Department of Occupational Therapy Entry-Level Capstone Projects

Department of Occupational Therapy

4-26-2021

Culminating Project in Program Development: Resources for Occupational Engagement for Families and Educators of Children with Autism Spectrum Disorder

Catherine Lane
Nova Southeastern University, kl1196@mynsu.nova.edu

Follow this and additional works at: https://nsuworks.nova.edu/hpd_ot_capstone

Part of the Occupational Therapy Commons

Share Feedback About This Item

Resources for Occupational Engagement for Families and Educators of Children with

Autism Spectrum Disorder

Katie Lane OTD/S

Nova Southeastern University

Christina Kane, PhD

OTD 8494: Capstone Experience

April 24, 2021

Table of Contents

Resources for Occupational Engagement for Families and Educators of Children with

Autism Spectrum Disorder

ASD is characterized as a disability that causes significant social, communication, and behavioral challenges (CDC, 2020). All of these challenges fall within the scope of OT. Social participation, sleep, play, activities of daily living, and education are all occupations that may be impacted for children with ASD due to possible difficulties with communication, social and emotional regulation, motor, praxis, and sensory processing skills (Miller-Kuhaneck, 2014). Because participation in daily activities in the home, school, and community help develop structure for children and promote learning and functional development, it is important to address these occupational challenges. Occupational therapists have the specific skills to evaluate the performance skills and patterns that limit participation for individuals with ASD.

Keywords: autism spectrum disorder, occupations, interventions, development

Although the scope of this review primarily focuses on barriers to occupational engagement for children with ASD and the developmental delays related to ASD, developmental delays may also indicate other conditions such as cerebral palsy, ADHD, intellectual disabilities, and more. Delays in achievement of various domains of development such gross motor, fine motor, speech and language, cognitive, social, or activities of daily living are cause for concern of developmental delay (Poon et al., 2010). Furthermore, children do not have to have a diagnosis to experience delays in development or have difficulty with participation in daily activities. In fact, the OT practice framework emphasizes the importance of focusing on symptoms and deficits rather than a diagnosis when providing intervention. This review will discuss challenges that individuals with ASD may face that impede occupational participation.

The second half of the review will focus on occupational therapy interventions that can target

and treat these challenges.

This 16-week capstone project was focused on occupational therapy (OT) for children

and adolescents with a special focus on autism spectrum disorder (ASD). The goal of the

capstone was to create additional developmental and occupational engagement resources for

parents and practitioners. Through a partnership with an autism intervention center and Haugland

Therapy Services, the capstone student was able to target needs and have access to a population

for distribution and feedback. This allowed the student access to implement program

development, which was a primary pillar of the capstone experience. Advocacy was another

pillar of focus for the project. Explicit discussion on how OT can be useful for children with

ASD was one aspect of advocating for the profession. Additionally, through providing resources

that intent to assist parents, caregivers, and practitioners in identifying the need for a child to

receive OT services, the capstone student was advocating for profession and applying program

development. Because the capstone site could not accommodate a full-time mentor, the student

sought out a faculty member. Dr. Mariana D'Amico graciously agreed to work with and mentor

the student. Her background in development across the lifespan, sensory integration, research,

program development, and advocacy were especially helpful for this project. Additionally, her

knowledge of an extensive and vast amount of resources allowed the student to maximize useful

content.

Literature Review

According to the Center for Disease Control and Prevention (CDC) (2020), about 1 in 54

children have been identified to have ASD in the United States. Approximately 1/3 of the

children identified with ASD also had an intellectual disability, and for every girl identified with

ASD, 4 boys were also identified (CDC, 2020). In good news, more children are getting

diagnosed at an earlier age with the help of developmental monitoring and screens,

comprehensive evaluations, and a diagnosis. The earlier the diagnosis, the earlier interventions

can begin to promote and facilitate optimal engagement. According to Camden et al. (2019),

early identification of delays or children at risk for developmental delays is essential to

promoting healthy development.

The needs assessment will discuss the necessity of parental resources on child

development and ASD. This section will focus on specific challenges of ASD as well as the

evidence behind occupation-based interventions to target and treat these challenges will be

reviewed. Specific emphasis will be on parent education and parent mediated strategies to

address occupational issues in children with ASD.

Occupational Challenges for Children with ASD and their families

Social Skills

Social deficits are considered to be one of the hallmarks of ASD according the American

Psychology Association (2013). These deficits may result in social isolation or withdrawal due to

the difficulties developing and maintaining interpersonal relationships (Bellini et al., 2007). For

example, youth with ASD, as compared to typically developing peers, report more loneliness,

poor social support, and express a desire for more social interaction (Bauminger & Kasari,

2000). Research has shown that preschoolers, school-aged children, and adolescents all have

deficits in social participation including decreased participation in self-care, community

activities, leisure, and special events. The activities individuals with ASD do partake in are often

less frequent and less diverse (Little et al., 2014).

Daily Living Skills

According to Hong et al. (2015) research has demonstrated that daily living skills are impaired in children with ASD. Impairments in communication, social reciprocity, repetitive behaviors, and restrictive behaviors are associated to the lower levels of daily living skills. Daily living skills can include personal needs such as eating, dressing, grooming and toileting; household chores and other domestic jobs; community skills such as computer and telephone use, money and time management and more (Hong et al., 2015). Furthermore, delays in development living skills may impact employment, social interaction, and independent living. Daily living skills are frequent goal areas for clients and caregivers because these skills allow for autonomy and independence in managing personal needs (Lavedure & Beisbier, 2021). Furthermore, Weaver (2015) suggests that participation in work and ADLs may increase individual's quality of life, self-esteem, and independence.

Sleep

Sleep is another area of occupation that is often disrupted for children with ASD. Roughly 50-80% of children with ASD experience sleep-related difficulties, which, although a variable number, is considerably higher than typically developing peers (Abel et al., 2016). Children with ASD are more susceptible to maladaptive sleep patterns, which could, in turn, exacerbate core symptoms of ASD and increase restricted behaviors, repetitive behaviors, aggression, and self-injury (Abel et al., 2016). Children with ASD are more likely to experience delayed onset of sleep, recurrent awakenings during the night, shorter sleep durations, and are more likely to wake up earlier (Abel et al., 2015). Sleep is crucial to optimal functioning in ADLs, IADLs, education, and work, according to Weaver (2015). In her systematic review of the literature, she notes that poor sleep patterns and bedtime routines can result in decreased daytime functioning, particularly in attention and adaptive behavior.

Sensory Processing and Behavior

Sensory processing disorder affects about 80-90% of the population with ASD, which is significantly larger than in the general population at about 5-14% (Shoener et al., 2008). Ismael et al. (2018) also discussed that participation for children with ASD is impacted significantly by sensory processing function. Through a thorough systematic review, these researchers found that education, leisure, social participation, mealtime, and sleep are the primary occupations affected by sensory processing problems. Additionally, Weaver (2015) established that sensory processing difficulties can cause problems with eating, bath time, bedtime, and sleeping. Sensory processing difficulties were recently added the DSM-5 as possible causes of restrictive and repetitive behaviors in children with ASD (Weaver, 2015).

In addition to all the previously mentioned areas of occupation that are affected by sensory processing in children with ASD, Ashburner et al. (2008) note the association of sensory processing dysfunction with behavioral and emotional problems, and, specifically with sensory over-responsivity, there is an association with anxiety. When children have difficulty regulating behavior due to sensory processing problems, it may affect their educational progress and ability to stay attentive during school. The researchers also make note of the complex sensory environment that is typical of classrooms.

Play

Children with ASD may have atypical play as compared to their peers (Miller-Kuhaneck, 2014). The researcher notes that this starts at an early age with a pre-occupation with unusual objects and abnormal use of these objects. When participating in sensorimotor and functional play, this population enjoys doing so alone. (Miller-Kuhaneck, 2014). Children with ASD may participate on functional play as much as often and typical peers but play does not last as long

and is not as valuable to the child. Pretend play is the most studied type of play for children with

ASD as it found in the literature to be the most difficult due to the difficulty generating unique

ideas for play. With that said, Miller-Kunhaneck (2014) makes the point that children with ASD

are capable to participating in pretend play and can be facilitated to do so with adult guidance.

Education

In addition to sensory processing problems that impact education, adaptation to school

can be particularly challenging for children with ASD due to communication and social deficits.

Miller-Kuhaneck (2014) also mentioned the potential challenges academically due to social and

behavioral challenges in children with ASD, even for those with a typical cognitive ability or IQ.

Furthermore, children with ASD often have difficulty with transitions and the unpredictability

that comes with the school setting (Fontil et al., 2019). Because of the wide range of functioning

levels for persons with ASD, many individuals require accommodations to their educational

program. Miller-Kuhaneck (2014) notes the challenge for parents in choosing an educational

program for their child with ASD. Occupational therapists may be a good source for parents to

consult due to their knowledge in accessing the contexts and environments as it relates to

performance skills and patterns.

Family/Parental Stress

Beyond the impact on children, a child with ASD will ultimately impact the family

functioning. In addition to the substantial needs that come with raising a child with ASD,

families may have financial issues or difficulty accessing care. This, in combination with the

need to have a highly structured and routine life, can cause social isolation for parents (Miller-

Kuhaneck, 2014). Parents of children with ASD are reported to have higher levels of stress

compared to parents of children with other disabilities and these parents may have lower

involvement in desired activities (Miller-Kuhaneck, 2014). In light of the difficulty to access of care and time management barriers, parents could utilize the help of occupational therapists with easy to read resources for typical difficulties their child may face and recommended strategies to make day to day life more manageable.

Treatments and Intervention

Role of Occupational Therapy

Ismel et al. (2018) argue that with knowledge of sensory processing patterns in individuals with ASD, occupational therapists can enhance their understanding of everyday life for these children and better assist with appropriate interventions. Case-Smith and Arbesman (2008) emphasize that occupational therapists frequently address sensory-processing problems in the ASD population. Furthermore, the researchers stated that occupational therapists highlight the family's values and priorities and utilize the family as active participants in intervention. Afterall, parents desire information that can help improve their child's performance and mediate challenging behaviors (Case-Smith & Arbesman, 2008).

Parent Education and Parent-Mediated Interventions

Parent-mediated or directed approaches involve parent education in order to implement the strategies at home and in various settings (Case-Smith & Arbesman, 2008). Parent education programs are designed to improve performance and behavior. These researchers conducted a systemic review of literature on effective interventions for children with ASD. One of the fundamental concepts that these researches found in regard to parent education is that in order for it to be effective, the parent should have a consistent home environment and be able to consistently spend ample time in the day with the child. The researchers suggest that parent education on ASD and behavior management can facilitate improved self-confidence of parents

and, in turn, improvements in behavior of the child. Furthermore, Case-Smith and Arbesman (2008) found that adult initiation of activities, positive feedback, cueing and prompting, and a supportive environment can have positive effects on social engagement.

In addition to their research, Elder et al. (2016) report that three different NIH-funded studies have revealed that parents can successfully achieve positive outcomes in their child with ASD in their home environment. Specifically, parents can improve social reciprocity, joint attention, and language development.

General Intervention Recommendations

Case-Smith and Arbesman (2008) stated that structured play activities are beneficial for improving turn taking, sharing, and communication is children with ASD. The researchers also suggested that consistency and activities with similarities are helpful for learning to play with others as the child can focus on the interaction instead of the activity. Lastly, these researchers suggested that interventions using visual cueing and visual learning are effective in promoting communication and learning due to the strong visual perceptual skills typically present in children with ASD.

Sensory Integration and Sensory-Based Interventions

Researchers Case-Smith and Arbesman (2008) found that sensory integration (SI) may be effective in facilitating a child's ability to participate in social situations and manage behaviors. One of the primary goals of sensory integration is to enable the child to regulate arousal levels for organized and functional behavior. The researchers also determined sensory based interventions to be effective in increasing attention and reducing behaviors, hyperactivity, repetitive behaviors, and self-stimming behavior. That said, they also declared consistent research findings that sensory-based interventions should be used as an adjunct to an inclusive

intervention plan. Later research by Schoen et al. (2018) solidified the effectiveness of SI for

children with ASD. The researchers identify that this treatment meets the criteria as evidence-

based practice for both the Council for Exceptional Children and the United States Preventative

Services Task Force. This systematic review specifically discusses the evidence for children with

ASD ages 4-12, and those with an IQ of 65 or higher (Schoen et al., 2018). Weaver (2008)

suggests that helpful sensory-based strategies for picky eaters include oral desensitization,

providing a comfortable and safe environment in which surrounding sensory experiences can be

monitored, and oral exploration.

Social Skills, Relationship-based and Communication Interventions

Social Stories, which are read to the child before an event or activity to provide the child

with instructions or guidance, are found to be effective in teaching acceptable social behavior

(Case-Smith & Arbesman, 2008). The researchers also found through their systematic review of

the literature that teaching social-emotional skills by explaining, modeling, and practicing in

simple and distinct steps is modestly effective. Additionally, Chester et al. (2019) found that

group-based social skills training programs through play can be beneficial in improving social

skills and social competence for children with ASD. The social skills training program in this

study taught skills such as eye contact, tone of voice, and body language.

Sleep Interventions

According to multiple studies behavioral interventions are one of the most effective

strategies for sleep disturbances (Cuomo et al., 2017; Pattison, et al., 2020). Faded bedtime is a

common behavior intervention used for children with autism, which involves finding a bedtime

in which the child can easily fall asleep within 15 minutes. Once the child is able to fall asleep

within 15 minutes, gradually move forward the bedtime until the desired time is reached (Abel et

al., 2016). Sanberg, Kuhn, & Kennedy (2018) found that fading bedtime has been seen to decrease bedtime resistance, non-designated sleep, frequency of night awakenings, duration of wake time after a night awakening, as well as increasing sleep efficiency and total sleep time. Graduated extinction involves gradually increasing the amount of time spent ignoring the child's demands if he/she can't fall asleep or wakes during the night. Overtime, the goal is extinction of the behavior and replacement of the child being able to independently go to sleep or go back to sleep (Abel et al., 2016). Other popular behavioral interventions include sleep hygiene, which emphasizes nighttime routine and healthy habits that facilitate a better sleep (Abel et al., 2016). Non-behavioral interventions include melatonin and sleep journals. Melatonin is naturally produced by the body in order to regulate the sleep-wake cycle, and when used a supplement, is one of the most effective strategies for multiple types of sleep disturbances (Thompson, Rogerson, & Falkmer, 2017).

Needs Assessment

The need for parental and healthcare resources on the barriers and strategies to engagement for individuals with ASD was recognized during the capstone student's level II fieldwork placement at a charter school for kids with ASD and autism intervention center. During this fieldwork experience, one of the parents expressed the concern of their child having difficulty sleeping through the night. In addition, the capstone student noticed to be a lack of an interprofessional, wholesome, understanding on the role of OT for children, and particularly children with ASD. Occupational therapists are well versed in child development and, therefore, are readily able to recognize dysfunction. Moreover, occupational therapists understand specific skill deficits and behaviors related to sensory integration that may be impacting occupational engagement.

During this fieldwork opportunity, the capstone student presented to the behavioral therapists and speech therapists on how occupational therapists can support kids with ASD. Positive feedback was provided about the presentation and how it specified information about the scope of OT that other professionals did not realize. This need was initially recognized by the rehabilitation directors; however, it was surprising how little some other healthcare workers knew about the scope of OT.

Consultation

In addition to my observation during the level II fieldwork experience, the director of the therapy services team requested that the student make a video explaining the developmental milestones from and OT perspective. This in conjunction with understanding the scope of OT, may facilitate other professionals in the ability to recognize when a child might need OT services. On the parent education side of things, the student discussed with an occupational therapist and a speech therapist what occupational issues they consider to be the most prevalent for children.

Research

Camden et al. (2019) conducted a study about parental concerns related to their child's development. Internal and external resources were found to be a factor contributing to parental concern. Internal factors included parent observation while external factors included childcare educators and physicians. Parent participants noted that they do not have the specific knowledge about child development to know what to do or how to interpret observations. The researchers also reported relying on educators to inform them if development was delayed. This research also suggests that parents highly trust health professionals and educators, which highlights their need to make development resources and supports accessible and available to parents. Poon et al.

(2010) emphasized the importance of health care professionals explaining to parents the importance of monitoring development. These researchers also emphasized that intervention, such as early education, occupational, physical, and speech therapy, should not be delayed due to demonstrated improved outcomes for the child and society.

Brown et al. (2012) identified the unmet needs of families of school-aged children with ASD. Some of the highest rated needs that were deemed most important and were also significantly unmet include: information about special programs and services available to the child and family, to have the child have social activities other than with his/her own parents and siblings, for the child to have his/her own friends, and services continuously rather than only in time of crisis. Other needs identified that were rated highly important but not significantly unmet include: to be well-educated about the child's disorder in order to be an effective decision-maker regarding the needs of the child, and to be shown what to do when his or her child is acting unusually or is displaying difficult behaviors.

SWOT

Through extensive research and analysis of resources available, best practice and strategies can be provided that may not be readily available or accessible to parents. However, there are always limitations to information available to healthcare professionals as well. Insight from the population that resources are being created for is the most valuable opinion and can be utilized to optimize benefit. Once the program is created, it is up to the parents to read and utilize the resources provided to them.

Goals & Objectives

Parental Resources for Development and Occupational Engagement

The first goal was to educate parents of children with ASD on how to support their child through the use of OT. Objectives include creation of a developmental milestone chart, checklist for identifying dysfunction, and occupational engagement guides for specific barriers that children with ASD may face. In order to accomplish this goal, the first step was to gather resources. The second step consisted of organizing information on development and separating this information into categories including gross motor, fine motor, sensory development, occupational development (play skills, ADLs, self-help skills), speech and language development, cognitive development, and personality development (self-perception, social-emotional, morals, etc.). After organizing this information, the student was able to pull the most relevant milestones for the developmental checklist.

The primary resources regarding development included government funded agencies such as the Center for Disease Control and Prevention (CDC) website, Case-Smith's *Occupational Therapy for Children and Adolescents*, and *The Wonder Years*, which is an American Psychological Association book. While these resources contained the bulk of the necessary information, she also utilized many other supplemental websites such as Tools to Grow OT and Chicago OT Therapy. The student also browsed general development books and more specific development related books such as *Just Take a Bite*, which detailed oral motor development.

Regarding identifying dysfunction, the primary focus was on sensory dysfunction. Resources included: *Raising a Sensory Smart Child, Sensory Integration and the Child: Understanding Hidden Sensory Challenges*, *A Guide to Developmental Delays*, and a sensory processing checklist from Sensory Kids LLC. Once the student pulled all the relevant information from these sources, she was able to categorize the behaviors as they relate to

different sensory systems. These systems include the vestibular system (which primarily relates to movement), body awareness (which is related to the proprioceptive sense), touch related behaviors, auditory and visual related behaviors, and behavioral/regulation behaviors that may be due to a general disorganized sensory system. This is supposed to be an additional resource for parents and other health care professionals to be able to recognize when there may be a sensory processing problem going on. Ultimately, more awareness of sensory dysfunction could lead to more occupational therapy referrals.

The occupational resource guides were intended to address the most common difficulties present for children with ASD and be distributed to parents for use. The guides consist of synthesized information from a variety of resources regarding ASD. The occupational guides include school readiness and educational success, grooming and self-care, addressing puberty and sex education, toilet training, managing behaviors and sensory strategies, addressing sleep disturbances, and most importantly, developing social and communication skills. Extracting the most relevant information and making it accessible to parents was possible through partnership with a school for children with ASD. The collaboration with the rehabilitation department was helpful in identifying and targeting the needs of these children as well as having access to a population that can utilize these resources.

Promoting an Interprofessional Understanding of OT for Children with ASD

The second goal was to promote interprofessional understanding of the scope of practice for occupational therapists when working with children with ASD, including how to identify delays in occupational development. The first objective comprised of creating a training video on development for the staff at a charter school for children with ASD. Training on occupational development for staff including teachers, behavioral technicians, and even speech therapists was

intended to provide a resource that will enable them to better identify if a child may need to be

referred to OT. Creation of the training video started with the categories and lists of

developmental milestones I had previously created. In addition to discussing at what age a child

should meet particular milestones, the importance of occupational development was discussed in

greater detail.

The second objective was to present to nurse practitioners on occupational development

to broaden this interprofessional understanding of how to identify delays in occupational

development and, thus, increase referrals for OT. Advocacy was the primary pillar related to this

goal. The student was advocating not only for inter-professionalism through education on the

scope of OT, but she also reached out to the pediatric nurse practitioner conference in Ohio about

the opportunity to present to them. Unfortunately, the student did not hear back and ultimately

chose to change the objective. This indicates that there may still be a need for interprofessional

collaboration and discussion as it is much more difficult to get involved with other practices in

the professional and educational world.

With that said, the target audience was modified by providing a synthesized explanation

of child development and how occupational therapists, in particular, can facilitate occupational

engagement for persons with ASD. In fact, discussing evidenced-based practices is a top priority

for occupational therapists. In order to achieve this goal, the student submitted a call to papers to

the Ohio Occupational Therapy Association (OOTA). If she gets accepted to present at the

conference in September 2021, it will include an overview of occupational development, barriers

to occupational engagement for children with ASD, and evidence-based interventions.

Resources for this aspect of the project, primarily considerations for ASD and evidence-

based interventions, consisted of journal articles, OT organization resources such as AOTA, and

government funded resources on ASD. In order to maximize knowledge and resources on ASD,

the student signed up for a two-day autism symposium. Taking this course will allow her to

apply to become a certified autism specialist once a board-certified occupational therapist.

Additionally, the symposium will focus on evidence-based practices for ASD. This will be a

great adjunct to a presentation for OOTA if she is accepted to present.

Providing Resources through an Online Medium and Receiving Feedback

The third goal is to provide resources to parents through a presentation or online medium

and receive feedback. Objectives include creation of a website in which parents can access all the

provided resources and creation of an evaluation survey via Google Forms. The first objective

regarding creation of a website has been the culminating project of my capstone. This will be an

all-encompassing, accessible resource for parents, professionals working with children with

ASD, and even for students as an additional developmental resource. The website includes

information from the training videos about development, OT for children, specific information

regarding considerations for ASD, links to all the occupational resource guides, links for

information to help identify sensory dysfunction and developmental delay, and general

information for facilitating development.

Regarding feedback, a link to the website was sent out to the student's cohort in order to

gain some feedback on the efficacy of the material and display of the resource. Nine individuals

completed the survey after viewing the website, all identifying as students. One hundred percent

of people said: the website was easy to navigate, the wording was understandable, they would

use strategies provided, they would recommend this website to a colleague or parent, and it

answered all of their questions on development. Ninety percent of participants agreed that the

words were in laymen's terms. Some recommendations for ease in navigation, aesthetics, and

understanding of the website material included larger print and less wordy paragraphs. This

feedback, particularly the laymen term question, could have been biased due to the respondents

being the exclusively students. In the future, feedback from parents would be beneficial.

Additionally, the occupational resources were directly sent to parents through email

during OT Friday's for Occupational Therapy Month. This is a form of program development

that can hopefully be implemented regularly for OT month at the autism intervention center.

Each PDF flyer that will be shared with parents has a link that leads directly to the Google Forms

survey for feedback on the flyer. Two resources have been emailed to parents. Although no

recipients provided feedback in the Google Forms survey yet, positive feedback and appreciation

was sent back via email.

Summary

In summary, the student set out to create resources on occupational development and

occupational engagement. This project was two-fold in advocating for the scope of OT and

program development for distribution of developmental and occupational engagement resources.

These resources intended to help practitioners and parents/caregivers identify when a child with

ASD may need OT services. Additionally, the student created resources on how parents and

occupational therapists can facilitate occupational engagement for children with ASD. Lastly, all

of this information was intended to be accessible for parents, caregivers, and practitioners

through an online medium. Feedback on the website was useful in making this resource the most

useful for the targeted audience.

Appendices

Appendix A: Educational Success and School Readiness

Link to resource: https://docs.google.com/forms/d/19EhXYHIKuM0Wkds4at8aG8YN-

cVUVZWOqOw_FYEDcok/edit

Link to feedback form: https://docs.google.com/forms/d/1C5GdAkqxdKqGfrK131-

lQpMQzhtKkPJZp8k1ULpxRns/edit

Appendix B: Puberty and Sex Education

Link to resource: https://www.canva.com/design/DAEY19s4K0A/7CYflsK6Gu14A-

6zKC_FWw/view?utm_content=DAEY19s4K0A&utm_campaign=designshare&utm_medium=l

ink&utm_source=homepage_design_menu

Link to feedback form:

Appendix C: Social Participation and Communication Skills

Link to resource:

https://www.canva.com/design/DAEUjJudfgk/M95x3bS6OFJhgkfh7TBJnA/view?utm_content=

DAEUjJudfgk&utm_campaign=designshare&utm_medium=link&utm_source=homepage_desig

n_menu

Link to feedback form:

https://docs.google.com/forms/d/1UowdACXNxaIHWHSxIhXG0U7Ro2SyLFk57gWq_3I0fXM

/edit

Appendix D: Behavior Management and Sensory Strategies

Link to resource:

https://www.canva.com/design/DAEXEiuSplA/lL8vlgQUKjnL2Wl6TLChVg/view?utm_content

=DAEXEiuSplA&utm_campaign=designshare&utm_medium=link&utm_source=homepage_des

ign_menu

Link to feedback form:

https://docs.google.com/forms/d/1B5GmIRFxk2ypiHAw97d4ciQdjaiOagyA37YRZ-0IZnM/edit

Appendix E: Potty Training

Link to resource:

https://www.canva.com/design/DAEY12wFKA8/0vav7Cm8aYI6BvbI78IBAQ/view?utm_conte

nt=DAEY12wFKA8&utm_campaign=designshare&utm_medium=link&utm_source=homepage

_design_menu

Link to feedback form:

https://docs.google.com/forms/d/1uJLnjBAjXrqEZu_uj3bMqSdgLh446uZUuqrSS1uQ6aQ/edit

Appendix F: Self-Care and Grooming

Link to resource:

https://www.canva.com/design/DAEXhhZ5mI4/LIXVfYxUx56QZNCeAmVspw/view?utm_con

tent=DAEXhhZ5mI4&utm_campaign=designshare&utm_medium=link&utm_source=homepage

_design_menu

Link to feedback form: https://docs.google.com/forms/d/1MFRJ-

32Nx12WwstplOkYpgMrtFuWj6-bhL_GsbxnFo0/edit

Appendix G: Food Selectivity and Sensitivity

Link to resource: https://www.canva.com/design/DAEXPhkQ9WQ/Mg2PunP2kWr0RTgh-

1bUqg/view?utm_content=DAEXPhkQ9WQ&utm_campaign=designshare&utm_medium=link

&utm_source=homepage_design_menu

Link to feedback form: https://docs.google.com/forms/d/17-

LtmtmW5MOULXO9DAMo6S7a7gqMNRSzgM1h0erNFPk/edit

Appendix H: Addressing Sleep Problems

Link to resource: https://www.canva.com/design/DAETIjkEYdA/yBqXblTArVw2B_QU5Pw-

2Q/view?utm_content=DAETIjkEYdA&utm_campaign=designshare&utm_medium=link&utm_

source=homepage_design_menu

Link to feedback form: https://docs.google.com/forms/d/1C5GdAkqxdKqGfrK131-

lQpMQzhtKkPJZp8k1ULpxRns/edit

Appendix I: Identifying Dysfunction

Link to resource:

https://www.canva.com/design/DAESenudmns/jXkQd1weTLCWaZ9Q_lW3dA/view?utm_conte

nt=DAESenudmns&utm_campaign=designshare&utm_medium=link&utm_source=homepage_d

esign_menu

Link to feedback form:

https://docs.google.com/forms/d/1J8OFZqJQFhVaycoosG51oXboiHAEe0bivOIZCULynxA/edit

Appendix J: Developmental Checklist

Link to resource:

https://www.canva.com/design/DAEY9qa7k0Y/I2hv1e1HshAK5_tuLleueA/view?utm_content=

DAEY9qa7k0Y&utm_campaign=designshare&utm_medium=link&utm_source=homepage_desi

gn_menu

Link to feedback form: https://docs.google.com/forms/d/17q2ZKJ3P2m9_m9FMk4o_pWMRG-

GJmZewmq_3LFC86vk/edit

Appendix K: Website

Link to resource: https://klane1313.wixsite.com/kidsandot

Link to feedback form:

https://docs.google.com/forms/d/1xRzNiLa3QT16lycNcSZ1dgEpnYzgNMD3hzifX_87kq0/edit

Appendix L: Occupational and Personality Development Training Video

Link to video: https://youtu.be/rSdxQ_la_Ng

Appendix M: Sensory Integration, Gross Motor and Fine Motor Development Training Video

Link to video: https://youtu.be/UXyKxPHizeI

Appendix N: Functional Deficits

Link to resource:

https://www.canva.com/design/DAEcQPSFIIA/dNs9_5I2HiaXqilY175k0g/view?utm_content=

DAEcQPSFIIA&utm_campaign=designshare&utm_medium=link&utm_source=homepage_desi

gn_menu

Link to feedback form:

https://docs.google.com/forms/d/1J8OFZqJQFhVaycoosG51oXboiHAEe0bivOIZCULynxA/edit

Appendix O: Sleep Diary

SLEEP DIARY

	Night 1	Night 2	Night 3	Night 4	Night 5	Night 6	Night 7
What time did your child try to go bed?							
What time did he/she actually go to bed?							
What time did your child fall asleep?							
How many times did your child wake up at night?							
How much physical activity did your child get during the day prior to this night of sleep?							
How much screen time did the child get before going to bed?							
What did your child eat before going to bed?							
How soon before going to bed did your child eat?							
Is the child's room clean?							
Did you complete a nighttime routine?							
Comments:							

References

Abel, E., Kim, S. Y, Kellerman, A. M., & Brodhead, M. T. (2016). Recommendations for

identifying sleep problems and treatment resources for children with autism spectrum

disorder. *Behavioral Analysis Practice*, *10*, 261-269. https://doi.org/10.1007/s40617-016-

0158-4

Althoff, C. E., Dammann, C. P., Hope, S. J., & Ausderau, K. K. (2019). Parent-mediated

interventions for children with autism spectrum disorder: A systematic review. *The*

American Journal of Occupational Therapy, 73(3).

https://doi.org/10.5014/ajot.2019.030015

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders*

(5th ed.). American Psychiatric Publishing.

Ashburner, J., Ziviani, J., & Rodger, S. (2008). Sensory processing and classroom emotional,

behavioral, and educational outcomes in children with autism spectrum disorder.

American Journal of Occupational Therapy, 62, 564–573.

https://doi.org/10.5014/ajot.62.5.564

Bauminger, N., & Kasari, C. (2000). Loneliness and friendship in high-functioning children with

autism. *Child Development, 71*, 447–456. https://doi.org 10.1111/1467-8624.00156

Bellini, S., Peters, J. K., Benner, L., & Hopf, A. (2007). A meta-analysis of school-based social

skills interventions for children with autism spectrum disorders. *Remedial and Special*

Education, 28(3), 153–162. https://doi.org/10.1177/07419325070280030401

Brown, H., Ouellette-Kuntz, H, Hunter, D., Kelley, E., & Cobigo, V. (2012). Unmet needs of

families of school-aged children with autism spectrum disorder. *Journal of Applied*

Research and Intellectual Disabilities, 25, 497-508. https://doi.org10.1111/j.1468-

3148.2012.00692.x

Camden, C., Dostie, R., Heguy, L., Gauvin, C., Hudon, C., Rivard, L., & Gaboury, I. (2019).

Understanding parental concerns related to their child's devilment and factors influencing

their decisions to seek health care professionals: Results of a qualitative study. *Child*

Care Health and Development, 46, 9-18. https://doi.org10.1111/cch.12731

Case-Smith, J., & Arbesman, M. (2008). Evidence-based review of interventions for autism used

in or of relevance to occupational therapy. *American Journal of Occupational Therapy,*

62, 416–429. https://doi.org/10.5014/ajot.62.4.416

Center for Disease Control and Prevention (2020). *Data and statistics on autism spectrum*

disorder. https://www.cdc.gov/ncbddd/autism/data.html

Center for Disease Control and Prevention (2020). *What is autism spectrum disorder?*

https://www.cdc.gov/ncbddd/autism/facts.html

Chester, M., Richdale, A. L., & McGillivray, J. (2019). Group-based social skills training with

play for children on the autism spectrum. *Journal of Autism and Developmental*

Disorders, 49, 2231-2242. https://doi.org10.1007/s10803-019-03892-7

Cuomo, B. M., Vaz, S., Ai Lim Lee, E., Thompson, C. Rogerson, J. M., Falkmer, T. (2017).

Effectiveness of sleep-based interventions for children with autism spectrum disorder: A

meta-synthesis. *Pharmacotherapy, 37*(5), 555-578. https://doi.org/10.1002/phar.1920

Elder, J. H., Brasher, S. & Alexander, B. (2016). Identifying barrier to early diagnosis and

treatment in underserved individuals with autism spectrum disorders and their families: A

qualitative study. *Issues in Mental Health Nursing, 37*, 412-420.

https://doi.org10.3109/01612840.2016.1153174

Fontil, L., Gittens, J., Beaudoin, E., & Sladeczek, I. E. (2019). Barriers to and facilitators of

    successful early transitions for children with autism spectrum disorders and other

    developmental disabilities: A systematic review. *Journal of Autism and Developmental*

    Disorders, 50, 1866-1881. https://doi.org10.1007/s10803-019-03938-w

Hong, E. R., Ganz, J. B., Ninci, J., Neely, L., Gilliand, W., & Boles, M. (2015). An evaluation of

    quality of research on evidence-based practices for daily living skills for individuals with

    autism spectrum disorder. *Journal of Autism and Developmental Disorders, 45*, 2792-

    2815. https://doi.org10.1007/s10803-015-2444-3

Ismael, N., Lawnson, L. M., & Hartwell, J. (2018). Relationship between sensory processing and

    participation in daily occupations for children with autism spectrum disorder: A

    systematic review of studies that used Dunn's sensory processing framework. *American*

    Journal of Occupational Therapy, 72. https://doi.org10.5014/ajot.2018.024075

Laverdure, P. & Beisbier, S. (2021). Occupation and activity-based interventions to improve

    performance of activities of daily living, play, and leisure for children and youth ages 5 to

    21: A systematic review. *American Journal of Occupational Therapy, 75*.

    https://doi.org10.5014/ajot.2021.039560

Little, L. M., Sideris, J., Ausderau, K., Baranek, G. T. (2014). Activity participation among

    children with autism spectrum disorder. *American Journal of Occupational Therapy, 68*,

    177–185. https://doi.org10.5014/ajot.2014.009894

Miller-Kuhaneck, H. (2015). Autism. In J. Case-Smith and J. C. O'Brien (Eds.), *Occupational*

    therapy for children and adolescents (pp. 766-792). Elsevier.

Poon, J. K. LaRosa, A. C., Pai, G. S. (2010). Developmental delay: Timely identification and

    assessment. *Indian Pediatrics, 47*. https://doi.org10.1007/s13312-010-0077-3

Sanberg, S. A., Kuhn, B. R., Kennedy, A. E. (2018). Outcomes of a behavioral intervention for

    sleep disturbances in children with autism spectrum disorder. *Journal of Autism and*

    Developmental Disorders, 48, 4250-4277. https://doi.org/10.1007/s10803-018-3644-4

Shoener, R. F., Kinnealey, M., & Koenig, K. P. (2008). You can know me now if you listen:

    Sensory, motor, and communication issues in a nonverbal person with autism. *American*

    Journal of Occupational Therapy, 62, 547–553. https://doi.org/10.5014/ajot.62.5.547

Schoen, S. A., Lane, S. J., Mailoux, Z., May-Benson, T., Parham, L. D., Roley, S. S., & Schaaf,

    R. C. (2018). A systematic review of Ayres sensory integration intervention for children

    with autism. *International Society for Autism Research, 12*, 6-19.

    https://doi.org/10.1002/aur.2046

Weaver, L. L. (2015). Effectiveness of work, activities of daily living, education, and sleep

    interventions for people with autism spectrum disorder: A systematic review. *American*

    Journal of Occupational Therapy, 69, 6905180020.

    https://doi.org10.5014/ajot.2015.017962