2019

An Occupational Therapy Referral Screening Tool for Children in Adoptive and Foster Care Placements

Alli Fox
University of North Dakota

Emily Kollodge
University of North Dakota

An Occupational Therapy Referral Screening Tool for Children in Adoptive and Foster Care Placements

by

Alli Fox, MOTS, and Emily Kollodge, MOTS

Advisor: Roberta Carrlson, MOT, OTR/L

A Scholarly Project

Submitted to the Occupational Therapy Department

of the

University of North Dakota

In partial fulfillment of the requirements

for the degree of

Master of Occupational Therapy

Grand Forks, North Dakota

May

2019

This Scholarly Project Paper, submitted by Alli Fox and Emily Kollodge, in partial fulfillment of the requirement for the Degree of Master of Occupational Therapy from the University of North Dakota, has been read by Faculty Advisor under whom the work has been done and is hereby approved.

Roberta Cook

Signature of Faculty Advisor

3-22-19

Date

PERMISSION

Title An Occupational Therapy Referral Screening Tool for Children in Adoptive and Foster Care Placements

Department Occupational Therapy

Degree Masters of Occupational Therapy

In presenting this Scholarly Project/Independent Study in partial fulfillment of the requirements for a graduate degree from the University of North Dakota, I/we agree that the Department of Occupational Therapy shall make it freely available for inspection. I/we further agree that permission for extensive copying for scholarly purposes may be granted by the professor who supervised our work or, in his/her absence, by the Chairperson of the Department. It is understood that any copying or publication or other use of this Scholarly Project/Independent Study or part thereof for financial gain shall not be allowed without my/our written permission. It is also understood that due recognition shall be given to me/us and the University of North Dakota in any scholarly use which may be made of any material in our Scholarly Project/Independent Study Report.

Alli Fox 3/20/19
Alli Fox Date

Emily Kollodge 3-20-19
Emily Kollodge Date

TABLE OF CONTENTS

ACKNOWLEDGMENTS

The authors wish to thank our advisor, Professor Roberta Carrlson, for her guidance, sharing of knowledge, unwavering faith, and continuous support through the development of this scholarly project. We would also like to acknowledge and thank Megan Bresnahan for her guidance and expertise in the creation of this project. In addition, we thank our families, friends, and Coldstone Tuesday college nights, for the unconditional support and love we received throughout our graduate studies at the University of North Dakota.

Abstract

The purpose of this scholarly project was to identify the needs of children in the adoption and foster care systems (AFCS) by creating a screening tool to refer them to occupational therapy services. In the United States (US), the number of adopted children has grown to 1.8 million (Vandivere, Malm, & Radel, 2009), and to 400,000 children in the foster care system at any given time (Bramlett & Radel, 2017). These children are considered an at-risk population due to their life experiences. Occupational therapists (OTs) are uniquely qualified to work with this population. Due to stress and adversity, children who have experienced such traumatic events may be challenged in numerous areas of occupation OTs are trained to address (Davis, 1999). Such areas may include: social participation, activities of daily living (ADLs), education, instrumental activities of daily living (IADLs), play, and sleep/rest. Not only are OTs positioned to suit these needs, but they can also be key team collaborators between professionals and agencies involved with the child's care.

A literature review was conducted to gain background information on the AFCS population and determine the implications of growing up in a non-biological parental household. The authors utilized resources such as the University of North Dakota Harley E. French library databases, scholarly textbooks, the American Occupational Therapy Association (AOTA), and other reliable sources to locate information. The Ecology of Human Performance (EHP) model was used to guide the development of the project.

Our screening tool, the *OTRT: Occupational Therapy Referral Screening Tool,* was organized by concepts of the EHP model. The product also includes a user's manual for the OTRT, typical age-related development stages, and scoring information. The

authors have also included within the scholarly project a number of comprehensive evaluation assessments to be used by an OT's discretion if a referral to occupational therapy services has been made.

CHAPTER I

Introduction

Children in the AFCS have been commonly overlooked when it comes to interventions they may need, such as occupational therapy, because they move living situations frequently (Connell et al., 2006; Davis, 1999). Unmet needs of these children have placed them at risk to develop significant health issues in the future. These issues have been linked with mental health disorders, occupational deprivation, and social isolation, which is escalated when left untreated or undertreated. Many children in the AFCS fall behind their peers in development and occupational participation prior to adulthood (Rettig & McCarthy-Rettig, 2006). Children are subsequently at a disadvantage to reach their full potential as adults. Identifying the AFCS population's needs early in childhood has been identified as critical to overcome barriers resulting from involvement with the AFCS.

We created the OTRT to help address the issue of AFCS children being missed for health care services due to inconsistency of placement (Connell et al., 2006; Davis, 1999), which consequently affects the children's health. The EHP model was chosen to guide the creation of the OTRT due to the impact of environmental factors with this population. Research has been conducted to examine the effects of trauma on health of these children (Kisiel et al., 2014; Ryan, Lane, & Powers, 2017), considering the impact

of instability in their lives and home inconsistencies. Children in the AFCS population have a higher incidence of issues in various areas of health, including biological, physical, social, sensory, and mental areas; research for these concerns are further addressed in chapter II.

The OTRT is a concise screening tool intended to be used by social workers, case managers, teachers, counselors, daycare providers, OTs, occupational therapy students, and other qualified professionals who observe the children on a regular basis. The purpose of the OTRT is to identify concerns addressable by an OT before the minor issues become more significant concerns in the future. Providing a screening tool will also encourage regular developmental checks with all children in the AFCS, with the end goal to prevent children being missed for health needs. The accessibility of the screening tool will also encourage referral increases to occupational therapy services.

Trauma is an extremely important concept to understand when working with children in the AFCS. Most, if not all of the children in this system experienced some level of trauma which significantly impacted their health. Trauma is defined as an emotional response to a negative situation or event (Petrenchik & Weiss, 2015). Reactions to traumatic events could include shock and denial shortly after the experience and more difficulties with physical and emotional symptoms later on in life (Petrenchik & Weiss, 2015). Another important concept is occupational therapy. Occupational therapy is a rehabilitation profession that focuses on a holistic perspective of the person (American Occupational Therapy Association [AOTA], 2018b). Occupational therapists are trained to help clients across the lifespan while maintaining a heavy focus on function in daily life activities that are necessary and meaningful. The goal of occupational

therapy has been described as assisting clients to gain independence and satisfaction with daily performance of tasks, promoting health, and overall to improve quality of life (AOTA, 2018b). Occupational therapists, among other qualified professionals, administer screening tools. A screening tool is a concise set of questions and brief tests created to determine the need for further evaluation. The results of a screening tool alone are not enough to determine a need for treatment as screening tools typically only identify the presence of an issue, not the underlying causes (SAMHSA & CSAT, 2009).

Other key terms and concepts involved in this project include adoption, orphanage or group home, and foster care. Adoption is the act of accepting a child who does not have parents into a family through a legal process (Brumble & Kampfe, 2011; Skivenes & Tefre, 2012). This is done through an adoption agency and can be a lengthy and time-consuming process. Prior to adoption, children may have lived in a group living situation such as an orphanage or group home. These facilities increase the spread of infectious agents, put these vulnerable children at risk for sexual and/or physical abuse, and can deprive children of stimulation needed for development (Haradon, 2001). If a child is deemed unable to live with his or her biological parents, another option defined in this project is foster care. Foster care is the term used to describe children placed temporarily with people who will care for them, but will not necessarily be permanent (Goemans, van Geel, van Beem, & Vedder, 2016). The people caring for the child can be non-relative foster family homes, relative foster family homes, or the state the child resides in taking on supervisory responsibilities (Child Welfare Information Gateway, 2017). However, as these placements are temporary and change frequently, routine checkups are not

completed consistently to know if a behavior or health issue is out of the ordinary for the child (Greiner et al., 2018).

Several factors may impact the implementation of the OTRT. These include the amount of buy-in from staff, the cost of the tool and shipment, human resource costs to conduct the tool, time limitations to conduct the screening, difficulties tracking children already screened, and disbursement of the screening tools to facilities. However, taking steps such as examining the psychometric properties by providing research-based evidence to support the OTRT can help address concerns such as buy-in and regular use of the screening.

This scholarly project is comprised of five chapters. Chapter I is an introduction and overview of the issue and its significance, justifying a need for the choice of this topic and population. Chapter II is a review of the literature providing relevant background information needed to create the product. Included in this section is the history of adoption and foster care in the US including the policies, laws, and trends that have influenced the current practices, as well as the controversies surrounding this topic. The current role of occupational therapy practitioners and the proposed role within the AFCS is described, as well as the various areas of health OTs and other health care workers are concerned with, taking into account the impact of environment and traumatic experiences on children. Also included in Chapter II is an overview of the EHP model used to guide the creation of the product. Chapter III encompasses the methodology the creators used to design the product. A description of the process used to gather data and analyze information is explained within this section. Chapter IV is a description of the final product and how it will be presented to facilities that would benefit from its use. The

actual product is included in this section as well. Chapter V is a summary of the project. Key information is highlighted, further knowledge needed about the topic is described, and the implementation of the final product is explained. Within the appendix the creators have described additional various assessments and their psychometric properties which can be used after the OTRT is administered to complete a full evaluation of a child.

CHAPTER II

Review of Literature

Globally, millions of children who experience or witness traumatic events each year are placed at risk for lasting traumatic effects (Davis, 1999). In the United States (US), the over 1.8 million adopted children (Vandivere et al., 2009) and 400,000 children in the foster care system (Bramlett & Radel, 2017) are considered an at risk population due to their life experiences. Traumatic experiences have been found to coincide with being involved with the foster care and adoption systems, making these children vulnerable to developmental risks (Vandivere et al., 2009). Inconsistencies in caregivers often lead to children involved with the foster care or adoption systems being missed for ancillary health care services such as occupational therapy, a profession which is in a key position to address the children's needs (Davis, 1999).

Adoption is a legal procedure where a child's biological parents are either unable, legally prohibited, or unwilling to keep the child, so a permanent home and family are provided for the child (Brumble & Kampfe, 2011; Skivenes & Tefre, 2012). For children who cannot live with their biological parents, adoption is considered to be one of the most effective ways to obtain a stable and secure environment for them to be raised. Researchers have determined that permanency and consistency are important for children, which the adoption process provides (Skivenes & Tefre, 2012). There are a

number of people generally involved in the adoption triangle including the child, adoptive parents, and the biological parents (Brumble & Kampfe, 2011).

Foster care is a process in which the state agency is responsible for the care of children not able to reside with their biological parents for various reasons (Goemans et al., 2016; Paul-Ward & Lambdin-Pattavina, 2016). Children can be eligible to enter foster care from infancy up to age 18, with some exceptions made past this age (Child Welfare Information Gateway, 2017). Foster care placement is preferred to other options such as an orphanage because it provides a continuity of caregivers, allowing the child to form a meaningful relationship with his or her parent figure. However, this type of placement does not always go as expected. A 'breakdown' occurs when the placement does not last as long as planned. Breakdowns are estimated to occur in 20-50% of foster placement cases, stunting the positive effects foster placement can provide (Goemans et al., 2016).

It should also be noted that the majority of children who live in inadequate home environments do stay living with their biological parents while receiving in-home support services in an effort to prevent out-of-home placement (Goemans et al., 2016). Staying in the home with supports is preferred to entering foster care due to the possibility of breakdowns of foster placement and the fact that the child would be separated from his or her biological parents if moved to foster care placement or an orphanage. However, in certain situations, removing the child from a toxic home environment is necessary for the child's safety. Changing to an out-of-home placement option is mandated if the child continues to reside in the biological parents' home when there is a high risk for repeated maltreatment. Staying in the biological parents' home may also lead to developmental issues if the circumstance includes poverty, family violence, parental psychopathology,

or substance abuse which are detrimental to the child's well-being (Goemans, et al., 2016).

Consequences and benefits of adoption, foster placement, and in-home placement with support services are considered and weighed by child protective services when deciding the best possible environment for a child. Questions such as: 1) will the child be able to adapt to a new family and home if placed in foster care, 2) can the possible negative consequences of staying in the home be countered by in-home services, and 3) would the child's developmental outcomes be better if he or she were in an orphanage, all need to be considered. Because each child's situation is unique, previous studies have found conflicting results concerning which type of placement provides the best outcome for children's well-being and overall development. Matching children to their best possible developmental future is the goal of child protective professionals (Goemans at al., 2016).

A number of factors influence the placement decision for a child. Historical, political, and current trends have historically, and continue to, influence the decision making process. One such is example was The Adoption and Safe Families Act of 1997. This act shifted focus from family preservation to achieving stability and a sense of permanency in children's lives (Goemans, et al., 2016). Each country has their own policies and guidelines which shape the way professionals think and come to conclusions about a child's placement (Skivenes & Tefre, 2012). The availability of foster homes determined by the willingness of families to open their homes to children is another example of a determinant (Goemans et al., 2016).

Evolution of Systems

Adoption

Change factor one: World War II. Adoption has been prevalent in the US for decades. From the Colonial Times and lasting throughout World War II (WWII), American parents primarily adopted healthy, same-raced children. After World War II during the mid-1940s, US citizens showed more interest in intercountry adoption (ICA). Intercountry adoption was defined as the adoption of children into families of a different country. Americans were thought to be interested in adopting children from foreign countries shortly after WWII because of the number of children left orphaned overseas as a result of the war. It was also thought the increase in ICA popularity was a result of soldiers overseas who saw children needing homes, which elicited a charitable response (Brumble & Kampfe, 2011).

Change factor two: Korean War. Once Europe's economy stabilized after the Korean war and other surrounding countries started to rebuild themselves as well, ICAs decreased drastically to the US. However, after the Korean War (1950-1953), 100,000 children were left without parents or homes, and ICA rates to the US escalated once again. It is important to note that kids adopted into the US from Korea during this time were the first large group of children adopted who were not only intercountry, but also transracial. Transracial adoption (TRA) is defined as the adoption of a child into a family of a race different from his or her own (Brumble & Kampfe, 2011).

Change factor three: Civil Rights Movement. A third major event that influenced adoption statistics in the US was the Civil Rights movement. Between 1965 and 1976, there were 37,469 reported ICAs. This time span can be considered a decade of

change due to people's changing views. People involved with the Civil Rights movement generally believed in tolerance and the acceptance of differences, which was thought to contribute to increased numbers of adoptions throughout this time. (Brumble & Kampfe, 2011).

It was not until 2000 when the US Census Bureau researched the actual number of adoptees living in the country and found the US did not keep adequate statistics. Before the year 2000, states voluntarily reported adoption numbers, but these statistics greatly varied year by year and were inconsistent. When the US Census Bureau conducted the first count of the adoption population, they found 2.1 million adopted children, 18 years of age and under, living in American homes (Brumble & Kampfe, 2011).

Foster Care System

Policies and practices related to the foster care system have been defined since the 1950s. Results of studies conducted back to that time indicated children were forced to remain in unpleasant situations which affected their growth and well-being. As a result of this research, the federal government, as well as child welfare officers, worked together to make placements best fit the family and the child (Rolock & Pérez, 2018).

Recently, the government has pushed policies which shifted priority from foster care placement to a more consistent, permanent adoption placement when possible. Because of this, the foster care system caseload decreased from 2000 to 2013, while the statistics of children in adoptive homes doubled in this same timespan (Rolock & Pérez, 2018). According to the US Department of Health and Human the number of children in foster care decreased from 510,000 to 437,465 between the years of 2006 and 2016. In this timespan, fewer children entered and exited the foster care system and more lived

with relatives as compared to placements in group homes (Child Welfare Information Gateway, 2017). However, according to the US Department of Health and Human Services March, 2018 report, the number of overall children in foster care increased by 10% between 2012 to 2016, while six states showed an increase of over 50% (Wiltz, 2018). It is believed the increase was due to the recent opioid epidemic leading to parents being deemed unable to care for their children.

In addition to being in a toxic household and forcefully taken away from their biological parents, many children go through transitional experiences while in the foster care system as well. Half of all children who go through the foster care system will undergo at least one placement change, with increasing age of the child being a factor correlating with more frequent placement changes. Connell et al. (2006) explored placement changes amongst 6,723 children living in Rhode Island foster homes from 1998-2002 and found the mean number of placements per child was 2.9. A ramification of the moves included new physical and social environments which the children had to adjust to. The researchers also discovered the time from placement to a change in placement varied depending on the setting. Being placed with relatives resulted in the longest period of time within a placement (15.7 months). This was followed by group home placements (5.5 months), nonrelative foster home placements (2.5 months), and emergency shelter placements (0.2 months) (Connell et al., 2006).

Awareness of trends found by Connell et al. (2006) enables professionals to help predict time periods when a child may undergo a change in placement or are most likely to remain stable in their current setting. Children are at the highest risk for a placement change immediately following entrance into a new setting. Throughout the ninth month at

a placement this risk decreases and even becomes stable throughout months nine through 12, until a sharp increase in risk occurs at the 13th month (Connell et al., 2006). The sharp increase may occur because this is the average amount of time a child is in foster care (Child Welfare Information Gateway, 2017), meaning they may leave the system entirely at this time, which for the purposes of Connell et al.'s (2006) study was still considered to be a placement change. Until the 16th month, risk of a placement change has been shown to increase; after this time the risk of a placement change declines (Connell et al., 2006).

Foster care placement is considered critical for the over 437,000 kids in foster home placements, as well as their families. Of the 250,248 kids who entered foster care in 2016, the average amount of time spent in care was 13.9 months. This is an increase from 10 years earlier when the average amount of time in foster care was 12.2 months (Child Welfare Information Gateway, 2017). Without the help of child welfare officers, social workers, and generous families, these children would either be forced to stay in their previous inadequate environments or placed in an institution such as an orphanage, which has been shown to increase negative predispositions in development (Lin, Cermak, Coster, & Miller, 2005).

Overview of Current Structure

Laws, policies, and a general shift of mind to provide a consistent, permanent environment for children, have shaped the AFCS. Listed below are a number of policies that have influenced the AFCS population and how the laws made an impact (Child Welfare Information Gateway, 2017):

- Adoption Assistance and Child Welfare Act of 1980

    - Ensures that Child Protective Services (CPS) make reasonable efforts to keep children in their homes or reunify with biological parents when feasible (Child Welfare Information Gateway, 2017).
- Adoption and Safe Families Act of 1997
    - Reinforced permanence as a national goal for foster children (Child Welfare Information Gateway, 2017).
- Fostering Connection to Success and Increasing Adoptions Act of 2008
    - Included guardianship as a permanency outcome (Child Welfare Information Gateway, 2017).
- Family First Prevention Services Act of 2018
    - Prioritizes keeping families together through funding at-home parenting classes, substance abuse treatment, and mental health counseling (Wiltz, 2018).

These laws helped to reform how those involved with the AFCS population base decisions and guide the overall process of adoption and foster care (Child Welfare Information Gateway, 2017). The Family First Prevention Services Act (aka Family First Act), which was passed in February, 2018, within a massive spending bill, significantly changed where the $8 billion granted to foster care systems is spent. The law prioritized using federal funds towards prevention for vulnerable families by keeping children in their home through the provision of classes and counseling to parents and guardians (Wiltz, 2018). According to Wiltz (2018), this legislation is considered to be the greatest overhaul of the foster care system in four decades.

The Family First Act has many concepts similar to the Occupational Therapy Practice Framework (OTPF). The emphasis of the new law was to help prevent negative situations in homes where children have to be removed. The law promotes educating parents to provide a safe environment for kids through classes about substance abuse, child abuse, mental health, and counseling regarding positive parenting. Within the law, funding is increased to help prevent kids from being placed in an institution apart from their biological parents by modifying the home environment to be a more positive one (Wiltz, 2018).

However, concerns have been identified regarding the Family First Act. With a few exceptions, the law capped federal funding for group homes and stated the federal government will only pay for a child to stay in a group home for two weeks. This required state counties to provide more financial resources for children to stay in group homes, which has added hardship for counties with already scant resources. Due to the cap in funding for group homes, several officials were worried the new law will inadvertently place a burden on extended family members to raise children. Due to these so-called kinship caregivers being ineligible for funding under the new law (Wiltz, 2018), a problem may arise in the near future.

Role of Occupational Therapy

Occupational therapy's role in adoption medicine and within the foster care system is currently not widespread, but has the potential to grow. Few adoption medicine clinics currently exist and not all employ OTs. The two most known adoption medicine clinics are the Center for Adoption Medicine, located in the University of Washington Pediatric Care Center in Seattle, Washington and the Adoption Medicine Clinic at the

University of Minnesota Masonic Children's Hospital in Minneapolis, Minnesota (Center for Adoption Medicine, 2018; University of Minnesota [U of M], 2018). Overall, adoption medicine clinics are limited, underutilizing each involved discipline's skillset in this setting.

While OTs currently hold a narrow role in the adoption medicine field, occupational therapy has been highly involved with the treatment of pediatric populations as a whole. According to AOTA (American Occupational Therapy Association, 2018a), occupational therapy is considered a key practice area with the pediatric population, which has been demonstrated throughout the profession's history. Occupational therapists currently work with children of all ages in environments such as: the clients' homes, schools, outpatient or inpatient clinics, and in the community. The range of what OTs can work on with children in these settings is diverse, as are the types of conditions the clients present with (AOTA, 2018b).

Occupational therapists are uniquely positioned to work with children of adoption and foster care because the population is frequently seen in occupational therapy settings. Many OTs who work in pediatric care have served children in foster care and post-adoption, gaining experience with the population and a more in-depth perspective of their needs (Haradon, 2001). For example, if a child previously lived in a home that was deemed unsafe, the environment may have been filled with stress and adversity. This is unfortunate because the childhood years are a critical time for major developmental periods. Due to stress and adversity, children who have experienced such traumatic events may be challenged in numerous areas of occupations OTs are trained to address (Davis, 1999). Such areas included in the OTPF are social participation, ADLs,

education, IADLs, play, and sleep/rest (American Occupational Therapy Association [AOTA], 2014). Not only are OTs positioned to suit these needs, but they can also be key team collaborators between professionals and agencies involved with the child's care. Occupational therapists are also skilled in advocating for clients, whether that be within the school systems (participate in Individualized Education Programs), to receive services from other health care team members, etc. Not only are OTs positioned to work with this population, but they are skilled to work with AFCS children and address their needs (Lynch et al., 2017).

According to Van Oss and Olivas-De La O (2009), OTs have begun to increase the amount of community practice within the profession. Occupational therapists can benefit a community through programs which promote health, assist with preventing injury, and encourage wellness. Working with the AFCS population fits directly into the community practice model by promoting health and wellness of children in the AFCS. Occupational therapists are professionals specifically trained to identify and intervene to address the needs of these children with concerns such as sensory problems in the community, with the adjustment into new homes, postinstiutionalization, by providing cultural data, and helping clients access resources in the community (Haradon, 2001).

Areas of Health to Consider

Children in the foster care and adoption systems are predisposed to physical, developmental, and/or mental health concerns. In a study of 86 adoptive families, only 7% felt they were fully prepared to take on the responsibilities of raising their adopted child who was raised in an institution (Brown, 2011). It is important for parents to understand the characteristics their new daughter or son may display based on their

history in the adoption or foster care system, as well as the toll this took on his or her development. Within the OTPF, the World Health Organization (WHO) identified health to be "a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity" (2006). This product focuses on five main areas of children's health shown through research to be affected through the AFCS. These areas include: biological, physical, social, sensory, and mental.

Biological Health

Biological is defined as pertaining to life and living things, as well as to be related by blood (Merriam-Webster, 2018). Pertaining to this study, the term biological means viewing health through a person's body systems. To apply this concept even more specifically to this project, it means understanding the health of a child through his or her acquired medical conditions and looking at what was passed down to him or her by the biological parents. For example, results from previous studies indicate children who were in the foster care system consistently have higher anemia rates (between 1.8% -10%) compared to the national average (Greiner et al., 2018). Children 12 years of age or higher in the foster care system also tested higher compared to the national average to have chlamydia (6.6%) and gonorrhea (0.7%). The implications of these can subsequently affect the child and family in multiple ways. Financially, chlamydia costs on average $109 to be diagnosed and treated, which can impact an impoverished individual greatly. If not treated, it can result in pelvic inflammatory disorder, which can cost up to $1,382 to treat. Emotionally, if left untreated, chlamydia can result in an ectopic pregnancy or infertility (Greiner et al., 2018).

Rettig and McCarthy-Rettig (2006) discovered that out of 240 internationally adopted children, 32 families reported their adopted children had medical issues. The conditions included tuberculosis (three children), Hepatitis B or C (five children), visual problems (two children), hearing or ear problems (three children), and asthma (two children). Other included reported conditions were rickets, elevated lead levels, dental decay, and scabies (Rettig & McCarthy-Rettig, 2006). Johnson and Dole (1999) discovered similar biological health effects on children who lived in a congregate care setting. They found that this type of environment increased rates of upper respiratory infections and middle ear pathologies in this population (Johnson & Dole, 1999). Although biological health is not necessarily an OT's job to manage, they should be aware of the statistics pertaining to this area of health and the effects they can have on the child and their family or caregivers.

Physical Health

The physical health of children involved with the AFCS may be affected due to their previous institutionalization and environment. For example, institutionalized children are observed to have more frequent vision problems. Strabismus, the condition of being cross-eyed, was observed to be prevalent in 10% out of 252 institutionalized children in one study and in 25% of children observed in a different Romanian orphanage (Johnson & Dole, 1999). In the average US population, only 4% of people are estimated to have this condition. The impacts of trauma can cause strabismus by damaging parts of the brain that control eye movement, damaging nerves that control eye movement or damaging the actual muscles that control eye movement. This condition can cause double vision, leading the child to focus with only one eye. The neglected eye subsequently

develops poorly, impacting the child's overall participation and performance in occupations (American Association for Pediatric Ophthalmology and Strabismus, 2018).

Children involved with the AFCS have also displayed stunted physical growth compared to their family-reared peers. Each three to four months spent in an orphanage, irrespective of the orphanage country's location, equals one month of falling behind on the linear growth scale for institutionalized children. It is interesting to note that when a child enters an adoptive family, the linear growth velocity increases drastically for the majority of these children. Although there is growth after the change in environment, even after living with adoptive families for three years, 31% of Romanian children previously in an institution for eight months or more still remained below the 10th percentile in height (Johnson & Dole, 1999).

Children from foster homes and institutionalized children are at risk for exhibiting fine and gross motor delays in development compared to their family-raised peers. Intercountry adopted children from Korean foster care families frequently display abnormal gross motor patterns due to mothers consistently carrying the child rather than letting him or her walk on one's own, preventing strength and gross motor development (Johnson & Dole, 1999). Rettig and McCarthy-Rettig (2006) studied 240 children adopted from China, 62% of the children were found to be developmental delayed at the time of adoption and 91% displayed gross motor development delays. A lack of nutrition while living in an institution might cause children to display hypotonicity and generalized weakness as well. However, as nutrition improves, the child's symptoms may normalize (Johnson & Dole, 1999).

Another component of physical health is obtaining an appropriate amount of sleep for daily functioning, which falls into the realm of occupational therapy (AOTA, 2014). Issues with sleep is one of the most commonly described problems by families of internationally adopted children (Rettig & McCarthy-Rettig, 2006). In a study consisting of 73 children adopted from Romanian orphanages and 72 children who were family-reared throughout their lifetime, many parents of adopted children reported their child had difficulty falling asleep or exhibited irregular sleep patterns (Cermak & Daunhauer, 1997). In a separate study, Rettig and McCarthy-Rettig (2006) found that 52% of families reported their adopted children experienced sleep problems, compared to 30% of the general population of children (ages 0-4) who experience sleep difficulties. Nine percent of families in the study reported the adopted child had severe difficulties with sleep and the difficulties occurred at least 75% of the time. Examples of issues children may experience are falling asleep, having night terrors, or refusing to sleep alone. Refusal to sleep alone can be a result of cultural differences between what the children were exposed to in their previous culture compared to their new home in the US. In US culture it is common for children to sleep alone, while in other countries and cultures it may be more common to have a family bed (Rettig & McCarthy-Rettig, 2006). The change of environment, as well as the change in culture from an institution or foster home to a more consistent home, are experiences which may bring about these difficulties.

Social Health

Social health encompasses how an individual interacts with his or her social environment. The social environment includes the presence of other people in one's life, the relationships people form with others, and the expectations of interaction with other

persons, groups, and populations (AOTA, 2014). Social competence is displayed in a child's ability to maintain a good balance of emotional-related behavior and emotional management, which leads to appropriate behavior in school and around other people. It is the hope that children grow up in a social environment which stimulates development in this area, but this is not always the case for children who are adopted, especially internationally (Cermak & Daunhauer, 1997).

Previously institutionalized children displayed delays in the development of social skills compared to children who were family-reared, according to a study comparing 25 children from a Romanian orphanage and 11 children living with their families (Kaler & Freeman, 1994). The delay in social skills affects the children's abilities to socialize appropriately as the number of people they interact with on a daily basis expands. For example, when youth in foster care begin attending school, they are more likely than their peers to find it challenging to interact with classmates as well as to relate to them (Cox, 2013; Minnis, Everett, Pelosi, Dunn & Knapp, 2006).

Attachment disorder can also be a concern for children in this population. The lack of a warm, loving adult in a child's life can result in an attachment disorder, which is an example of an inappropriate social behavior. In a study comparing 251 children not involved with the foster care system to 182 children involved with this system, the researchers found the latter group to have significantly higher Reactive Attachment Disorder symptom scores (Minnis et al., 2006). Children involved with the AFCS may display this condition because they often lack stimulation and a consistent relationship with an adult, often experiencing neglect (Mack, 2002). In opposition, positive parental responses to a child's expression of emotion and a secure parent-child attachment are

correlated with higher levels of social competence in youth (Chan, 2011). Occupational therapists have been trained in the role of educating (AOTA, 2014), which can include teaching parents strategies to provide this type of a relationship for a child who craves a consistent and loving social environment.

Sensory Health

The sensory health of children has been a topic of exploration for Jean Ayres, an American OT, which began in 1964 when she started development of a theory regarding the importance of sensory stimulation on a child's occupational performance (Ayres, 1964). Ayres coined the term sensory integration, which she defined as the process of organizing sensory stimuli for use within occupations (Ayres, 1979). Sensory integration encompasses synthesizing information from the environment to cause adaptive responses, which in turn act as building blocks for further sensory integration and subsequent adaptive responses (Fisher & Murray, 1991). This ability to take in information from one's environmental stimuli and react appropriately is the basis for emotional, physical, cognitive, and social development. These areas have been found to be delayed in children involved with the AFCS (Cermak & Daunhauer, 1997), which demonstrates the importance of understanding sensory health deficits in this population.

Sensory health and sensory integration skills have the potential to develop differently in AFCS children compared to family-reared children due a number of factors. One of these factors is that institutions oftentimes deprive children of various sensory experiences that the average child would get in a consistent home environment (Cermak & Daunhauer, 1997). In other words, their sensory diet is lacking (Johnson & Dole, 1999). For example, sensory deprivation for infants may occur during feeding time in

some institutions. The typical child in a home environment would get the input of touch, smell, sight, and position sense of a mother figure while being fed a bottle. However, in an institution the bottle may just be propped up in the crib, depriving the sensory experience during this occupation (Cermak & Daunhauer, 1997).

Deficits in sensory health have implications on other areas of a child's well-being such as their social patterns and ability to adapt to a new environment (Cermak & Daunhauer, 1997), which often occurs for children involved with the AFCS (Connell et al., 2006). This is especially true for children in the foster care system, who on average change families/environments 2.9 times (Connell et al., 2006). Limited sensory experiences offered to children in the AFCS may result in tactile defensiveness with sensitivities (either hypo- or hyper-) to touch, taste, smell, light, and sound (Johnson & Dole, 1999), affecting their willingness to engage in everyday occupations and adapt to novel situations. This confirms the importance of identifying implications of institutionalization on a developing child as a deficit in sensory stimulation can lead to subsequent ramifications.

Mental Health

The term mental health is included within the overarching term behavioral health (Neese, 2016). Affective, cognitive, and perceptual skills are components encompassed within one's overall mental health (AOTA, 2014). Compared to other groups of children, postinstitutionalized children are referred to mental health services at higher rates (Nichols, Martin, & Martin, 2015). Children in foster care have shown challenges with concentrating, hyperactivity, and staying organized (Cox, 2013), all of which are

included within this area of functioning and within the occupational therapy scope of practice.

In a study consisting of 182 children in foster care, 60% displayed evidence of mental health issues including emotional problems, conduct issues, and hyperactivity. When teachers were asked to rate the prevalence of emotional disorders in these children, they reported rates slightly higher than 12%, which is similar to the general population's percentage of mental disorders. However, when the children themselves were asked to determine the prevalence of mental problems amongst themselves, they reported a 30% prevalence (Minnis et al., 2006). It is important for issues such as these to be recognized and addressed through the children themselves, rather than through their teachers, caregivers, etc., as evidenced by this study.

Adoptive parents identified mental health services with adoption-competent professionals as their greatest service need (Nichols et al., 2015). Although mental health professionals are widespread, parents report it is difficult to locate individuals who understand the impacts of the child's institutionalization on their mental health (Nichols et al., 2015).

Environment

The length of institutionalization children experience has been linked to increasing predispositions such as mental, behavior, physical, social, sensory, and biological issues (Cermak & Daunhauer, 1997; Lin et al., 2005). Lin, Cermak, Coster, and Miller (2005) compared sensory integration concerns between 60 children who had been in an institution for an average of nine months before adoption, and those who were there an average of three years before adoption. The children, between the ages of four

and eight years 11 months when evaluated, all participated in the Sensory Integration and Praxis Test (SIPT). Results demonstrated that those children who had been in an institution longer had a greater incidence of increased sensory integration concerns (Lin et al., 2005). Similarly, Lewis, Dozier, Ackerman, and Sepulveda-Kozakowski (2007) concluded that children who live in unstable environments, such as the foster system, have more difficulties with self-regulation throughout their lifetime and have an increased amount of developmental difficulties. Niemann and Weiss (2011) also linked pre-adoptive care to difficulty building relationships with adoptive family members. Though the length of institutionalization did have an impact on the predisposition factors, the results of a study by Leslie et al. (2005) showed no significant difference in when the children developed issues over time, regardless of whether they were placed with relative or non-relative foster care.

Impacts of Trauma

Childhood trauma has been defined as a psychologically distressing event involving a sense of fear, horror, and helplessness that affects a child. After a distressing event occurs, childhood trauma is the resulting effect if the internal and external resources a child possesses are not able to cope with an external threat. Examples of events causing trauma include a serious injury, death, or sexual violence the child witnessed, experienced, or felt threatened by. The trauma may also occur due to abuse, neglect, illness, or violence. There are three forms of abuse which include: physical, emotional, and sexual. There are also various forms of neglect: physical, medical, emotional, and educational (Petrenchik & Weiss, 2015).

Although most children eventually will recover with time from an isolated traumatic event, chronic trauma can lead to more lasting adverse effects on a child's development. Exposure to chronic trauma results in complex trauma, which is termed developmental trauma when it occurs during childhood (Petrenchik & Weiss, 2015). Symptoms of developmental trauma are adversely more significant when compared to children with posttraumatic stress disorder (PTSD) or non-violent traumatic experiences in the areas of dysregulation, functional impairments, and psychiatric hospitalization (Kisiel et al., 2014).

Researchers have shown that complex trauma from highly stressful environments has a negative impact on brain development in children (Ryan et al., 2017), which has the potential to affect the children's overall cognition and behaviors. For example, these children may have an overly reactive stress system as well as a hyper-alert interaction system. The overly active arousal state eventually becomes a trait for the child (Ryan et al., 2017). From an OT perspective, this has the potential to result in symptoms of attention deficit hyperactivity disorder, otherwise known as ADHD. It is known that as levels of arousal increase, effective cognitive processing skills decrease. High levels of arousal also typically result in mood dysregulation and underdeveloped social skills (Ryan et al., 2017). These resulting issues are within an OT's scope of practice as these professionals are trained to identify and treat underlying factors influencing occupational performance including cognition, appropriate emotional mental functions, and the more than 27 components associated with social interaction. (AOTA, 2014).

Sensory hypersensitivity (SHS) is a condition OTs address with children. Similar features to SHS are seen in maltreated children, which are dysregulated internally.

Children with SHS and children who were maltreated display over-reactive, negative responses to sensation that the average child would not find irritating. The children respond in exaggerated ways; some examples are pulling away quickly from a hug or when tapped on the shoulder. Other sensory hypersensitivities might include complaining that lights are too bright and normal sounds are too loud (Ryan et al., 2017). Sensory regulation is an area of expertise in occupational therapy (AOTA, 2014). Occupational therapists are equipped with interventions to address issues backed by copious amounts of research to justify various techniques.

Occupational therapy can assist in the recovery process of trauma by assisting children and caregivers to identify triggers of the traumatic event, understand the symptoms of PTSD, and help manage symptoms on a daily basis (Davis, 1999). Children who experience PTSD may display symptoms unlike adult clients would. According to Davis (1999), common symptoms seen in children with PTSD are visualizing the incident throughout the day or before falling asleep, complaining of pain (such as in the stomach) frequently, having difficulty with trust, changing the way they respond to other people in their lives, developing a strong fear to something that reminds them of the event, and being overreactive to others in certain situations (Davis, 1999; Ryan et al., 2017). Since 1999, research has expanded on childhood trauma, however the results from Davis (1999) are still considered accurate today.

According to the U.S. Department of Veteran Affairs, children who have experienced a traumatic event may incorporate the experience into play to remember the trauma and hope to avoid it in the future (U.S. Department of Veterans Affairs, 2015). Signs children exhibit after being maltreated include difficulty sustaining play, being

inattentive during play, and having a difficult time creating play themes. Children who experience trauma may also lack in the area of social participation. When children have undeveloped play skills, it is difficult for them to interact with peers, creating a lack in their social environment. A lacking social environment can have detrimental impacts on a child's development because it can significantly limit the amount of play experienced. Play is considered a primary occupation for children and is the medium most skills are gained through. However, play is typically done with other children. Therefore, difficulty socializing with other children can result in less play opportunities (Ryan et al., 2017).

The adverse effects of trauma are widespread and show throughout a child's development in various ways. The U.S. Department of Veteran Affairs (2015) also discussed similar symptoms to those Davis (1999) examined years prior, stating that children often have difficulty trusting others, feel lonely, sad, or worried, demonstrate behaviors such as aggressions or sexual behaviors that are atypical for their age, and they may begin self-harming or using drugs.

Too often, early childhood trauma is either minimized or ignored during a child's development, resulting in patterns of behavior that are fear-based and internalized at young ages. Because treatment is often delayed until the child is older, these patterns of behavior become even more difficult to change and reverse in later years (Ryan et al., 2017). It is vitally important to identify the underlying issues resulting from childhood trauma as early as possible. Unfortunately, there is currently a lack of screening tools available that could be utilized for this purpose, or for the purpose of determining referral needs for children to occupational therapy services.

Ecology of Human Performance

The creation of this product was guided by the EHP model. This model was chosen because of its emphasis on the environment being a main determinant of one's performance. According to EHP, the interaction between the person and the environment affects performance and behavior of an individual (Dunn, 2017). Literature has identified many impacts of the environment evident in AFCS children, making this aspect critical for health care professionals to understand while working with this population. Other important concepts of EHP include person, task, and their relatedness to the environment. This product was guided by the understanding that these concepts are interrelated and lead to human performance (Dunn, 2017). In order to understand children's behavior and performance, factors leading to these outcomes were organized into categories within the screening tool.

The main categories of the screening tool (person, task, and context) were broken down even further to guide the development of questions included in the screening tool. Within the person category, variables taken into consideration were the same concepts the EHP model identifies as personal variables: values, interests, experiences, psychosocial skills, cognitive skills, and sensorimotor skills. Within the task category, the person's performance range is defined as the set of tasks a person engages in depending on the interaction between the person and context in specific situations (Dunn, 2017). The product includes a section on the performance range of the child and behaviors in certain situations to provide an overview of how an individual's personable variables relate to environmental variables. Within the context category, variables taken into consideration for question generation included cultural, social, physical, and temporal

environmental components (Dunn, 2017). These components are directly correlated to the variables of the EHP model. Overall, this product is structured according to the EHP model with an emphasis on the person in context. The model guided creation of the product which assisted in creating a view of a child's behavior and performance through the environment. Not only is the environment frequently inconsistent for children in the AFCS population, but there are negative aspects of the environment which may shape behavior and performance in occupation, as well as personal characteristics. It is impossible to understand a child's performance without also considering his or her person, context, and tasks. The model was chosen to guide this product due to the heavy interrelatedness of person, context, task, and performance.

Product

The screening tool, known as the OTRT, will be implemented by being distributed to foster care and adoption centers, social workers, case managers, daycare providers, teachers, counselors, occupational therapy students, OTs, and other licensed professionals to use at their discretion. The purpose of distributing the tool so widely will be for those listed to have the screening tool on hand when they encounter a child in the AFCS population. By completing this quick screening, the administrator can determine if the child has a need for occupational therapy services that otherwise would have been missed without using the tool. This allows for the professional adults in the child's life to make a more objective decision regarding the child's needs. It will also help prevent children in this population from being missed for needed services when they are younger, which leads to earlier intervention. Receiving services earlier in life helps prevent escalated issues the child may develop if their needs are not met at a young age. It is

expected that results of the OTRT be shared with necessary personnel, making the tool clinically useful to address needs of the AFCS population by increasing referrals to occupational therapy services. Within the appendices the authors have included various assessments that may be used for further full evaluation of the children by OTs.

Controversial Aspects

Controversial aspects surrounding this topic might include questioning whether this is within an OT's scope of practice and if the practitioners are skilled to work in this area. However, within the OTPF, aspects of the domain of occupational therapy include occupations, performance skills, performance patterns, client factors, context, environment, and how they interact to affect clients' participation in life (AOTA, 2014). These concepts are consistent with the variables OTs are concerned with while working with the AFCS population. The basic concepts of occupational therapy and what OTs are taught through coursework are utilized while working with these children in what is considered an emerging area. However, the pediatric population is included in the clientele OTs have worked with for decades.

Conclusion

Adoption medicine is currently considered an emerging area of practice for the occupational therapy profession. Though literature on occupational therapy and the AFCS population exists, the authors of this project noted a lack of current literature. As a result, it is difficult to know what challenges this population faces now that may not have been an issue in the past. The need for occupational therapy services for many children in this population is evident, with few OTs currently working in this field specifically. However, many OTs work with children involved with the AFCS on a regular basis,

whether knowingly or unknowingly. Children in the AFCS population have higher predispositions to commonly seen childhood concerns treated by OTs. The purpose of this screening tool is to provide a simple way for social workers, case managers, teachers, counselors, daycare providers, OTs, occupational therapy students, and other licensed professionals to screen the child and determine his or her need for occupational therapy services, even if they have not known the child long. The product was designed with the guidance of the EHP model and focuses on a combination of concerns unique to the AFCS population, as well as those often experienced by the pediatric population as a whole. The methodology of the product will be discussed more in depth within Chapter III.

CHAPTER III

Methodology

An occupational therapy referral screening tool for children in adoptive and foster care placements was developed to provide professionals a tool to refer these at risk children for occupational therapy services. After conducting a review of the literature, the authors determined a need for this screening tool as children within this system are not raised by consistent caregivers, and as a result, their needs may be overlooked. The created screening tool, the OTRT, examines areas of unique importance to this population due to the environments AFCS children experience and the transitions they undergo between environments. The tool was designed around the EHP model, of which key concepts were used to determine the direction of questions in regard to the impact of environment and context on the lives of children in the AFCS. Within the literature review, predispositions to health concerns, the impact of traumatic pasts, and an occurrence of developmental delays were examined in regard to the population. The areas of need found to be significant were added to the screening tool to assure comprehensive and sensitive results.

The initial step the authors took for creating this project was formulating a topic deemed to require further investigation. Children associated with the adoption and foster care systems are a specialized population OTs work with who have needs differing from family-reared peers due to changes in environments and experiences. The population

chosen during the literature review process was based on the population's identified needs and due to the identified niche of occupational therapy within this area. The topic was also formulated through the authors' discovery that the majority of literature related to the topic is older than ten years. This justified the need to delve into research on the population and create a screening tool intended to provide an innovative view of this population.

Prior to the development of this product, a literature review was conducted. Data was gathered by searching health science databases through the University of North Dakota's Harley E. French Library including CINAHL, PubMed, AOTA, and the American Journal of Occupational Therapy (AJOT). Key terms used in the search were adoption, foster care, orphanage, trauma, occupational therapy, assessment, evaluation, Ecology of Human Performance model, development, environment, and health. Credible websites, research articles, the OTPF, and other peer-reviewed materials were criticized and reviewed within the methodology of the product.

Upon completion of the literature review, with the EHP model as a guide, the authors synthesized information to provide rationale and developed an evidence-based screening tool for children involved with the AFCS. The product was developed for qualified professionals to have a screening tool for use with children in the AFCS, increasing referred to occupational therapy services. The product is a brief screening tool with characteristics related to the child's person, context, performance, and tasks as well as information regarding the implementation of the tool in practice.

CHAPTER IV

Product

Occupational Therapy Referral Screening Tool

(OTRT)

Created by Alli Fox, MOTS, & Emily Kollodge, MOTS
Advisor: Roberta Carrlson

Table of Contents

User Manual

Overview

This screening tool is designed to identify developmental components children involved with the adoption and foster care systems (AFCS) may lack compared to research depicting typical developmental milestones. This tool acts as a guide to compare the child being assessed to expected childhood development. If areas of concern identified on the screening tool are determined to be significant, the tool is intended to be used as an objective measure of justification to refer a child to occupational therapy (OT) services.

Development of the Screening Tool

The tool was developed by Alli Fox, MOTS and Emily Kollodge, MOTS as a product of their literature review concerning children associated with AFCS. By conducting a literature review and discussing major needs of the population in comparison with researched developmental milestones, the authors established a concise list of questions to include in the brief screening tool. A six-point Likert-type scale was chosen as a sensitive measure for administrators to ensure accurate representations are scored. The six-point scale also eliminates a middle score which could be depicted as neutral and may act as a default answer which would provide limited information.

To enhance development of the *OTRT*, the authors would appreciate any feedback regarding scoring and ease of use. Please send feedback to *OTRTresults@gmail.com.*

Population

The screening tool was created for use with children ages birth to 17 years and 11 months. Parameters were chosen based off the age a child is in the foster care system (Lawyers for Children, 2018), and the ages of children typically treated at a pediatric occupational therapy clinic. Additionally, in North Dakota, the legal age of a minority is under 18 years old (Washington University in St. Louis, 2012). The authors determined where areas of greatest development typically occur and segmented the versions of the screening tool accordingly.

Although the focus of the screening tool was for AFCS children, included milestones within the tool are general developmental milestones and are not specific to this population. As a result, this tool can be used with any at-risk child or youth. The term ‘at-risk child’ was defined by different indicators and may vary in meaning, but some examples falling under this category include children who have experienced trauma or abuse, have an illness or disability, have limited reading proficiency, or have exhibited behavior issues (Rak & Patterson, 1996; Randolph, Fraser, & Orthner, 2004).

Theory Implementation and Components of the Screening Tool

The creation of the Occupational Therapy Referral Screening Tool (*OTRT)* was guided by the Ecology of Human Performance (EHP) model. Ecology of Human Performance guides professionals to assess relationships between the main components of the model: person, task, context, and performance, as well as considering temporality (Dunn, Brown, & McGuigan, 1994). Sections of the screening tool are divided into the main components with subcategories under each component. Authors of EHP designed the model to be interprofessional, which correlates with the variety of administrators of the *OTRT* (Dunn, 2017). Because the goal of EHP is to increase one's performance range, the authors felt the EHP model could be applied to this population. Definitions of each component and subcomponent used as a heading within the screening tool are listed below.

Person: A unique being possessing skills, experiences, and abilities (Dunn et al., 1994)

- *Psychosocial:* Relating to the mental, social, spiritual, and emotional components of a person (National Cancer Institute, 2018)
- *Cognitive:* Includes people's ability to think, learn and remember, as well as the ability to apply this information to the world around them (National Cancer Institute, 2018)
- *Sensorimotor skills:* Sensory skills encompass the processing of incoming stimuli relating to visual, hearing, tactile, vestibular, taste, smell, and proprioceptive information. Motor skills include the ability to move around one's environment and the ability to move and interact with objects (American Occupational Therapy Association [AOTA], 2014). Sensorimotor skills comprise the combination of these two terms which can be observed through behaviors.

Task: Sets of behaviors that are objective and necessary for goal attainment (Dunn et al., 1994)

- *Performance range*: The number of tasks and the kind of tasks that an individual can do, which is determined by the interaction of their person and context factors (Dunn et al., 1994)
- *Behaviors:* The way one acts based on the context (Dunn et al., 1994)

Context: The place where a person draws meaning, which is dynamic and ever-changing (Dunn et al., 1994)

- *Cultural:* Relate to the society the client considers themselves a member of. This context has an impact on determining their beliefs, values, customs, patterns they perform activities in, behaviors, and other role expectations (Dunn et al., 1994)

- *Social:* The expectations and availability of individuals in the person's life which include friends, peers, caregivers and the greater social groups that establish norms, expectations, and social routines (Dunn et al., 1994)
- *Physical:* The built nonhuman aspects of context which include the surroundings and the objects in them, as well as the natural terrain surroundings (AOTA, 2014; Dunn et al., 1994)
- *Temporal:* Considers the client's age, both developmentally and chronologically as well as current health and life cycles (Dunn et al., 1994)

Administration and Interpreting Results

Intended administrators of the *OTRT* are social workers, case managers, teachers, counselors, daycare providers, occupational therapists, occupational therapy students, and other licensed professionals who work with children. These individuals were chosen because of their intact knowledge related to children and development, as well as their ability to use professional reasoning skills to analyze situations. The administrator is expected to understand the manual and the typical developmental milestones for the child being screened (see 'What Can You Expect…' sections below). Completing the *OTRT* is expected to take approximately 5-10 minutes. After completing the screening tool, the administrator will use the suggested referral guidelines to decide whether the child would benefit from OT services. If needed, the administrator is expected to contact the appropriate personnel and take an appropriate plan of action to assist in acquiring OT services for the child. The results should also be shared with the child's guardian(s).

Scoring

To score the *OTRT*, the administrator will add the numerical values marked during the assessment (1-6 on each item). Items from each section (Person, Task, and Context) will be calculated separately and written on the *OTRT Scoring Form*. A final total value will also be recorded on the *OTRT Scoring Form*. Each section's numerical value, as well as the total score, will then be compared to the suggested referral guidelines to determine if the child has "Major Concerns", "Minor Concerns", or "No Current Concerns" in each section.

Suggested Referral Guidelines

Explained below are the meanings and next steps to be taken depending on the category of development (major concerns, minor concerns, or no current concerns) a child scored on the *OTRT*. It should be noted that the screening tool and its associated scores are not yet proven to be psychometrically sound. Decisions for referral should be based on professional judgement and guided by the *OTRT* results about whether the child would benefit from a complete evaluation by OT services. Included in this manual is a chart depicting numerical values by category.

Major Concerns: If a child's scores fall in this category, it means the child appears to be performing under expected performance from an OT perspective. A referral to OT is recommended, which can be requested of the child's doctor by the child's guardian. The administrator's professional judgement, as well as the guardian(s) input should be taken into consideration.

Minor Concerns: If a child's scores fall in this category, it means performance is not within typical developmental standards, but there are not major concerns from an OT perspective. A referral to OT is recommended, but not required. The administrator's professional judgement, as well as the guardian(s) input should be taken into consideration. If a referral to OT is decided to be beneficial, the guardian(s) should be encouraged to request an OT referral from the child's doctor. If no referral to OT is made, the child should be monitored for increased concerns.

No Current Concerns: If the child scores in this category, there are no concerns in development from an OT perspective at this time. Results should still be shared with the child's guardian(s), but no referral to OT is recommended.

Birth-12 Months

	Major Concerns	Minor Concerns	No Current Concerns
Person	0-18	19-36	37-54
Task	0-22	23-44	45-66
Context	0-24	25-48	49-72
Total (Person + Task + Context)	0-64	65-128	129-192

1-2.11

	Major Concerns	Minor Concerns	No Current Concerns
Person	0-26	27-52	53-78
Task	0-26	27-52	53-78
Context	0-18	19-36	37-54
Total (Person + Task + Context)	0-70	71-140	141-210

3-3.11

	Major Concerns	Minor Concerns	No Current Concerns
Person	0-38	39-76	77-114
Task	0-30	31-60	61-90
Context	0-18	19-36	37-54
Total (Person + Task + Context)	0-86	87-172	173-258

4-5.11

	Major Concerns	Minor Concerns	No Current Concerns
Person	0-42	43-84	85-126
Task	0-34	35-68	69-102
Context	0-18	19-36	37-54
Total (Person + Task + Context)	0-94	95-188	189-282

6-7.11

	Major Concerns	Minor Concerns	No Current Concerns
Person	0-22	23-44	45-66
Task	0-34	35-68	69-102
Context	0-18	19-36	37-54
Total (Person + Task + Context)	0-74	75-148	149-222

8-11.11

	Major Concerns	Minor Concerns	No Current Concerns
Person	0-18	19-36	37-54
Task	0-34	35-68	69-102
Context	0-18	19-36	37-54
Total (Person + Task + Context)	0-70	71-140	141-210

12-17.11

	Major Concerns	Minor Concerns	No Current Concerns
Person	0-22	23-44	45-66
Task	0-42	43-84	85-126
Context	0-18	19-36	37-54
Total (Person + Task + Context)	0-82	83-164	165-246

What Can You Expect from Birth-12 Months

Person

Psychosocial skills:

- Psychosocial skills are limited and difficult to evaluate (Centers for Disease Control and Prevention [CDC], 2018)
- Cries when upset and seeks comfort from others (Children's Therapy and Resources Center, 2011)
- Smiles and laughs/giggles (Children's Therapy and Resources Center, 2011)
- Calms down with rocking, being held, or by soothing sounds (Pathways.org, 2018)

Cognitive skills:

- Reacts to noises (Pathways.org, 2018)
- Is interested in exploring new objects (Pathways.org, 2018)
- Imitates sounds or speech (Pathways.org, 2018)
- Children will look for an item if they watch it be hidden beneath a blanket (6mos+) (McLeod, 2018)

Sensorimotor skills:

- Can appropriately feed from either the breast or a bottle, allowing them to gain weight (Cermak & Daunhauer, 1997)
- Has a reflex reaction to grab an item that is placed in their hands (McLeod, 2018)
- The child will reach for a desired item (McLeod, 2018)
- Able to track moving objects (Pathways.org, 2018)

Task

Performance range:

- Do not have the ability to complete more than two-step tasks (CDC, 2018)
- Occupations children in this age range typically participate in include:
    - Toileting and toilet hygiene
    - Swallowing and eating
    - Feeding
    - Riding in a car
    - Functional mobility
    - Rest and sleep
    - Social participation
    - Play

    (AOTA, 2014)

Behaviors:

- When infants are six weeks old, they start to develop their circadian rhythm, otherwise known as sleep-wake cycles (National Sleep Foundation, 2018)
- Might fuss or cry to express feeling tired (National Sleep Foundation, 2018)

- Infants may appear restless while they are sleeping as exhibited by behaviors such as twitching their extremities and sucking (National Sleep Foundation, 2018)
- When not hungry or tired they are typically happy (Pathways.org, 2018)

Context

Cultural:

- Culture should be considered with every child as it can impact the expectations caregivers have for children at this age
    - For example, in various cultures utensils such as a spoon are not used for eating. If a child raised in these cultures cannot use a spoon, it is not considered a deficit as they were not expected to do this and are most likely not familiar with the item.
    - Also consider that children may be more independent in self-care skills compared to the typical child. Being overly independent may indicate the child has had to take on an increased amount of responsibility in his or her life.
- Professional judgement should be used to answer this section based off skills the child has and his or her culture (CDC, 2018)

Social:

- Make eye contact (Pathways.org, 2018)
- Developing the ability to demonstrate emotions such as anxiety, happiness, or anger (Oswalt, 2018)
- Has a social smile around people (Oswalt, 2018)

Physical:

- Spend a majority of their time at home, at the home of relatives, or are occasionally brought to other locations outside the home (DiCarlo, Reid, & Strickin, 2006)
- To encourage development, infants require:
    - Open spaces
    - Firm padding in play areas
    - A clean and safe space
    - Rounded edges on furniture
    - Platforms to stand on
    - Safe toys
    - Tables and chairs to facilitate exploration of the environment (DiCarlo, Reid, & Strickin, 2006)

Temporal:

- A short duration and inconsistent rhythm to activities is expected (AOTA, 2014)
- On average, an infant 0-3 months old will sleep 10.5-18 hours per day with 1-3 hour periods spent awake to be fed, nurtured, and have diapers changed (National Sleep Foundation, 2018)
- Has one bowel movement per day (American Academy of Pediatrics, 2018)
- Newborns a few weeks old typically feed 8-12 times per day (Gavin, 2018)

- When a baby is able to take formula, the baby typically feeds every 2-4 hours (Gavin, 2018)
- Each feeding time takes up to 30 minutes (Morris & Klein, 2000)

What Can You Expect from 1.0-2.11

Person

Psychosocial skills:

- By 1.5-2 years old, children begin to have temper tantrums and express their feelings more readily (CDC, 2018)
- Turns to look when someone calls his or her name (Children's Therapy and Resources Center, 2011)
- Comforted by cuddling with caregivers (Pathways.org, 2018)
- Imitates others (Pathways.org, 2018)

Cognitive skills:

- Expected to be making simple gestures (CDC, 2018)
- Copies the gestures of the people around them (CDC, 2018)
- Explores objects in different ways (CDC, 2018)
- Follows simple directions (CDC, 2018)
- By 1.5 years old, children will begin to point to items they want around the room (CDC, 2018)
- At age two years, children begin to develop a strong imagination that can be seen in their play (CDC, 2018)
- At age two years, they begin to put together two to four word sentences, increasing their communication abilities (CDC, 2018)
- Can finish familiar sentences from books if read to them and they can follow simple two-step directions (CDC, 2018)

Sensorimotor skills:

- By age one, children are expected to be crawling (CDC, 2018)
- Are able to stand with support of people or objects (CDC, 2018)
- By age 1.5 years old, it is typical for children to begin to walk independently and use a spoon and cup for meal times (CDC, 2018)
- By age two, children are expected to be able to climb up and down furniture without assistance (CDC, 2018)
- At age two years, they should know what to do with everyday objects (CDC, 2018)
- At age two years, they should be walking steadily (CDC, 2018)
- Increasing variety of food that they will eat (Pathways.org, 2018)
- Has motor abilities to assist with dressing/undressing (Pathways.org, 2018)

Task

Performance range:

- Do not have the ability to complete more than two-step tasks (CDC, 2018)
- Occupations children in this age range typically participate in include:
    - Toileting and toilet hygiene
    - Dressing
    - Bathing
    - Swallowing, eating, and feeding
    - Functional mobility

- Rest and sleep
- Social participation
- Play

(AOTA, 2014)

Behaviors:

- Self-soothes on car rides when not hungry or tired (Pathways.org, 2018)
- By age two years, it is typical for children to be defiant towards caregivers as they begin to develop a better understanding of their lives (CDC, 2018)

Context

Cultural:

- Culture should be considered with every child as it can impact the expectations caregivers have for children at this age
  - For example, in various cultures utensils such as a spoon are not used for eating. If a child raised in these cultures cannot use a spoon, it is not considered a deficit as they were not expected to do this and are most likely not familiar with the item.
  - Also consider that children may be more independent in self-care skills compared to the typical child. Being overly independent may indicate the child has had to take on an increased amount of responsibility in his or her life.
- Professional judgement should be used to answer this section based off skills the child has and his or her culture (CDC, 2018)

Social:

- Beginning at age 1.5 years, children begin to develop more connections to caregivers (CDC, 2018)
- They begin to show clear affection and desire to stay close to caregivers in new situations (CDC, 2018)
- Notice when caregivers leave the room or come back (CDC, 2018)
- By age two years, children begin to parallel play with others, but do not necessarily interact (CDC, 2018)
- Understand others' emotions and get excited when other children do too (CDC, 2018)

Physical:

- Spend a majority of their time at home, at the home of relatives, or are occasionally brought to other locations outside the home (DiCarlo, Reid, & Strickin, 2006)

Temporal:

- A short duration and inconsistent rhythm to activities is expected (AOTA, 2014)
- During the one to two age span, children typically sleep 11-14 hours each day with, on average, only one nap per day (National Sleep Foundation, 2018)

What Can You Expect from 3.0-3.11

Person

Psychosocial skills:

- Children at three years of age begin to show more affection to the people around them (CDC, 2018)
- Experience a wider range of emotions than in previous years (CDC, 2018)
- Understands failure versus succeeding (McLeod, 2018)

Cognitive skills:

- Takes turns in games (CDC, 2018)
- Follows 2-3 step instructions (CDC, 2018)
- Says his or her first name (CDC, 2018)
- Able to have 2-3 sentence conversations (CDC, 2018)
- Uses toys with moving parts showing a more complex understanding of objects (CDC, 2018)
- Imagination increases for playing make believe (CDC, 2018)
- Turns pages in a book one at a time (CDC, 2018)
- Has clear speech, even though vocabulary is most likely limited (CDC, 2018)

Sensorimotor skills:

- By age three, children typically have developed the physical strength to play with peers (Pathways.org, 2018)
- Increased movement coordination (Pathways.org, 2018)
- Can walk with heel to toe movement (Pathways.org, 2018)
- Maintains balance (Pathways.org, 2018)
- Increased hand-eye coordination (Pathways.org, 2018)
- Able to avoid obstacles (Pathways.org, 2018)
- Can throw or catch a ball due to increased bilateral hand coordination (Pathways.org, 2018)
- Not fearful of tipping head back (Pathways.org, 2018)
- Uses pincer grasp and is aware of sensations (Pathways.org, 2018)
- Walks/runs without tripping when there are no obstacles on the ground (Morin, 2018a)
- Climbs (Morin, 2018a)
- Jumps/hops (Morin, 2018a)
- Stands on one foot for short time periods (Morin, 2018a)
- Throws and catches larger balls (Morin, 2018a)
- Kicks a ball (Morin, 2018a)
- Able to tolerate different textures of clothing

Task

Performance range:

- At age three, the child begins to expand his or her performance range as he or she develops more skills and a greater understanding of the environment (CDC, 2018)
- Children in this age range typically participate in occupations such as:
    - Bathing

    - Toileting and toilet hygiene
    - Dressing
    - Swallowing, eating, and feeding
    - Functional mobility
    - Personal hygiene
    - Rest and sleep
    - Social participation
    - Play
      (AOTA, 2014)

Behaviors:

- May have trouble falling asleep or difficulties staying asleep through the night (National Sleep Foundation, 2018)
- As imagination develops, may experience sleep terrors and sleepwalking (National Sleep Foundation, 2018)
- Plays with toys in a way that imitates real life ((Morin, 2018a)
- Shows emotions (Morin, 2018a)
- Can solve arguments (Morin, 2018a)
- Asks "why" frequently (Morin, 2018a)
- Interested in going to new places, but are hesitant when they get there (Morin, 2018a)
- Can use door handles (Morin, 2018a)

Context

Cultural:

- Culture should be considered with every child as it can impact the expectations caregivers have for children at this age
    - For example, in various cultures utensils such as a spoon are not used for eating. If a child raised in these cultures cannot use a spoon, it is not considered a deficit as they were not expected to do this and are most likely not familiar with the item.
    - Also consider that children may be more independent in self-care skills compared to the typical child. Being overly independent may indicate the child has had to take on an increased amount of responsibility in his or her life.
- Professional judgement should be used to answer this section based off skills the child has and his or her culture (CDC, 2018)

Social:

- At age three, children separate from their caregivers easily (CDC, 2018)
- Begin to make friends and play with them instead of strictly parallel play (CDC, 2018)
- Should be making eye contact with others (CDC, 2018)
- Eat and play by themselves or with friends (CDC, 2018)

Physical:

- Home
- Preschool
- Daycare
- Family members' homes

- Outdoors
- Other areas around the community

Temporal:

- Typically sleep 11-13 hours each night (National Sleep Foundation, 2018)
- Able to understand a 2-step routine (Department of Health, 2018)
- Understands that night comes after day (Department of Health, 2018)

What Can You Expect from 4.0-5.11

Person

Psychosocial skills:

- At age four, children enjoy trying new things (CDC, 2018)
- By age five, they are more likely to agree with rules (CDC, 2018)
- Begin to show a wider range of emotions (CDC, 2018)
- Children are sometimes cooperative and other times not, however, they typically do not show extreme behaviors such as temper tantrums (CDC, 2018)

Cognitive skills:

- Age four
    - Begin to talk about their likes and interests (CDC, 2018)
    - Can sing a song or recite a poem from memory (CDC, 2018)
    - Tells stories (CDC, 2018)
    - Starts to understand time (CDC, 2018)
    - Names colors and numbers (CDC, 2018)
    - Understands the idea of counting (CDC, 2018)
    - Can tell you what he or she thinks is going to happen next in a book (CDC, 2018)
    - Understands the concept of same and different (CDC, 2018)
- Age five
    - Can distinguish reality from make believe (CDC, 2018)
    - Uses past and future tense (CDC, 2018)
    - Has ability to remember 10 or more things (CDC, 2018)
    - Focuses for more than five minutes (CDC, 2018)

Sensorimotor skills:

- By age four
    - Can pour liquid (CDC, 2018)
    - Cuts food (with supervision) and mashes own food (CDC, 2018)
    - Jumps in place (CDC, 2018)
    - Dresses independently with clothes laid out (CDC, 2018)
    - Uses the toilet independently (CDC, 2018)
    - Able to switch movements easily and quickly (Morin, 2018b)
    - Can skip (Morin, 2018b)
    - Can do somersaults (Morin, 2018b)
    - Needs minimal assistance when getting dressed (Morin, 2018b)
    - Can throw/catch a ball (Morin, 2018b)
    - Jumps and climbs (Morin, 2018b)
    - Can do more than one movement at once such as pedal with their feet while also steering with their hands (Morin, 2018b)
    - Draws and copies simple figures (Morin, 2018b)
    - Begins to write letters (Morin, 2018b)
    - Begins to operate scissors (Morin, 2018b)
    - Manipulates small objects such as beads on a string (Morin, 2018b)

- By age five
    - Can speak clearly (CDC, 2018)
    - Begins to write letters and numbers (CDC, 2018)
    - Stands on one foot for 10 seconds or longer (CDC, 2018)
    - Uses utensils independently (CDC, 2018; Morin, 2018d)
    - Can walk toe-to-heel (Morin, 2018d)
    - Jumps rope (Morin, 2018d)
    - Pump legs while swinging and can maintain swing movement without assistance (Morin, 2018d)
    - Can vary movements so arms and legs can be doing different actions (Morin, 2018d)
    - Can catch a softball (Morin, 2018d)
    - Determined hand dominance (Morin, 2018d)
    - Develops dynamic tripod or quadripod grasp for writing (Morin, 2018d)
    - Independently wipe themselves and wash their hands after going to the bathroom (Morin, 2018d)

Task

Performance range:

- Children in this age range typically participate in occupations such as:
    - Bathing or showering
    - Toileting and toilet hygiene
    - Dressing
    - Swallowing, eating, and feeding
    - Functional mobility
    - Personal hygiene
    - Assisting with simple meal preparation
    - Rest and sleep
    - Education
    - Social participation
    - Play

    (AOTA, 2014)

Behaviors:

- Age 4
    - Can put items in order in predetermined categories (Morin, 2018b)
    - Can follow multiple directions, even if they are not related (Morin, 2018b)
    - Shares with friends (Morin, 2018b)
    - Greater sense of humor (Morin, 2018b)
    - May have imaginary friends (Morin, 2018b)
    - Becomes more argumentative (Morin, 2018b)
- Age 5
    - Can attend to a task for up to 15 minutes (Morin, 2018d)
    - Begins to plan actions within games (Morin, 2018d)
    - Enjoys attention (Morin, 2018d)
    - Looks for approval from caregiver (Morin, 2018d)

Context

Cultural:

- Culture should be considered with every child as it can impact the expectations caregivers have for children at this age
    - For example, in various cultures utensils such as a spoon are not used for eating. If a child raised in these cultures cannot use a spoon, it is not considered a deficit as they were not expected to do this and are most likely not familiar with the item.
    - Also consider that children may be more independent in self-care skills compared to the typical child. Being overly independent may indicate the child has had to take on an increased amount of responsibility in his or her life.
- Professional judgement should be used to answer this section based off skills the child has and his or her culture (CDC, 2018)

Social:

- By age four years, children cooperate well with other children (CDC, 2018)
- By age five years, they begin to want to please others (CDC, 2018)
- Want to act like their friends (Morin, 2018d)

Physical:

- Home
- School
- Family members' homes
- Friends' homes
- Outdoors
- Other areas around the community

Temporal:

- When children begin attending school, they are expected to be able to follow a sequence of activities throughout the school day
- Sleep 11-13 hours on average each night (National Sleep Foundation, 2018)

What Can You Expect from 6.0-7.11

Person

Psychosocial skills:

- At age six years, children are able to articulate their feelings (CDC, 2018)
- Are increasingly empathetic (CDC, 2018)
- This is an important age range for confidence development (CDC, 2018)

Cognitive skills:

- Begins to understand place in the world more clearly (CDC, 2018)
- Increased rate of developing mental skills (CDC, 2018)
- Awareness of right and left (Child Development Network, 2003a)

Sensorimotor skills:

- Can ride a bike due to an increase in balance skills (Pathways.org, 2018)
- Can copy simple designs (Pathways.org, 2018)
- Uses pincer grasp to pick up small objects accurately (Pathways.org, 2018)
- Increased ability to do fine motor activities (Pathways.org, 2018)

Task

Performance range:

- Children in this age range typically participate in occupations such as:
    - Bathing or showering
    - Toileting and toilet hygiene
    - Dressing
    - Swallowing, eating, and feeding
    - Functional mobility
    - Personal hygiene
    - Health management
    - Assisting with simple meal preparation
    - Rest and sleep
    - Education
    - Social participation
    - Play

    (AOTA, 2014)

Behaviors:

- At age six years, children are becoming more independent (CDC, 2018)
- Begin to appreciate being part of a team (Child Development Network, 2003a)
- Play is more complex, with ideas for play emerging from school or the media (Raising Children Network, 2017)
- Can cope with winning or losing games, as well as playing fair (Raising Children Network, 2017)
- Morals and values show through behaviors (Raising Children Network, 2017)

Context

Cultural:

- Culture should be considered with every child as it can impact the expectations caregivers have for children at this age
    - For example, in various cultures utensils such as a spoon are not used for eating. If a child raised in these cultures cannot use a spoon, it is not considered a deficit as they were not expected to do this and are most likely not familiar with the item.
    - Also consider that children may be more independent in self-care skills compared to the typical child. Being overly independent may indicate the child has had to take on an increased amount of responsibility in his or her life.
- Professional judgement should be used to answer this section based off skills the child has and his or her culture (CDC, 2018)

Social:

- Begins to strongly value friendships (CDC, 2018)
- Understands how his or her actions affect others (Raising Children Network, 2017)
- Voices opinions amongst friends (Raising Children Network, 2017)

Physical:

- Home
- School
- Family members' homes
- Friends' homes
- Outdoors
- Other areas around the community

Temporal:

- Requires 9-11 hours of sleep (National Sleep Foundation, 2018)
- More fast-paced lifestyle can include school, sports, extracurricular activities, and social activities (National Sleep Foundation, 2018)
- Participates in longer durations of vigorous activities during the summer months (Raz-Silbiger et al., 2015)

What Can You Expect from 8.0-11.11

Person

Psychosocial skills:

- Children become more exposed to social pressures (CDC, 2018)
    - It is important children feel confident in themselves as those who do make better decisions about actions in response to social pressures (CDC, 2018)
- Are given more responsibilities and have higher expectations of fulfilling these responsibilities from caregivers (CDC, 2018)
- Body image and eating problems become concerns (CDC, 2018)

Cognitive skills:

- Increased attention span (CDC, 2018)
- Higher level of expectations academically (CDC, 2018)
- Greater understanding of others' points of view (CDC, 2018)

Sensorimotor skills:

- Become more skilled in sports (Child Development Network, 2003b)
- More skilled and automatic handwriting (Child Development Network, 2003b)

Task

Performance range:

- Children in this age range typically participate in occupations such as:
    - Bathing
    - Toileting and toilet hygiene
    - Dressing
    - Swallowing, eating, and feeding
    - Functional mobility
    - Personal hygiene
    - Health management
    - Meal preparation
    - Shopping
    - Rest and sleep
    - Education
    - Social participation
    - Play

  (AOTA, 2014)

Behaviors:

- Peer pressure may lead to risk taking behaviors (CDC, 2018)
- Resolves fights with friends and family members (Child Development Network, 2003b)

Context

Cultural:

- Culture should be considered with every child as it can impact the expectations caregivers have for children at this age
    - For example, in various cultures utensils such as a spoon are not used for eating. If a child raised in these cultures cannot use a

spoon, it is not considered a deficit as they were not expected to do this and are most likely not familiar with the item.
    - Also consider that children may be more independent in self-care skills compared to the typical child. Being overly independent may indicate the child has had to take on an increased amount of responsibility in his or her life.
- Professional judgement should be used to answer this section based off skills the child has and his or her culture (CDC, 2018)

Social:

- Healthy friendships are important (CDC, 2018)
- Peer pressure is a major concern (CDC, 2018)
- It is emotionally important to have friends of the same gender (CDC, 2018)
- Enjoys being on a team while playing games (Child Development Network, 2003b)

Physical:

- Home
- School
- Family members' homes
- Friends' homes
- Outdoors
- Other areas around the community

Temporal:

- Lifestyle becomes more fast-paced with school, sports, extracurricular activities, and social activities (National Sleep Foundation, 2018)
- Puberty begins at this age for most girls and some boys (CDC, 2018)

What Can You Expect from 12.0-17.11

Person

Psychosocial skills:

- Eating disorders and depression may become challenges (CDC, 2018)
- Makes own choices about friends, participation in sports or other activities, studying, and school (CDC, 2018)
- Focuses greatly on the self and goes back and forth between having high expectations and confidence for oneself (CDC, 2018)
- May be moody and have increased stress from challenging school work (CDC, 2018)

Cognitive skills:

- Able to have complex thoughts (CDC, 2018)
- Expresses feelings through talking (CDC, 2018)
- Develops a stronger sense of right and wrong (CDC, 2018)
- Gives reasons for own choices (CDC, 2018)

Sensorimotor skills:

- Grows so quickly he or she may become uncoordinated in some gross motor skills (Morin, 2018c)
- May become less active physically, requiring motivation from others (Frankel Cardiovascular Center, 2018)
- Hand-eye coordination has increased to be able to drive (Morin, 2018c)

Task

Performance range:

- Children in this age range typically participate in occupations such as:
    - Bathing
    - Toileting and toilet hygiene
    - Dressing
    - Swallowing, eating, and feeding
    - Functional mobility
    - Personal hygiene
    - Possible sexual activity
    - Possible childrearing and care of others
    - Driving and community mobility
    - Financial management
    - Religious and spiritual activities
    - Safety maintenance
    - Health management
    - Meal preparation
    - Shopping
    - Rest and sleep
    - Education
    - Work
    - Social participation
    - Leisure

    (AOTA, 2014)

Behaviors:

- Children who have feelings of sadness have an increase in risk taking behavior and low grades (CDC, 2018)
- Risk taking behaviors are a concern (CDC, 2018)
- Learn defined work habits and show more concern about the future (CDC, 2018)

Context

Cultural:

- Culture should be considered with every child as it can impact the expectations caregivers have for children at this age
    - For example, in various cultures utensils such as a spoon are not used for eating. If a child raised in these cultures cannot use a spoon, it is not considered a deficit as they were not expected to do this and are most likely not familiar with the item.
    - Also consider that children may be more independent in self-care skills compared to the typical child. Being overly independent may indicate the child has had to take on an increased amount of responsibility in his or her life.
- Professional judgement should be used to answer this section based off skills the child has and his or her culture (CDC, 2018)

Social:

- May be worried about how others view them and how puberty changes are affecting their bodies (CDC, 2018)
- Peer pressure to use alcohol, tobacco, drugs, and to have sex increases (CDC, 2018)
- May show less affection towards parents or caregivers, which sometimes can come across as being "moody" (CDC, 2018)
- Children on the higher end of this age range typically go through less conflict with their caregivers (CDC, 2018)
- Begins to become more independent from caregivers (CDC, 2018)
- Shows interest in romantic relationships and sexuality (CDC, 2018)
- Increased ability to care for others and to create deeper relationships (CDC, 2018)

Physical:

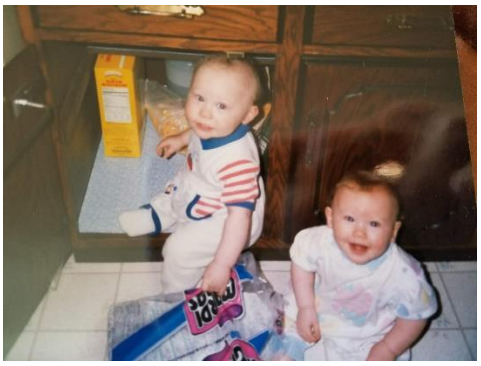
- Home
- School
- Family members' homes
- Friends' homes
- Outdoors
- Work
- Other areas around the community

Temporal:

- By this time, puberty has begun for both sexes (CDC, 2018)
- Can manage his or her time appropriately with increased responsibilities
- Is able to follow a school schedule

Occupational Therapy Referral Screening Tool

Created by: Alli Fox, MOTS and Emily Kollodge, MOTS



Ages Birth – 12 Months

Demographics:

Name:	Age: Adjusted age (if under 2 and premature): Age adopted (if applicable):
Number of foster placements:	Number of biological siblings:
Number of children in current home:	Number of biological siblings in current home:
Diagnosis (if any): Age of diagnosis:	Cultural identity:
Please list the child's interests:	

I give consent for _____ to be screened for possible occupational therapy referral.
[Child's Name]

_____ _____

Legal Guardian Signature **Date**

1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Person:

Psychosocial skills	
When the child becomes upset, s/he can be comforted by others	**1 2 3 4 5 6**
Smiles and laughs/giggles	**1 2 3 4 5 6**
Calms down with rocking, being held, or by soothing sounds	**1 2 3 4 5 6**
Cognitive skills	
Reacts to noises	**1 2 3 4 5 6**
The child will look for an item if he or she watches it be hidden beneath a blanket (6mos+)	**1 2 3 4 5 6**
Is interested in exploring new objects	**1 2 3 4 5 6**
Sensorimotor skills	
Has a reflex reaction to grab an item that is placed in his or her hand	**1 2 3 4 5 6**
Reaches for a desired item	**1 2 3 4 5 6**
Able to track moving objects	**1 2 3 4 5 6**

Task:

Performance Range	
Participates appropriately in the following occupations:	
Toileting and toilet hygiene	**1 2 3 4 5 6**
Swallowing and eating	**1 2 3 4 5 6**
Feeding	**1 2 3 4 5 6**
Riding in a car	**1 2 3 4 5 6**
Functional mobility	**1 2 3 4 5 6**

1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Rest and sleep	**1 2 3 4 5 6**
Social participation	**1 2 3 4 5 6**
Play	**1 2 3 4 5 6**
Behaviors	
Have started to develop a sleep-wake cycle (6wks+)	**1 2 3 4 5 6**
Cries and fusses to express feeling tired	**1 2 3 4 5 6**
When not hungry or tired, he or she is typically happy	**1 2 3 4 5 6**

Context:

Social	
Makes eye contact with others	**1 2 3 4 5 6**
Has a social smile around people	**1 2 3 4 5 6**
Is developing the ability to demonstrate emotions such as anxiety, happiness, or anger	**1 2 3 4 5 6**
Physical	
Occasionally is brought outside of the home	**1 2 3 4 5 6**
Is exposed to open spaces and explores the space	**1 2 3 4 5 6**
Safe toys are in his or her physical environment	**1 2 3 4 5 6**
Temporal	
Attends to activities for short periods of time	**1 2 3 4 5 6**
On average, he or she sleeps 10+ hours a night	**1 2 3 4 5 6**
Has one bowel movement per day	**1 2 3 4 5 6**
Infant eats:	
8-12 times per day	**1 2 3 4 5 6**

1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Every 2-4 hours	**1 2 3 4 5 6**
Feeds for up to 30 minutes	**1 2 3 4 5 6**
Please List Any Cultural Factors or Comments Below	

Administrator Signature, Credentials Date

Occupational Therapy Referral Screening Tool

Created by: Alli Fox, MOTS and Emily Kollodge, MOTS

Ages 1.0-2.11

Demographics:

Name:	Age: Adjusted age (if under 2 and premature): Age adopted (if applicable):
Number of foster placements:	Number of biological siblings:
Number of children in current home:	Number of biological siblings in current home:
Diagnosis (if any): Age of diagnosis:	Cultural identity:
Please list the child's interests:	

I give consent for _____ to be screened for possible occupational therapy referral.
[Child's Name]

_____ _____

Legal Guardian Signature **Date**

1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Person:

Psychosocial skills	
When the child becomes upset, s/he can be comforted by others	**1 2 3 4 5 6**
Can imitate others	**1 2 3 4 5 6**
Turns toward the sound when someone calls his or her name	**1 2 3 4 5 6**
Cognitive skills	
Can use simple gestures to indicate what s/he wants (1.5yrs+)	**1 2 3 4 5 6**
Can copy simple gestures (a wave, point, smile) of the people around him or her	**1 2 3 4 5 6**
Is interested in exploring new objects	**1 2 3 4 5 6**
Can follow simple directions	**1 2 3 4 5 6**
Can say 2-4 word sentences (2yrs+)	**1 2 3 4 5 6**
Sensorimotor skills	
Can crawl (1yr+) or walk steadily (2yrs+)	**1 2 3 4 5 6**
Can appropriately use a spoon and cup during meals (1.5yrs+)	**1 2 3 4 5 6**
Eats an increasing variety of food	**1 2 3 4 5 6**
Has motor abilities to assist with dressing/undressing	**1 2 3 4 5 6**
Generally can use everyday objects appropriately (2yrs+)	**1 2 3 4 5 6**

Task:

Performance Range	
Can complete a two-step task (2yrs+)	**1 2 3 4 5 6**
Participates appropriately in the following occupations:	
Toileting and toilet hygiene	**1 2 3 4 5 6**

1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Dressing	**1 2 3 4 5 6**
Swallowing, eating, and feeding	**1 2 3 4 5 6**
Bathing (including washing hair)	**1 2 3 4 5 6**
Riding in a car	**1 2 3 4 5 6**
Functional mobility	**1 2 3 4 5 6**
Rest and sleep	**1 2 3 4 5 6**
Social participation	**1 2 3 4 5 6**
Play	**1 2 3 4 5 6**
Behaviors	
Has developed a sleep-wake cycle	**1 2 3 4 5 6**
Self-soothes on car rides when not hungry or tired	**1 2 3 4 5 6**
Child is defiant towards caregivers at times (2yrs+), but not always	**1 2 3 4 5 6**

Context:

Social	
Prefers to stay close to caregivers (1.5yrs+)	**1 2 3 4 5 6**
Parallel plays with peers (2yrs+)	**1 2 3 4 5 6**
Is aware when his or her caregiver leaves or enters a room	**1 2 3 4 5 6**
Physical	
Occasionally is brought outside of the home	**1 2 3 4 5 6**
Is exposed to open spaces and explores the space	**1 2 3 4 5 6**
Safe toys are in his or her physical environment	**1 2 3 4 5 6**

1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Temporal	
Attends to activities for short periods of time	**1 2 3 4 5 6**
On average, he or she sleeps 10+ hours a night	**1 2 3 4 5 6**
Takes one nap per day	**1 2 3 4 5 6**
Please List Any Cultural Factors or Comments Below	

Administrator Signature, Credentials Date

Occupational Therapy Referral Screening Tool

Created by: Alli Fox, MOTS and Emily Kollodge, MOTS

Ages 3.0 – 3.11

Demographics:

Name:	Age: Age adopted (if applicable):
Number of foster placements:	Number of biological siblings:
Number of children in current home:	Number of biological siblings in current home:
Diagnosis (if any): Age of diagnosis:	Cultural identity:
Please list the child's interests:	

I give consent for _____ to be screened for possible occupational therapy referral.
[Child's Name]

_____ _____

Legal Guardian Signature **Date**

1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Person:

Psychosocial skills	
Shows affection to the people around him or her	**1 2 3 4 5 6**
Experiences a wide range of emotions, but with few temper tantrums	**1 2 3 4 5 6**
Has an understanding of failure versus success	**1 2 3 4 5 6**
Cognitive skills	
Takes turns while playing games	**1 2 3 4 5 6**
Follows 2-3 step directions	**1 2 3 4 5 6**
Says his or her first name	**1 2 3 4 5 6**
Has 2-3 sentence conversations with others	**1 2 3 4 5 6**
Can play make believe using his or her imagination	**1 2 3 4 5 6**
Turns pages in a book one at a time	**1 2 3 4 5 6**
Speaks clearly	**1 2 3 4 5 6**
Sensorimotor skills	
Can walk with heel-to-toe movement	**1 2 3 4 5 6**
Able to avoid obstacles in his or her path	**1 2 3 4 5 6**
Can throw or catch a ball using both hands	**1 2 3 4 5 6**
Uses a pincer grasp to pick up small objects	**1 2 3 4 5 6**
Can tip head back without being fearful	**1 2 3 4 5 6**
Can jump and hop	**1 2 3 4 5 6**
Can walk and run without tripping if there are no obstacles	**1 2 3 4 5 6**
Can get dressed independently	**1 2 3 4 5 6**

1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Can tolerate different textures of clothing	**1 2 3 4 5 6**

Task:

Performance Range	
Has abilities to complete tasks similarly to typically developing peers	**1 2 3 4 5 6**
Appropriately participates in the following occupations:	
Bathing	**1 2 3 4 5 6**
Toileting and toilet hygiene	**1 2 3 4 5 6**
Dressing (gets dressed/undressed and tolerates clothing on skin)	**1 2 3 4 5 6**
Swallowing, eating, and feeding	**1 2 3 4 5 6**
Functional mobility	**1 2 3 4 5 6**
Personal hygiene	**1 2 3 4 5 6**
Rest and sleep	**1 2 3 4 5 6**
Social participation	**1 2 3 4 5 6**
Play	**1 2 3 4 5 6**
Behaviors	
Has trouble falling asleep or staying asleep throughout the night periodically, but not the majority of the time (mark 1 or 2 if extreme)	**1 2 3 4 5 6**
Plays with toys in a way that imitates real life	**1 2 3 4 5 6**
Shows emotions through behaviors	**1 2 3 4 5 6**
Can problem solve through a simple argument	**1 2 3 4 5 6**
Asks "why" questions frequently	**1 2 3 4 5 6**

1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Context:

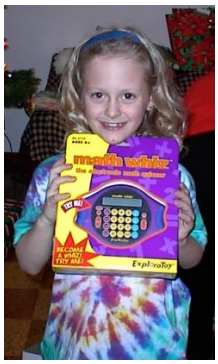
Social	
Separates from caregivers easily (3yrs+)	**1 2 3 4 5 6**
Makes friends and plays with them rather than strict parallel play	**1 2 3 4 5 6**
Makes eye contact with others while having a conversation	**1 2 3 4 5 6**
Physical	
Leaves the home multiple times a week	**1 2 3 4 5 6**
Attends a school, daycare, or other program outside of the home regularly	**1 2 3 4 5 6**
Is interested in going outside	**1 2 3 4 5 6**
Temporal	
Sleeps 11-13 hours each night	**1 2 3 4 5 6**
Can understand and follow a 2-step routine	**1 2 3 4 5 6**
Understands that night comes after day	**1 2 3 4 5 6**
Please List Any Cultural Factors or Comments Below	

Administrator Signature, Credentials

Date

Occupational Therapy Referral Screening Tool

Created by: Alli Fox, MOTS and Emily Kollodge, MOTS



Ages 4.0 – 5.11

Demographics:

Name:	Age: Age adopted (if applicable):
Number of foster placements:	Number of biological siblings:
Number of children in current home:	Number of biological siblings in current home:
Diagnosis (if any): Age of diagnosis:	Cultural identity:
Please list the child's interests:	

I give consent for _____ to be screened for possible occupational therapy referral.
[Child's Name]

_____ _____
Legal Guardian Signature **Date**

1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Person:

Psychosocial skills	
Enjoys trying new things	**1 2 3 4 5 6**
May be cooperative at times and other times not, but typically does not show extreme behaviors such as temper tantrums	**1 2 3 4 5 6**
Shows a wide range of emotions	**1 2 3 4 5 6**
Cognitive skills	
Memorizes and recites simple poems and songs	**1 2 3 4 5 6**
Is beginning to learn how to count	**1 2 3 4 5 6**
Names colors and numbers	**1 2 3 4 5 6**
Can tell you what he or she believes will happen next in a story	**1 2 3 4 5 6**
Determines reality from make believe	**1 2 3 4 5 6**
Remembers 10+ items	**1 2 3 4 5 6**
Has an attention span of 5 or more minutes	**1 2 3 4 5 6**
Sensorimotor skills	
Can tolerate a variety of clothing textures against skin	**1 2 3 4 5 6**
Can use the toilet independently	**1 2 3 4 5 6**
Is coordinated enough to switch movements easily and quickly	**1 2 3 4 5 6**
Can pour liquids	**1 2 3 4 5 6**
Is able to draw and copy simple figures (circle, square, cross)	**1 2 3 4 5 6**
Operates a scissors	**1 2 3 4 5 6**
Writes numbers and letters (5yrs+)	**1 2 3 4 5 6**
Uses utensils independently during meals (5yrs+)	**1 2 3 4 5 6**

1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Is able to vary movements so arms and legs can be doing different actions (5yrs+)	**1 2 3 4 5 6**
Has a determined hand dominance (5yrs+)	**1 2 3 4 5 6**
Can independently wipe bottom and wash his or her hands after going to the bathroom (5yrs+)	**1 2 3 4 5 6**

Task:

Performance Range	
Can complete tasks similarly to typically developing peers	**1 2 3 4 5 6**
Participates appropriately in the following occupations:	
Bathing and showering	**1 2 3 4 5 6**
Toileting and toilet hygiene	**1 2 3 4 5 6**
Dressing	**1 2 3 4 5 6**
Swallowing, eating, and feeding	**1 2 3 4 5 6**
Functional mobility	**1 2 3 4 5 6**
Personal hygiene	**1 2 3 4 5 6**
Assisting with simple meal preparation	**1 2 3 4 5 6**
Rest and sleep	**1 2 3 4 5 6**
Education	**1 2 3 4 5 6**
Social participation	**1 2 3 4 5 6**
Play	**1 2 3 4 5 6**
Behaviors	
Organizes items into categories when asked	**1 2 3 4 5 6**
Shares toys/objects with friends	**1 2 3 4 5 6**
Is developing a sense of humor	**1 2 3 4 5 6**

1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Can plan his or her actions for game play ahead of time	**1 2 3 4 5 6**
Looks for approval from caregiver(s)	**1 2 3 4 5 6**

Context:

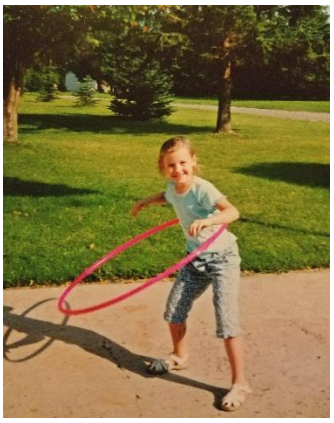
Social	
Cooperates well with other children	**1 2 3 4 5 6**
Is beginning to try to act like his or her friends	**1 2 3 4 5 6**
Wants to please others	**1 2 3 4 5 6**
Physical	
Goes to friends' homes	**1 2 3 4 5 6**
Is exposed to areas within the community	**1 2 3 4 5 6**
Attends school or preschool	**1 2 3 4 5 6**
Temporal	
Follows an activity sequence	**1 2 3 4 5 6**
Follows a daily schedule	**1 2 3 4 5 6**
Sleeps 11-13 hours each night	**1 2 3 4 5 6**
Please List Any Cultural Factors or Comments Below	

Administrator Signature, Credentials

Date

Occupational Therapy Referral Screening Tool

Created by: Alli Fox, MOTS and Emily Kollodge, MOTS



Ages 6.0 – 7.11

Demographics:

Name:	Age: Age adopted (if applicable):
Number of foster placements:	Number of biological siblings:
Number of children in current home:	Number of biological siblings in current home:
Diagnosis (if any): Age of diagnosis:	Cultural identity:
Please list the child's interests:	

I give consent for _____ to be screened for possible occupational therapy referral.
[Child's Name]

_____ _____
Legal Guardian Signature **Date**

1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Person:

Psychosocial skills	
Articulates his or her feelings	**1 2 3 4 5 6**
Is empathetic towards others	**1 2 3 4 5 6**
Demonstrates confidence with familiar tasks	**1 2 3 4 5 6**
Cognitive skills	
Understands his or her place in the world	**1 2 3 4 5 6**
Has an increased rate of developing mental skills	**1 2 3 4 5 6**
Can distinguish between right and left	**1 2 3 4 5 6**
Sensorimotor skills	
Has the balance skills necessary to ride a bike	**1 2 3 4 5 6**
Is able to copy simple designs such as a triangle, square, and letters	**1 2 3 4 5 6**
Uses a pincer grasp to pick up small objects accurately	**1 2 3 4 5 6**
Is able to dress and undress independently	**1 2 3 4 5 6**
Tolerates different clothing textures	**1 2 3 4 5 6**

Task:

Performance Range	
Participates appropriately in the following occupations:	
Bathing and showering	**1 2 3 4 5 6**
Toileting and toilet hygiene	**1 2 3 4 5 6**
Dressing	**1 2 3 4 5 6**
Swallowing, eating, and feeding	**1 2 3 4 5 6**
Functional mobility	**1 2 3 4 5 6**

1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Personal hygiene	**1 2 3 4 5 6**
Health management	**1 2 3 4 5 6**
Assisting with simple meal preparation	**1 2 3 4 5 6**
Rest and sleep	**1 2 3 4 5 6**
Education	**1 2 3 4 5 6**
Social participation	**1 2 3 4 5 6**
Play	**1 2 3 4 5 6**
Behaviors	
Has increased independence in accomplishing tasks	**1 2 3 4 5 6**
Appreciates being part of a team to accomplish activities	**1 2 3 4 5 6**
Play is more complex, with ideas for play emerging from school or the media	**1 2 3 4 5 6**
Can cope with winning or losing games, as well as playing fair	**1 2 3 4 5 6**
Behaviors show his or her morals and values	**1 2 3 4 5 6**

Context:

Social	
Strongly values friendships	**1 2 3 4 5 6**
Understands how his or her actions affect others	**1 2 3 4 5 6**
Voices his or her opinions to others	**1 2 3 4 5 6**
Physical	
Spends time at friends' houses	**1 2 3 4 5 6**
Frequently goes outside to play	**1 2 3 4 5 6**

1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Goes out into the community with caregivers at least once a week	**1 2 3 4 5 6**
Temporal	
Sleeps 9-11 hours daily	**1 2 3 4 5 6**
Is beginning to be involved in extracurricular activities	**1 2 3 4 5 6**
Able to participate in activities for a longer period of time	**1 2 3 4 5 6**
Please List Any Cultural Factors or Comments Below	

Administrator Signature, Credentials

Date

Occupational Therapy Referral Screening Tool

Created by: Alli Fox, MOTS and Emily Kollodge, MOTS

Ages 8.0 – 11.11

Demographics:

Name:	Age: Age adopted (if applicable):
Number of foster placements:	Number of biological siblings:
Number of children in current home:	Number of biological siblings in current home:
Diagnosis (if any): Age of diagnosis:	Cultural identity:
Please list the child's interests:	

I give consent for _____ to be screened for possible occupational therapy referral.
[Child's Name]

_____ _____

Legal Guardian Signature **Date**

1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Person:

Psychosocial skills	
Fulfills responsibilities given to him or her by caregivers	**1 2 3 4 5 6**
Does not give into social pressure easily	**1 2 3 4 5 6**
No concerns for eating disorder problems	**1 2 3 4 5 6**
Cognitive skills	
Attention span is appropriate compared to peers	**1 2 3 4 5 6**
Can meet the higher expectations of academics	**1 2 3 4 5 6**
Can think about others' points of view	**1 2 3 4 5 6**
Sensorimotor skills	
Has the bilateral coordination to participate in team sports	**1 2 3 4 5 6**
Handwriting is legible	**1 2 3 4 5 6**
Handwriting is becoming more automatic	**1 2 3 4 5 6**

Task:

Performance Range	
Is performing daily tasks at a level similar to peers	**1 2 3 4 5 6**
Participates appropriately in the following occupations:	
Bathing	**1 2 3 4 5 6**
Toileting and toilet hygiene	**1 2 3 4 5 6**
Dressing	**1 2 3 4 5 6**
Swallowing, eating, and feeding	**1 2 3 4 5 6**
Functional mobility	**1 2 3 4 5 6**

1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Personal hygiene	**1 2 3 4 5 6**
Health management	**1 2 3 4 5 6**
Meal preparation	**1 2 3 4 5 6**
Shopping	**1 2 3 4 5 6**
Rest and sleep	**1 2 3 4 5 6**
Education	**1 2 3 4 5 6**
Social participation	**1 2 3 4 5 6**
Play	**1 2 3 4 5 6**
Behaviors	
If exhibits risk taking behavior, this does not impede on his or her well-being	**1 2 3 4 5 6**
Attends school regularly	**1 2 3 4 5 6**
Can resolve arguments with friends and family	**1 2 3 4 5 6**

Context:

Social	
Has healthy friendships	**1 2 3 4 5 6**
Most friends are his or her same age and gender	**1 2 3 4 5 6**
Enjoys participating in group/team activities	**1 2 3 4 5 6**
Physical	
Frequently spends time outside	**1 2 3 4 5 6**
Comfortably spends time at other people's houses	**1 2 3 4 5 6**
Goes out in the community regularly	**1 2 3 4 5 6**

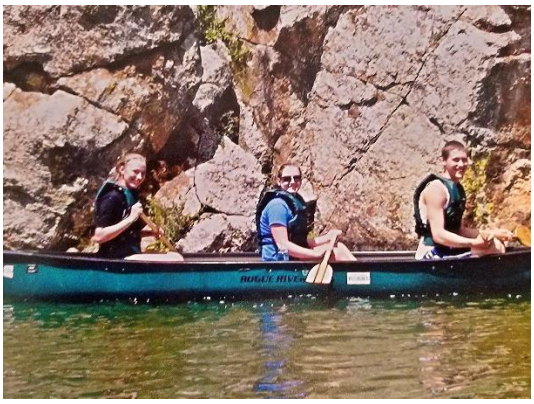
1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Temporal	
Has started puberty	**1 2 3 4 5 6**
Is involved in multiple extracurricular activities	**1 2 3 4 5 6**
Maintains a schedule	**1 2 3 4 5 6**
Please List Any Cultural Factors or Comments Below	

Administrator Signature, Credentials Date

Occupational Therapy Referral Screening Tool

Created by: Alli Fox, MOTS and Emily Kollodge, MOTS



Ages 12.0 – 17.11

Demographics:

Name:	Age: Age adopted (if applicable):
Number of foster placements:	Number of biological siblings:
Number of children in current home:	Number of biological siblings in current home:
Diagnosis (if any): Age of diagnosis:	Cultural identity:
Please list the child's interests:	

I give consent for _____ to be screened for possible occupational therapy referral.
[Child's Name]

_____ _____
Legal Guardian Signature **Date**

1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Person:

Psychosocial skills	
No concerns of depression or eating disorders	**1 2 3 4 5 6**
May experience increased stress from school, but this does not impede well-being	**1 2 3 4 5 6**
Has a high focus on him or herself	**1 2 3 4 5 6**
Experiences more mood swings, but these do not impede on his or her well-being	**1 2 3 4 5 6**
Has high expectations for self-performance	**1 2 3 4 5 6**
Cognitive skills	
Able to have complex thought processes	**1 2 3 4 5 6**
Expresses feelings through emotions	**1 2 3 4 5 6**
Can give reasons for choices	**1 2 3 4 5 6**
Sensorimotor skills	
Can tolerate a variety of touch, smells, lights, and sounds similar to that of peers	**1 2 3 4 5 6**
Exercises regularly	**1 2 3 4 5 6**
Hand-eye coordination has increased for the ability to drive (16yrs+)	**1 2 3 4 5 6**

Task:

Performance Range	
Appropriately participates in the following occupations:	
Bathing	**1 2 3 4 5 6**
Toileting and toilet hygiene	**1 2 3 4 5 6**

1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Dressing	**1 2 3 4 5 6**
Swallowing, eating, and feeding	**1 2 3 4 5 6**
Functional mobility	**1 2 3 4 5 6**
Personal hygiene	**1 2 3 4 5 6**
Driving and community mobility	**1 2 3 4 5 6**
Financial management	**1 2 3 4 5 6**
Capable of caring for others	**1 2 3 4 5 6**
Safety maintenance	**1 2 3 4 5 6**
Health management	**1 2 3 4 5 6**
Meal preparation	**1 2 3 4 5 6**
Shopping	**1 2 3 4 5 6**
Rest and sleep	**1 2 3 4 5 6**
Education	**1 2 3 4 5 6**
Work	**1 2 3 4 5 6**
Social participation	**1 2 3 4 5 6**
Leisure	**1 2 3 4 5 6**
Behaviors	
May display risk taking behaviors, but these are not considered concerning	**1 2 3 4 5 6**
Performs well in academics	**1 2 3 4 5 6**
Has learned work habits that contribute to his or her future success	**1 2 3 4 5 6**

1= Strongly Disagree 2= Disagree 3= Slightly Disagree 4= Slightly Agree 5= Agree 6= Strongly Agree

Context:

Social	
Shows independence from caregivers	**1 2 3 4 5 6**
Peer pressure or societal pressures do not affect his or her well-being	**1 2 3 4 5 6**
Is able to develop intimate relationships with others	**1 2 3 4 5 6**
Physical	
Spends time outside of the home frequently	**1 2 3 4 5 6**
Comfortably goes to places in the community	**1 2 3 4 5 6**
Frequently spends time outdoors	**1 2 3 4 5 6**
Temporal	
Puberty has begun	**1 2 3 4 5 6**
Can manage his or her time appropriately with increased responsibilities	**1 2 3 4 5 6**
Is able to follow a school schedule	**1 2 3 4 5 6**
Please List Any Cultural Factors or Comments Below	

Administrator Signature, Credentials Date

OTRT Scoring Form

Child's Name:	Age:
Administrator Name:	Date:

Scores: (Add numerical score, then circle one)

Person ____/_____ Major Concerns Minor Concerns No Current Concerns

Task _____/_____ Major Concerns Minor Concerns No Current Concerns

Context _____/_____ Major Concerns Minor Concerns No Current Concerns

Total Score _____/_____ Major Concerns Minor Concerns No Current Concerns

*Person Score + Task Score + Context Score = Total Score

Total Score Interpretation: (Circle One)

Major Concerns Minor Concerns No Current Concerns

Referral Suggested? Yes No

Additional Comments and Recommendations:

*****For score interpretation, please see Suggested Referral Guidelines Section in User Manual

Product Summary

To be most efficiently used, the screening tool's manual should be read in full prior to administering the *OTRT*. The organization of the product was determined to maximize ease of readability and efficiency of use. Concepts of the EHP model were used to organize the screening tool into areas of need. Each version of the screening tool relates to a specific age group, which are in numerical order and in a rainbow-colored sequence. The order and colors chosen increase ease of use.

The product will be used in various settings and by a variety of professionals stated in the manual. If a professional notices a child in the AFCS population has signs of developmental delay, the screening tool should be used to identify the needs of the child. Observation is the primary means of gathering information for completing the screening tool, but informal interview may also be used, as needed.

References

American Occupational Therapy Association. (2014). Occupational therapy practice framework: Domain and process. *American Journal of Occupational Therapy, 68*(Suppl. 1), S1–S48. http://doi.org/10.5014/ajot.2014.682006

Centers for Disease Control and Prevention. (2018). Child development. *U.S. Department of Health and Human Services*. Retrieved from https://www.cdc.gov/ncbddd/childdevelopment/index.html

Cermak, S. A., & Daunhauer, L. A. (1997). Sensory processing in the postinstitutionalized child. *American Journal of Occupational Therapy, 51*, 500-507. doi: 10.5014/ajot.51.7.500

Child Development Network. (2003a). Child development milestones - 6-8 years. *Queensland Government.* Retrieved from https://www.health.qld.gov.au/__data/assets/pdf_file/0018/427230/28134.pdf

Child Development Network. (2003b). Child development milestones - 9-12 years. *Queensland Government.* Retrieved from https://www.health.qld.gov.au/__data/assets/pdf_file/0026/427265/28136.pdf

Children's Therapy and Resources Center. (2011). Infant developmental milestones. Retrieved from http://www.kamloopschildrenstherapy.org/social-emotional-infant-milestones

Department of Health. (2018). Child development 3-4 years. *Healthy Information for Western Australia.* Retrieved from https://healthywa.wa.gov.au/Articles/A_E/Child-development-3-4-years

DiCarlo, C.F., Reid, D.H., & Strickin, S.B. (2006). Increasing toy play among toddlers with and without disabilities by modifying the structural quality of the classroom environment. *NHSA Dialog: A Research-to-Practice Journal for the Early Intervention Field*, *9*(1), 49-62. doi: 10.1207/s19309325nhsa0901_5

Dunn, W., Brown, C., & McGuigan, A. (1994). The ecology of human performance: A framework for considering the effect of context. *The American Journal of Occupational Therapy, 48*(7), 595-607. doi: 10.5015/ajot.48.7.595

Dunn, W. (2017). The ecological model of occupation. In J. Hinojosa, P. Kramer, & C.B. Royeen (Eds.). *Perspectives on Human Occupation: Theories Underlying Practice.* Philadelphia, PA: F.A. Davis Company

Frankel Cardiovascular Center. (2018). Adolescent sensory and motor development. *University of Michigan Cardiovascular Center.* Retrieved from https://www.umcvc.org/health-library/te7268

Gavin, M. (2018). Feeding your newborn. *KidsHealth.* Retrieved from https://kidshealth.org/en/parents/feednewborn.html

Lawyers for Children. (2018). Foster care after you are 18. Retrieved from http://www.lawyersforchildren.org/your-rights-in-foster-care/foster-care-after-you-are-18

McLeod, S. (2018). Erik Erikson's stages of psychosocial development. *Simply Psychology*. Retrieved from https://www.simplypsychology.org/Erik-Erikson.html

Morin, A. (2018a). Developmental milestones for typical 3-year-olds. *Understood.* Retrieved from https://www.understood.org/en/learning-attention-issues/signs-

symptoms/developmental-milestones/developmental-milestones-for-typical-3-year-olds

Morin, A. (2018b). Developmental milestones for typical 4-year-olds. *Understood.* Retrieved from https://www.understood.org/en/learning-attention-issues/signs-symptoms/developmental-milestones/developmental-milestones-for-typical-4-year-olds

Morin, A. (2018c) Developmental milestones for typical high-schoolers. *Understood.* Retrieved from https://www.understood.org/en/learning-attention-issues/signs-symptoms/developmental-milestones/developmental-milestones-for-typical-high-schoolers

Morin, A. (2018d). Developmental milestones for typical kindergarteners. *Understood.* Retrieved from https://www.understood.org/en/learning-attention-issues/signs-symptoms/developmental-milestones/developmental-milestones-for-typical-kindergarteners

Morris, S. E., & Klein, M. D. (2000). *Pre-feeding skills* (2nd ed.). United States of America: Therapy Skill Builders.

National Cancer Institute. (2018). NCI dictionary of cancer terms. *National Institute of Health*. Retrieved from https://www.cancer.gov/publications/dictionaries/cancer-terms/def/psychosocial

National Sleep Foundation. (2018). Children and sleep. *Sleep.org.* Retrieved from https://www.sleepfoundation.org/sleep-topics/children-and-sleep

Oswalt, A. (2018). Infancy emotional/social development. *GracePoint Wellness.* Retrieved from https://www.gracepointwellness.org/461-child-development-

parenting-infants-0-2/article/10116-infancy-emotional-social-development-emotional-expression-and-understanding

Pathways.org (2018). All developmental milestones. *Pathways.org.* Retrieved from https://pathways.org/topics-of-development/milestones/sensory/

Raising Children Network. (2017) 6-8 years: Child development. *Raising Children Network (Australia)*. Retrieved from https://raisingchildren.net.au/school-age/development/development-tracker/6-8-years

Rak, C. F., & Patterson, L. E. (1996). Promoting resilience in at-risk children. *Journal of Counseling and Development, 74*(4), 368-373. doi: 10.1002/j.1556-6676.1996.tb01881.x

Randolph, K. A., Fraser, M. W., & Orthner, D. K. (2004). Educational resilience among youth at risk. *Substance Use and Misuse, 39*(5), 747-767. doi: 10.1081/JA-120034014

Raz-Silbiger, S., Lifshitz, N., Katz, N., Steinhart, S., Cermak, S. A., & Weintraub, N. (2015). Relationship between motor skills, participation in leisure activities and quality of life of children with developmental coordination disorder: Temporal aspects. *Research in Developmental Disabilities*, (*38*) 171–180. doi: 10.1016/j.ridd.2014.12.012

Washington University in St. Louis. (2012). Determining the legal age to consent to research. Retrieved from https://hrpo.wustl.edu/wp-content/uploads/2015/01/5-Determining-Legal-Age-to-Consent.pdf

CHAPTER V

Summary

The purpose of this scholarly project, *An Occupational Therapy Referral Screening Tool for Children in Adoptive and Foster Care Placements,* was to create a screening tool identifying deficits to increase referrals of children in the AFCS to occupational therapy, ensuring they are not missed for ancillary healthcare services. As indicated in Chapter II, the needs of children in the AFCS vary compared to their peers raised by biological parents. The literature suggested families do not feel fully prepared to deal with the difficulties which arose from their child's institutionalization (Brown, 2011), but may benefit from occupational therapy as OTs are skilled to address these issues (Davis, 1999). The OTRT was developed in order to provide professionals a resource to increase appropriate referrals enabling children to have an evaluation by a trained OT. It is our hope to ensure problems and deficits affecting well-being within this at risk population are being increasingly addressed. Based on the findings of the literature review, occupational therapy is a key profession to work with the AFCS population (Davis, 1999). Therefore, a screening tool to refer children to occupational therapy services would be beneficial to ensure they are not missed in the healthcare system.

This project is intended to be implemented with a variety of professionals who work with children of the AFCS population regularly. These include OTs, occupational therapy students, social workers, case managers, day care providers, counselors, teachers,

and other licensed professionals. The intended goal for this screening tool includes using the tool regularly with children in the AFCS to recognize their needs at an earlier age. The OTRT could be distributed to adoption and foster care facilities, schools, daycares, and university occupational therapy programs for use.

Roadblocks to the implementation of the project include the lack of OTs working with the AFCS population and the fact that the OTRT is not standardized or well-known at this time. To address these roadblocks, the authors intend to work towards standardizing the assessment and market it to other facilities where it could be useful to help familiarize the industry to it. In turn, the hope is that this will help expand OTs' presence with this population. Currently, the University of North Dakota Occupational Therapy program has agreed to use this screening tool with future doctoral students as a part of their community outreach courses. By doing this, the students will become familiar with administering screenings to children, and the children they work with will have the opportunity to have their needs identified.

A necessary further improvement to the product is to improve the psychometric properties of the screening tool through use of feedback and standardization. The authors' goal is standardization of the OTRT to increase its usefulness and accuracy, possibly expanding it to be used with other at risk pediatric populations. The authors have set up an active email and ask users to email results of the screening tool, along with any other feedback. This will allow the authors to standardize the results and increase the reliability and validity of the assessment. Results and feedback from users will improve the psychometric properties and allow the authors to continue updating information included in the OTRT manual based on feedback and future research.

The usefulness of the product will be determined via feedback received from those who use it. The authors will also measure the usefulness of the product by looking at the numbers of occupational therapy referrals from facilities using the OTRT. If there is an increase in these referrals after implementation of the product, it would be considered as having a positive impact on the AFCS population.

Strengths of this product include the use of a basis of evidence, theoretical basis, and its flexibility of use. Prior to the creation of the screening tool, the authors conducted a thorough research review to support the included information. This led to the screening tool being researched-based, the questions included being justified, and increased the accuracy of the results. The authors were guided by the EHP model in the development of the OTRT, which is evidence-based and has been effectively used with pediatric populations. A theoretical basis allowed the product to be created which encompassed various aspects of the child's occupational being in a systematic fashion. Though the OTRT is designed for the AFCS population, another strength is that it has the potential to be used with other pediatric populations as well, following the occurrence of future research and standardization of the product.

Limitations to the project included a lack of current research on AFCS population, which created a difficulty in identifying the specific needs of these children. In the future, more research must be completed to fully understand the scope of needs related to going through the foster care system, living in an institution, or experiencing the adoption process. Another limitation experienced during the development of this scholarly project was that OTs currently are not widely recognized as professionals who readily work with the AFCS population. As a result, few referrals are made to OTs specifically. It is the

authors' hope that by implementing the OTRT, OTs will receive more referrals for AFCS children, therefore increasing recognition.

Overall, the authors expect an increase in referrals of AFCS children to occupational therapy services through the use of the OTRT by various professionals in the children's lives. An increase in referrals to skilled OTs will decrease the implications of issues not addressed early on. In the future through use of the OTRT, referrals could also be made to related healthcare professionals such as speech language pathologists and physical therapists, depending on the results of the child's identified needs. Recommendations for future research include standardization of the screening tool and future research conducted on the AFCS population.

Appendix

Available Occupational Therapy Assessment Tools

There are a variety of assessment tools available for OTs to use with the pediatric population for in-depth evaluation following the OTRT completion. For the purposes of this project, these assessments were referenced to assist with further determination of areas of concern in the pediatric AFCS population.

Ages and Stages Questionnaire, 3rd edition

The Ages and Stages Questionnaire (ASQ-3) examines the social, emotional, and developmental progress of children ages birth to age six. The ASQ-3 is meant to be used primarily as a screening to identify concerns in these areas. Multiple questionnaire versions are available with a focus on different age groups to increase accuracy. The questionnaires are intended to be filled out by caregivers (Ages and Stages Questionnaire, 2018).

The reliability of the ASQ-3 was determined to have a coefficient of .84 in a study conducted in the United States. However, validity was not determined. The same authors conducted a study in Canada where they did look at validity of the assessment, and determined the sensitivity of the ASQ to be .84 and the specificity to have a coefficient of .87. Results of various studies display the strength of this tool in both reliability and validity (Velikonja et al., 2016).

Bayley Scales of Infant and Toddler, 3rd Edition

The Bayley Scales of Infant and Toddler, 3rd Edition (Bayley-III) is an evaluation tool which examines five areas of child development; cognitive, language, motor, social-emotional, and adaptive behavior scales. Now in its 3rd edition, the Bayley-III was reevaluated in 2007 for validity and reliability with pediatric populations (Bayley, 2007). The results of the Bayley-III were compared to the prior edition, the Bayley Scales of Infant Development - Second Edition, which already has proven results.

According to Bayley (2007), the reliability of the Bayley-III maintained a coefficient of .80 or higher across all ages, meaning it was proven to be reliable for children of the ages examined by the assessment, 0-42 months of age. Predictive validity was not proven in this study as results of validity could not be obtained from information provided. Overall, results of the study demonstrated the new version was able to incorporate important aspects of the previous editions while effectively expanding in needed areas (Bayley, 2007).

Beery-Buktenica Developmental Test of Visual-Motor Integration, Sixth Edition

The Beery-Buktenica Developmental Test of Visual-Motor Integration, Sixth Edition (Beery VMI) is a brief assessment that can be completed in 10-15 minutes. This assessment is standardized for patients ages two years to 99 years and 11 months ("Berry VMI", 2018). Validity of the Beery VMI was evaluated by Brown and Rodger (2008). They evaluated a sample of 356 children ages five to 11 to determine the validity of the assessment with school-aged children. To determine construct validity of the assessment, each subsection of the Beery VMI was evaluated individually after conducting the assessment with the sample population. The full version of the assessment was found to

have strong construct validity, but the clinical version which has less subsections, appeared to have weaker results (Brown & Rodger, 2008).

Test-retest and interrater reliability of the Beery VMI was evaluated by Harvey et al. (2017). The sample size of this study included 163 eighth grade participants who did not have oculomotor concerns. The assessment was performed twice on participants on two separate days and given by two separate administrators who had both been trained on the assessment. The correlation coefficient for the interrater reliability had a range of 0.75-0.88, demonstrating strong results. The test-retest comparisons had less strength in the results and were considered moderate by the authors at 0.54-0.58 (Harvey et al., 2017).

Bruininks-Osertsky Test of Motor Proficiency, 2nd Edition

In a study completed by Dietz, Karti, and Kopp (2007), the Bruininks-Osertsky Test of Motor Proficiency, the second edition (BOT-II) was evaluated for validity, reliability, and usefulness with the pediatric population. Authors of the study assessed 1,520 children with a variety of ethnicities and an age range of four to 12 years old. The assessment was administered to all children and results were compared to the original version, the Bruininks-Osertsky Test of Motor Proficiency, and the PDMS-II to determine accuracy. The conclusion of this study determined that the results of the BOT-II were reliable and valid, as long as the assessment was delivered by a trained occupational or physical therapist. The BOT-II is an evaluation tool currently utilized in many clinics because of its reliability and validity (Dietz et al., 2007).

Child Occupational Self Assessment

The Child Occupational Self Assessment (COSA) is a Model of Human Occupation (MOHO) based assessment. The second version of this assessment was released in 2014 with updates in accordance with the changing times. The COSA is used with children ages seven to 18 to understand their perceptions of occupational competence and how they value everyday activities. The authors of this assessment clarify in the manual that this assessment is evidenced-based, but not standardized. Therefore, administration can vary when administered by multiple practitioners (Kramer et al., 2014).

A two-part study was done by Keller and Kielhofner in 2005 to examine the reliability and validity of the first version of the COSA. Though there were updates in the second edition released in 2014, research is lacking on the new edition. The user manual for the COSA lists only research on the first edition as well (Kramer et al., 2014). However, the basic structure and many other aspects of the assessment remained the same, meaning results of the studies done to examine the first version may not be inaccurate, though research is needed to determine this either way. In part two of the study performed by Keller and Kielhofner (2005), 43 participants were assessed using the COSA. Data from part two was chosen to be included as the refined methods in this portion provided more accurate results than part one. Mean squared scores were used to determine reliability in three sections of the COSA. From these calculations, correlation coefficients were determined. The competence items received a correlation coefficient of .85, the correlation coefficient for person was .88, and values section was .82. All three of

these results displayed strong coefficients demonstrating high reliability of the assessment (Keller & Kielhofner, 2005).

Validity of the COSA was also examined in an article by Kramer, Kielhofner, and Smith (2010). The authors assessed 502 children using the COSA and evaluated the results via the Rasch Partial Credit model. The authors determined the COSA to have strong content, structural, and substantive validity. External validity did not have as strong of results due to variables such as demographics and evaluator differences (Kramer et al., 2010).

Miller Function and Participation Scales

Another common assessment used in pediatric settings is the Miller Function and Participation Scales (M-FUN). This standardized assessment is used to evaluate children's abilities to participate and perform tasks in everyday life. It is standardized for administration to children with developmental disabilities between the ages of two years six months old to seven years 11 months old. The assessment is comprised of two separate books, one geared toward the upper age range and one geared toward the younger ages. The M-FUN has also been used to evaluate whether children are eligible for occupational therapy services received at school (Hasselbusch, 2018).

The M-FUN was shown to have acceptable content validity, internal structure, and concurrent validity through studies conducted by the creators of the assessment. It was also determined to have high sensitivity. Reliability was measured in test-retest reliability, internal consistency, and interrater reliability. Twenty seven children were used in the sample to determine the results, in which coefficients in all categories were above .85, demonstrating strong results (Hasselbusch, 2018).

Peabody Developmental Motor Skill, 2nd edition

The Peabody Developmental Motor Skill, second edition (PDMS-II), is a norm-referenced assessment used by OTs to examine motor skills of children from birth to five years of age ("Peabody Developmental Motor Scales-Second Edition (PDMS-2)", 2018). The PDMS-II was evaluated by Darrah, Magill-Evans, Volden, Hodge, and Kembhavi (2007) for validity and reliability to determine the effectiveness of the assessment for clinical use. Authors of the study utilized a longitudinal design with a sample of 77 children ages four weeks to eight months at the beginning of the study who were evaluated at different ages throughout the process (Darrah et al., 2007).

Interrater reliability was determined by multiple test administrators who conducted the assessment on the same children independently, in which scores were later compared. The resulting coefficients were .93 in the infant section, .94 for the gross motor section, and .84 for the fine motor section. Concurrent validity was assessed by comparing the current edition and previous version. Though the authors of the study did not describe the steps of this comparison, results were stated as showing no significant difference. The authors determined this assessment was a useful and effective tool to use with pediatric populations. They also determined the second edition results are just as accurate as the previous edition (Darrah et al., 2007).

Sensory Integration and Praxis Tests

The Sensory Integration and Praxis Tests (SIPT) is a thorough evaluation focused on a child's visual perception, balance, praxis, bilateral coordination, motor skills, kinesthesia, finger identification, graphesthesia, and localizing tactile stimuli. Those conducting and scoring this standardized evaluation are required to be trained prior to

administration of the assessment. However, at this time training has halted in preparation for the new edition of the assessment soon to be released. This assessment is standardized for children ranging from four years old to eight years and eleven months of age (WPS, 2018).

In a study completed by Asher, Parham, and Knox (2008), clinicians were asked to perform the SIPT with multiple clients and results were compared to examine interrater reliability. Out of 17 subtests examined, one to three sub-tests had 100% agreeance from the clinicians, the lowest being 50%; however, most remained at approximately 75%. From the results of the assessment researchers determined the SIPT had solid interrater reliability, but only when performed by clinicians trained in the assessment (Asher et al., 2008). A study was also conducted to determine validity of constructional praxis subtests of the SIPT by Cermak and Murray (1991). Their study supported that these subtests have strong validity through the use of comparison with SIPT and non-SIPT constructional measures. A group of 57 children participated in the study. Twenty-one of these children ranging from five years and four months to eight years and seven months old had a learning disability. The remaining 18 children were part of the control group. The children were evaluated by a clinician using the SIPT and results were compared to determine validity. The resulting P value from the study was $p<.01$, demonstrating strong results (Cermak & Murray, 1991).

Sensory Processing Measure

The Sensory Processing Measure (SPM) has also been used as a common assessment seen used in pediatric occupational therapy. Similar to the Sensory Profile 2, the SPM covers comparable areas involved with sensory processing such as touch,

auditory, and other variables. However, the SPM is broken down by environment instead of age range to distinguish it as a separate assessment. The SPM is meant to be used with school-aged children, which encompasses children five to 12 years old. Both a home and a school version are available. Teachers and caregivers are responsible for filling out the assessment on children based off observations they make in the home or school setting about the children's behaviors when they encounter different sensory inputs within environments (Kuhaneck, Henry, & Glennon, 2018).

A sample size of 1,051 children were evaluated by both the home and the school version of this assessment for standardization. From this process, both forms' validity and reliability were determined. The two forms of the SPM were evaluated for internal consistency and test-retest reliability. Internal consistency was found to have a coefficient of .80 for both the home and school forms, showing strong results in this area. A smaller sample of the group of children, 77 of the 1,051, were evaluated to determine test-retest reliability as well. These children were evaluated two weeks later to obtain results. The results determined high temporal stability, therefore concluding strong test-retest reliability. Content validity, however, was determined during the creation of the assessment as each aspect of the tools included were scrutinized by multiple rounds of review with people considered experts in the field. This assured it was an accurate representation of Sensory Integration Theory (Kuhaneck et al., 2018).

Sensory Profile 2

The Sensory Profile 2 was released in 2014 by Winnie Dunn, the original author of the Sensory Profile. The assessment is commonly used by OTs in pediatric settings as it encompasses children ages birth-14:11. The Sensory Profile 2 has separate assessments

for infants, toddlers, children, a short form, a school form, and a Spanish caregiver form allowing for increased versatility of the assessment (Dunn, 2014). Since the release of the second edition, limited research has been completed to examine reliability and validity of the new edition. However, research on the previous edition was found and could be applied as the newest version is merely an updated form of the original that was not edited drastically.

A study completed regarding the original version of the Sensory Profile by Ermer and Dunn (1998) determined the validity of the Sensory Profile was proven with their sample of 1,174 children; however, reliability was not determined in this study. The results showed the ability of the Sensory Profile 2 to determine children of disability from typically developing children. By use of this assessment, administrators are also able to develop treatment plans based on the children's responses to sensory input and behaviors gathered with this assessment (Ermer & Dunn, 1998).

Short Child Occupational Profile

The Short Child Occupational Profile (SCOPE) is an assessment based on MOHO. Using the guidance of MOHO, the assessment is based off an individualized approach to look at each child's unique life path (University of Illinois, 2018). In relation to MOHO, the assessment also utilized the four-point rating scale ‘FAIR’: facilitates, allows, inhibits, and restricts (Bowyer, Kramer, Kielhofner, Maziero-Barbosa, & Girolami, 2007). The areas focused on assist in gaining information such as age, impairment, past life experiences, environment, and context. The SCOPE age range includes children ages birth to 21 and uses observation, interviews, chart reviews, and the use of results from past assessments to gain information (University of Illinois, 2018).

A study by Bowyer et al. (2007) administered the SCOPE to 35 children, ages two to 21, in order to determine the reliability and validity of the assessment. A combination of physical therapists, OTs, speech therapists and social workers administered the assessments to the children. From this study the researchers were able to determine a reliability score of .90 in regards to the accuracy of the assessment. Because of the small sample size in this study, construct validity was determined, but noted to be a weak finding. Construct validity was assessed using the Rasch model and the results were MnSq>1.4, demonstrating strong construct validity (Bowyer et al., 2007).

References

Ages and Stages Questionnaire. (2018). How does ASQ work. Retrieved from https://agesandstages.com/about-asq/how-asq-works/

American Association for Pediatric Ophthalmology and Strabismus. (2018). What is strabismus and how common is it. Retrieved from https://aapos.org/terms/faqs/14

American Occupational Therapy Association. (2014). Occupational therapy practice framework: Domain and process. *American Journal of Occupational Therapy, 68*(Suppl. 1), S1–S48. http://doi.org/10.5014/ajot.2014.682006

American Occupational Therapy Association. (2018a). *Children & youth.* Retrieved from https://www.aota.org/Practice/Children-Youth.aspx

American Occupational Therapy Association. (2018b). What is Occupational Therapy? Retrieved from https://www.aota.org/Conference-Events/OTMonth/what-is-OT.aspx

Asher, A.V., Parham, L.D., Knox, S. (2008). Interrater reliability of Sensory Integration and Praxis Tests (SIPT) score interpretation. *American Journal of Occupational Therapy, 62*(3), 308-319. doi:10.5014/ajot.62.3.308

Ayres, A. (1964). Tactile functions: Their relation to hyperactive and perceptual motor behavior. *American Journal of Occupational Therapy, 18,* 6-11.

Ayres, A. (1979). *Sensory integration and the child*. Los Angeles: Western Psychological Services.

Bayley, N. (2007). Bayley scales of infant and toddler development–third edition. *Journal of Psychoeducational Assessment, 25*(2), 180-198. doi: 10.1177/0734282906297199

Beery VMI. (2018). Beery-Buktenica Developmental Test of Visual-Motor Integration, Sixth Edition, The (BEERY ™ VMI). *Pearson.* Retrieved from https://www.pearsonclinical.com/therapy/products/100000663/the-beery-buktenica-developmental-test-of-visual-motor-integration-6th-edition-beery-vmi.html#tab-details

Bowyer P.L, Kramer J., Kielhofner G., Maziero-Barbosa V, & Girolami G. (2007). Measurement properties of the Short Child Occupational Profile (SCOPE). *Physical & Occupational Therapy in Pediatrics, 27*(4), 67-85. doi: 10.1300/J006v27n04_05

Bramlett, M.D., & Radel, L.F. (2017). Factors associated with adoption and adoption intentions of nonparental caregivers. *Adoption Quarterly, 20*(1), 5–24. doi: 10.1080/10926755.2016.1149534

Brown, M. M. (2011). Occupational therapy and adoption. *OT Practice*, *16*(2), 32.

Brown, T., & Rodger, S. (2008). Validity of the developmental test of visual-motor integration supplemental developmental test of visual perception. *Perceptual and Motor Skills, 106*, 659-678. doi: 10.2466/PMS.106.3.659-678

Brumble, K., & Kampfe, C. (2011). The history of adoption in the United States: A focus on the unique group of intercountry transracial special needs children. *The Journal of Counselling Psychology Quarterly, 24*(2), 157-162. doi: 10.1080/09515070.2011.586413

Center for Adoption Medicine. (2018). *Adoptmed.org.* Retrieved from http://adoptmed.org/

Cermak, S. A., & Daunhauer, L. A. (1997). Sensory processing in the postinstitutionalized child. *American Journal of Occupational Therapy, 51*, 500-507. doi:10.5014/ajot.51.7.500

Cermak, S. A., & Murray, E. A. (1991). The validity of the constructional subtests of the Sensory Integration and Praxis Tests. *American Journal of Occupational Therapy, 45*(6), 539-543. doi: 10.5014/ajot.45.6.539

Chan, S. M. (2011). Social competence of elementary-school children: relationships to maternal authoritativeness, supportive maternal responses and children's coping strategies. *Child: care, health and development, 37: 4,* 524-532. doi: 10.1111/j.1365-2214.2010.01196.x

Child Welfare Information Gateway. (2017). Foster care statistics 2016. Washington, DC: U.S. Department of Health and Human Services, Children's Bureau.

Connell, C., Vanderploeg, J., Flaspohler, P., Katz, K., Saunders, L., & Tebes, J. (2006). Changes in placement among children in foster care: A longitudinal study of child and case influences. *Social Service Review, 80*(3), 398-418. doi: 10.1086/505554

Cox, T. L. (2013). Improving educational outcomes for children and youths in foster care. *Children & Schools*, *35*(1), 59-62. doi:cs/cds040

Darrah, J., Magill-Evans, J., Volden, J., Hodge, M., & Kembhavi, G. (2007). Scores of typically developing children on the Peabody Developmental Scales- infancy to preschool. *Physical & Occupational Therapy in Pediatrics, 27*(3). doi: 10.1300/J006v27n03_02

Davis, J. (1999). Effects of trauma on children: Occupational therapy to support recovery. *Occupational Therapy International, 6*(2), 126-142. doi: https://doi.org/10.1002/oti.93

Deitz, J.C., Kartin, D., & Kopp, K. (2007). Review of the Bruininks-Oseretsky Test of Motor Proficiency, second edition (BOT-2). *Physical & Occupational Therapy in Pediatric, 27*(4), 87-103. doi: 10.1300/J006v27n04_06

Dunn, W. (2014). Sensory profile 2. *Pearson*. Retrieved from https://www.pearsonclinical.co.uk/AlliedHealth/PaediatricAssessments/Sensory/sp2/sensory-profile-2.aspx

Dunn, W. (2017). The ecological model of occupation. In J. Hinojosa, P. Kramer, & C.B. Royeen (Eds.), *Perspectives on Human Occupation: Theories Underlying Practice* (pp. 207-235). Philadelphia, PA: F.A. Davis Company

Ermer, J. & Dunn, W. (1998). The sensory profile: A discriminant analysis of children with and without disabilities. *American Journal of Occupational Therapy, 52*(4), 283-290. doi: 10.5014/ajot.52.4.283

Fisher, A., & Murray, E. (1991). Introduction to sensory integration theory. In A. G. Fisher, E. A. Murray, & A.C Bundy (Eds.), *Sensory integration: Theory and practice* (pp. 3-24). Philadelphia: F. A. Davis.

Goemans, A., van Geel, M., van Beem, M., & Vedder, P. (2016). Developmental outcomes of foster children: A meta-analytic comparison with children from the general population and children at risk who remained at home. *Child Maltreatment, 21*(3), 198-217. doi:10.1177/1077559516657637

Greiner, M., Beal, S., Nause, K., Staat, M., Dexheimer, J., & Scribano, P. (2018). Laboratory screening for children entering foster care. *Pediatrics, 140*(6). doi: 10.1542/peds.2017-3075

Haradon, G.L. (2001). Facilitating successful international adoptions: An occupational therapy community practice innovation. *Occupational Therapy in Health Care, 13*(3-4), 85-99. doi: 10.1080/J003v13n03_0

Harvey, E.M., Leonard-Green, T.K., Mohan, K.M., Kulp, M.T., Davis, A.L., Miller, J.M., Twelker, J.D., Campus, I., & Dennis, L.K. (2017). Interrater and test-retest reliability of the Beery Visual-Motor Integration in schoolchildren. *Optometry and Vision Science*, *94*(5), 598-605. doi: 104-5488/17/9405-0598/0

Hasselbusch, A. (2018). Miller Function & Participation Scales (MfunPS)- Critical Review. *Pearson.* Retrieved from https://www.pearsonclinical.co.uk/AlliedHealth/PaediatricAssessments/Participation/MillerFunctionParticipationScales/ForThisProduct/critical-review.aspx

Johnson, D., & Dole, K. (1999). International adoptions: Implications for early intervention. *Infants & Young Children: An Interdisciplinary Journal Of Early Childhood Intervention*, *11*(4), 34-45. doi: 10.1097/00001163-199904000-00008

Kaler, S. & Freeman, B. (1994). An analysis of environmental deprivation: Cognitive and social development in Romanian orphans. *Journal of Child Psychiatry, 35,* 769-781

Keller, J. & Kielhofner, G. (2005). Psychrometric characteristics of the Child Occupational Self-Assessment (COSA), part two: Refining the psychometric

properties. *Scandinavian Journal of Occupational Therapy, 12*, 147-148. doi: 10.10080/11038120510031761

Kisiel, C., Fehrenbach, T., Torgersen, E., Stolbach, B., McClelland, G., Griffin, G., & Burkman, K. (2014). Constellations of interpersonal trauma and symptoms in child welfare: Implications for a developmental trauma framework. *Journal of Family Violence, 29*, 1–14. doi: 10.1007/s10896-013-9559-0

Kramer, J.M., Kielhofner, G., & Smith, E.V. Jr. (2010). Validity evidence for the Child Occupational Self Assessment. *American Journal of Occupational Therapy, 64*, 621-632. doi: 10.5014/ajot.2010.08142

Kramer, J., ten Velde, M., Kafkes, A., Basu, S., Federico, J., & Kielhofner, G. (2014). *Child Occupational Self Assessment: User manual.* Retrieved from http://moho.uic.edu/pdf/CosaManual.pdf

Kuhaneck, H. M., Henry, D. A., & Glennon, T. J. (2018). Sensory Profile Measure. *SCRIBD.* Retrieved from https://www.scribd.com/document/319390405/SPM-Assessment-Review-1

Leslie, K. L., Gordon, J.N., Meneken, L., Premji, K., Michelmore, K.L., & Ganger, W. (2005). The physical, developmental, and mental health needs of young children in child welfare by initial placement type. *Child & Adolescent Services Research Center, 26*(3), 177-185. doi: 10.1097/00004703-200506000-00003

Lewis, E. E., Dozier, M., Ackerman, J., & Sepulveda-Kozakowski, S. (2007). The effect of placement instability on adopted children's inhibitory control abilities and oppositional behavior. *American Psychological Association, 43*(6), 1415-1427. doi: 10.1037/0012-1649.43.6.1415

Lin, S. H., Cermak, S., Coster, W. J., & Miller, L. (2005). The relation between length of institutionalization and sensory integration in children adopted from Eastern Europe. *American Journal of Occupational Therapy, 59*, 139–147.

Lynch, A., Ashcraft, R., Paul-Ward, A., Tekell, L., Salamat, A., & Schefkind, S. (2017). Foster care. *The American Occupational Therapy Association, Inc.* Retrieved from https://www.aota.org/~/media/Corporate/Files/Practice/Children/SchoolMHToolkit/Foster-Care-Info-Sheet-20170320.pdf

Mack, K. (2002). International adoption medicine. *Children's Voice, 11*(6), 28-31

Merriam-Webster. (2018). Biological**.** Retrieved from https://www.merriam-webster.com/dictionary/biological

Minnis, H., Everett, K., Pelosi, A.J., Dunn, J., & Knapp, M. (2006). Children in foster care: Mental health, service use and costs. *European Child & Adolescent Psychiatry*, *15*(2), 63–70. doi: 10.1007/s00787-006-0452-8

Neese, B. (2016). Behavioral health vs mental health. *Alvernia University Online*. Retrieved from https://online.alvernia.edu/behavioral-health-vs-mental-health/

Nichols, T., Martin, M., & Martin, D. (2015). Psychosocial differences in post-institutionalized, internationally adopted children and other groups of children referred for clinical services. *Adoption Quarterly*, *18*(4), 311–326. https://doi.org/10.1080/10926755.2015.1088105

Niemann, S., & Weiss, S. (2011). Attachment behavior of children adopted internationally at six months post adoption. *Adoption Quarterly, 14*(4), 246-267. doi: 10.1080/10926755.2011.628262

Paul-Ward, A. & Lambdin-Pattavina, C.A. (2016). New roles for occupational therapy to promote independence among youth aging out of foster care. *The American Journal of Occupational Therapy, 70*(3). doi: 10.5014/ajot.2016.017426

Peabody Developmental Motor Scales-Second Edition. (2018). *Therapro, Inc.* Retrieved from http://www.therapro.com/Browse-Category/Gross-Motor-Fine-Motor/Complete-TEST.html?gclid=Cj0KCQjw5s3cBRCAARIsAB8ZjU1rFueamY2rYp9mihrz-BQ5AC-dQJVHb2eDHyGUUU_7t-VBftuyd8oaAn8qEALw_wcB

Petrenchik, T. & Weiss, D. (2015). Childhood trauma. *The American Occupational Therapy Association, Inc.* Retrieved from https://www.aota.org/~/media/Corporate/Files/Practice/Children/Childhood-Trauma-Info-Sheet-2015.pdf

Rettig M.A., & McCarthy-Rettig K. (2006). A survey of the health, sleep, and development of children adopted from China. *Health & Social Work*, *31*(3), 201–207. doi: 10.1093/hsw/31.3.201

Rolock, N., & Pérez, A. (2018). Three sides to a foster care story: An examination of the lived experiences of young adults, their foster care case record, and the space in between. *Qualitative Social Work, 17*(2), 195-215. doi:10.1177/1473325016666410

Ryan, K., Lane, S. J., & Powers, D. (2017). A multidisciplinary model for treating complex trauma in early childhood. *International Journal of Play Therapy, 26*(2), 111–123. doi: 10.1037/pla0000044

Skivenes, M., & Tefre, Ø. S. (2012). Adoption in the child welfare system - A cross-country analysis of child welfare workers' recommendations for or against adoption. *Children & Youth Services Review, 34*(11), 2220-2228. doi:10.1016/j.childyouth.2012.07.013

SAMHSA & CSAT. (2009). Screening and assessment. *Substance Abuse Treatment: Addressing the Specific Needs of Women.* Retrieved from https://www.ncbi.nlm.nih.gov/books/NBK83253/

University of Illinois. (2018). SCOPE. *Model of Human Occupation Theory and Application.* Retrieved from https://moho.uic.edu/productDetails.aspx?aid=9

University of Minnesota. (2018). Adoption medicine. *Health: University of Minnesota Masonic Children's Hospital.* Retrieved from https://www.mhealth.org/childrens/care/overarching-care/adoption-medicine-pediatrics

U.S. Department of Veterans Affairs. (2015). PTSD in children and teens. Retrieved from https://www.ptsd.va.gov/public/family/ptsd-children-adolescents.asp

Van Oss, T., & Olivas-De La O, T. (2009). Home & community health. *American Occupational Therapy Association, Inc, 16*(2), 1-4. Retrieved from https://www.aota.org/~/media/Corporate/Files/Secure/Publications/SIS-Quarterly-Newsletters/HCH/HCHSIS%20June%202009%20lr.pdf

Vandivere, S., Malm, K., & Radel, L. (2009). Adoption USA. A Chartbook based on the 2007 national survey of adoptive parents. *U.S. Department of Health and Human Services.* Retrieved from https://aspe.hhs.gov/report/adoption-usa-chartbook-based-2007-national-survey-adoptive-parents

Velikonja, T., Edbrook-Childs, J., Calderon, A., Sleed, M., Brown, A., & Deighton, J. (2016). The psychometric properties of the Ages & Stages Questionnaires for ages 2-2.5: A systematic review. *Child: Care, health and development*, *43*(1), 1-17. doi: 10.1111/cch.12397

Wiltz, T. (2018). This new federal law will change foster care as we know it. *The PEW Charitable Trusts*. Retrieved from http://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2018/05/02/this-new-federal-law-will-change-foster-care-as-we-know-it

World Health Organization. (2006). *Constitution of the World Health Organization* (45th ed.). Retrieved from http://www.afro.who.int/index.php?option=com_docman&task=doc_download&gid=19&Itemid=2111WHO2006

WPS. (2018). Sensory integration and praxis test. Retrieved from https://www.wpspublish.com/store/p/2971/sipt-sensory-integration-and-praxis-tests

