism Spectrum Disorders." *Pediatrics and Child Health* 26(12):513-518 (http://www.sciencedirect.com/science/article/pii/S1751722216301433).

2006. "Continuing Competence in the Occupational Therapy Profession." 2006. American Occupational Therapy Association, Inc., Retrieved January 21, 2018. (https://www.aota.org//media/corporate/files/advocacy/state/resources/contcomp/ccfact.pdf)

2012. "Supporting Learning in the Student with Autism." *Autism Speaks.* Retrieved February 11, 2018. (https://www.autismspeaks.org/sites/default/files/sctk_about_autism.pdf).

2016. "Occupational Therapy Fieldwork Education: Value and Purpose." *American Journal of Occupational Therapy*. Retrieved October 25, 2017. (https://search.proquest.com/docview/231970124/citation/109683F3C4174833PQ/1).

2017. "Autism and the Classroom Accessing Services: Your Child's Right to Public Education." *Autism Speaks.* Retrieved November 6, 2017. (https://www.autismspeaks.org/sites/default/files/docs/school_classroom.pdf).

2017. The American Occupational Therapy Association, Inc. "Important Events in OT's History.", Retrieved Oct 25, 2017. (http://www.otcentennial.org/100-events/1917).

Appendix:

Outline of Interview Questions

Basic Information-

-How many years have you been working as an occupational therapist?

-What kind of school/organization do you currently work for?

-How are occupational therapy services at your school funded?

-How is the occupational therapy department at your school structured / can you describe how OT services work at your school?

-What is the highest degree you have received?

-Do you have any specializations within occupational therapy?

Specific Questions:

Working with Autism

My research thus far addresses the fact that children on the autism spectrum have extremely widespread needs. Furthermore, it recognizes that occupational therapists specialize in being able to adapt to the diverse needs of their clients and are able to develop treatment plans accordingly. I am therefore interested in talking to you and understanding your everyday experiences in managing the treatment of a population with such diverse needs.

-Occupational therapy is an extremely versatile field and provides the opportunity to work with so many different populations- Why did you choose to work specifically with children on the autism spectrum?

-What kind of challenges have you faced in working with children with autism?

- Can you provide me with specific examples or stories?

-What differences have you experienced in working with a lower functioning child with autism versus a higher functioning child with autism?

- Examples? Stories?

Education

-Do you feel your education has prepared you to work with children with autism?

- Did you receive any specific training in working with children with autism during graduate school?
- Have you received any further training outside of graduate school?
- As far as continuing education, I know there are state requirements for OT's to keep their licenses. What does that training involve and have you received any additional training for work with the autism population?

Learning on the Job:

Many of the OT's I've talked to have explained that they have never been formally trained to work with children with autism, and it is a learn as you go kind of process…

-If there's no formal education training, then how do you learn how to work with children with autism?

-Where did you learn the tools to manage challenging behaviors?

-When working with a child with autism, do you go into treatment sessions with a set plan?

-Can you describe any times you had to think outside the box or improvise when working with a child with autism?

- Examples? Stories?
- Any instances where you had a problem but didn't know what to do? How do you handle this?
- Who do you go to for help if you didn't know how to handle specific needs?

-When developing a treatment plan, do you develop it on your own or is it a collaboration?

- Do parents/families, teachers, other therapists play a role in treatment?

-Do you have experience in working with individuals with diagnoses other than autism? If so, how does working with children with autism compare?

-Are your treatments effective? - Do you see a lot of progress in the children you work with?

-Anything Else?