PERCEPTIONS OF A COMMUNITY-BASED PLAYGROUP TO PROMOTE CAREGIVER KNOWLEDGE OF RESOURCES AND PREVENTION OF DEVELOPMENTAL DELAYS IN A RURAL SETTING

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Abstract

For children living in rural communities, the likelihood of having a developmental delay substantially increases compared to children living in urban areas (Weglarz-Ward et al., 2019). This can be due to a lack of access to resources, limited education, and geographical isolation. Despite the rising trend of developmental delays among rural children, there is a noteworthy lack of early intervention resources for both the child and their family. This trend of minimal resources is demonstrated in Lincoln County, Nevada. Using an occupational therapy lens, a community-based playgroup program was developed for residents in Lincoln County. Community-based playgroups involve a structured interaction between caregivers and their child/children in a community context and incorporate the occupation of play, socialization, and caregiver education. This is consequential as there are currently no community-based programs in place within Lincoln County, Nevada. Semi-structured interviews, clinical observations, and a needs assessment were completed to gather information on where the disparities in resources are and how the program can fill them. The guiding question throughout this project was as follows: "What are the perceptions of stakeholders of children ages zero to three regarding the development of an occupational therapy-based playgroup that focuses on enhancing their understanding of developmental milestones?" Utilizing the information gathered from caregivers, teachers, and stakeholders, a community-based playgroup was developed to meet the needs of the community, thereby increasing the feasibility of caregivers to attend.

Keywords: community-based, playgroups, caregivers, developmental milestones

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Section One: Introduction

The first three years of a child's life are critically important for their development due to the high levels of neural plasticity, after which it begins to diminish (Smet et al., 2019). Within these first few years of life, more than one million new neural connections are formed every second, making it a critical period of development in which the child's brain is forming and developing (Center on the Developing Child, 2007). Early intervention services are provided for children, ages zero to three, who have a known diagnosis or are at an increased risk of developmental delay. Early intervention services are unique in that they are family-centered, meaning caregivers are involved throughout the service delivery period. The percentage of children receiving necessary services is strongly influenced by the available resources and the caregiver's education level (Weglarz-Ward et al., 2019). For those living in poverty or rural areas, access to these resources may not be feasible or available at all. In Nevada specifically, there are 16 counties total: three classified as urban, three as rural, and 11 as frontier, including Lincoln County (Health Resources and Services Administration, n.d.). Frontier communities are labeled as the most remote and sparsely populated areas on the urban-rural chain, with a population density of six or fewer people per square mile (Rural Health Information Hub, 2023). In addition to rural areas having a small population density, they have higher rates of poverty and lower levels of education among the adult population (Economic Research Service, 2023; Rural Health Information Hub, n.d.). Rural areas also tend to struggle with medical provider shortages, limited specialty services, less access to healthy foods and are located far from urban cities (MacQueen et al., 2018; Rural Health Information Hub, 2024).

In 2023 approximately 104,000 infants and toddlers were living in Nevada (Cole et al., 2023). Of those infants and toddlers, 42.7% were living in poverty (Cole et al., 2023). A key

obstacle for caregivers living in impoverished communities is a lack of education and understanding by the caregivers of what are early signs of developmental delay. This may be due to poor education or the inability to access educational resources within the community. This leads to a delay in caregivers seeking services for their child, missing the critical period of development. By providing caregivers with proper education, children can receive intervention services earlier and within the critical period of development. Early identification can help reduce both the cost and need for additional treatment later in life as well as reduce caregiver stress (Weglarz-Ward et al., 2019).

Apart from Nevada Early Intervention Services (NEIS), which provides services to all of Nevada, there are currently no community-based services regarding development being provided to rural caregivers and their children, specifically those in Lincoln County, Nevada. Developmental delays can be caught by the child's pediatrician. The pediatrician would then identify services to support the child and their family (Yale Medicine, n.d.). Rural children, when compared to urban children, are less likely to have had a well-child checkup within the last 12 months and less likely to receive early intervention services (Zablotsky & Black, 2020). If the child was not given an initial diagnosis at birth or shortly after, the caregivers may not be aware that their child is not meeting their milestones due to limited education and understanding. This means the child may not be seen by their pediatrician within this critical period of development. In addition, if caregivers do not understand what the early signs of developmental delay are, it may lead to a delay in their child receiving services. Early signs of developmental delay can include a child losing skills they once had and limited engagement and interaction with their environment and caregiver. This makes occupational therapy (OT) a tremendous asset to these communities. Children are at risk for delays being missed and occupational therapists (OTs) can

provide meaningful education to families for the purpose of early intervention during the critical period of development.

The significance of this project to the profession of OT is that it supports the American Occupational Therapy Associations (AOTA) vision for 2025, providing services at a community level to improve their overall quality of life and well-being (Vision 2025, 2017). The importance of community-based care is to foster healthy communities through active participation, education, and occupational engagement, by providing equitable services for the diverse needs of the community. This project aligns with the American Occupational Therapy Foundation's (AOTF) research agenda in which emphasis is placed on providing family and caregiver support across the life span which in turn helps promote participation in everyday occupations (AOTF, n.d.). One research priority of the AOTF is to provide equitable access and use of health and community services while taking into consideration the social determinants of health and current contextual factors in place within the community (AOTF, n.d.). Given these research priorities and the current healthcare and service disparities identified across rural America, this project will provide valuable information regarding the community's perceptions of a community-based playgroup, which can then be utilized to create a program that is individualized to their needs.

Occupational therapists pride themselves on providing client-centered, holistic care, and by better understanding their perceptions, this program can remain aligned with the profession. One of the roles an OT has is helping identify barriers that impede an individual, group, or community from engaging in their meaningful occupations. Under AOTA's code of ethics falls a principle that closely aligns with the vision of this project, which is justice. Justice within the occupational therapy profession includes promoting equity and inclusion of all persons, including providing equitable opportunities to those who are underserved and underrepresented

(AOTA, 2020). Therefore, the development of a community-based playgroup through the lens of occupational therapy can help bridge the gap that currently exists in services being provided in rural communities. It will be completed by meeting the caregivers and families where they are at by providing caregiver education, client-centered care, and occupation-based activities.

Overview of the Problem

Compared to children living in urban communities, children living in rural communities are at an increased risk of having both health and developmental conditions resulting in impairments in their overall quality of life and independence in everyday activities (Whiteside-Mansell et al., 2019; Zablotsky & Black, 2020). In rural areas across the United States, health disparities continue to exist due to limited access to resources and specialty services due to geographical isolation, lack of public transportation, and limited caregiver education (Ashburner et al., 2016; Silver et al., 2017). Early identification of developmental delay has several challenges including limited family knowledge and understanding of developmental milestones and lower levels of education among those living in rural areas (Weglarz-Ward et al., 2019; Whiteside-Mansell et al., 2019). All these factors combined have resulted in a higher prevalence of developmental disabilities among rural children. Literature has shown that families in rural areas are less likely to utilize the available services due to limited family knowledge and the difficulty that comes with understanding how to access the available services (Weglarz-Ward et al., 2019; Zablotsky & Black, 2020). These factors contribute to the health disparities that currently exists between urban and rural children.

Currently, OTs provide many services at the tertiary level, which are services that are provided after the disease or delay has progressed. The proposed solution was to create primary, health promotion-based services through a community-based playgroup in rural Nevada. This

program will educate caregivers on developmental milestones for their children, ages 0-3. This project gathered caregivers', teachers' and stakeholders' perceptions of a community-based playgroup that was then utilized to develop a program that meet the needs of the community.

The Lincoln County School District (LCSD) is a common ground for those living within the rural community and is therefore the agency at which this project will take place. Providing it at a community level allows for services to take place in a naturalistic setting, one in which most community members are familiar with and comfortable in. Stakeholders within the community expressed that in some instances, the preschool screening is the first-time families encounter a professional outside of their pediatrician. This means the first contact made with a child that exhibits signs of developmental delay or an undiagnosed condition may be at preschool ages. The rationale for this project is that providing caregivers in this rural community the proper education about developmental milestones and information on resources available, it will allow for them to identify the signs of developmental delay earlier. This will allow caregivers to advocate for the services the children need within the critical first three years of life. Providing services and interventions at the population level before the delay has progressed is referred to as primary prevention. Addressing signs of developmental delays at the primary level may enable caregivers to reduce the impact that a delay in services would have on their child, thus resulting in an overall improvement in developmental outcomes, decreasing the need for therapeutic intervention later in life and increasing the family's quality of life.

Section Two: Statement of Problem

According to the Centers for Disease Control and Prevention (CDC), it is reported that between 2009-2017, up to one in six children (17%) were diagnosed with developmental delay or disability, which has steadily increased over the last decade (CDC, 2022). For children living in rural areas, there is a higher prevalence of developmental disabilities when compared to urban children (19.8% compared to 17.4%) because of the different factors rural families face when accessing healthcare (Zablotsky & Black, 2020). Current early intervention service options for families living in rural Nevada are provided by Nevada Early Intervention Services (NEIS). For those living in rural areas, these services are typically delivered via telehealth due to the geographical isolation of the families and limited job opportunities for therapists. Although caregivers in rural areas have the opportunity to utilize NEIS for their child virtually, it does not always equate to the services being utilized by families. A community-based playgroup could be utilized to bring an in-person component that currently is lacking for this demographic.

Current laws in place for this population include the Individuals with Disabilities Education Act (IDEA), more specifically under Part C, which encompasses early intervention for children from birth to 36 months (U.S. Department of Education, 2023). An Individualized Family Service Plan (IFSP) is developed with the family to meet the needs of the child, including receiving services from health professionals – such as an occupational therapist. To qualify for services, the infant or toddler must be experiencing developmental delays or have a diagnosed physical or mental condition with a high likelihood of contributing to a developmental delay (U.S. Department of Education, 2023). Literature suggests that children diagnosed with a severe condition and who are underinsured or uninsured have a significantly higher chance of reporting unmet needs for services, particularly for those living in Western states (McManus et al., 2015).

This may be due to Western states having larger rural areas compared to the Eastern states. In addition, children with developmental conditions living in rural areas experience significant limitations in terms of access to resources and a greater number of functional limitations (McManus et al., 2015).

According to Weglarz-Ward et al. (2019), less than 50% of all children with developmental delays are identified before they begin kindergarten at approximately five to six years old which can be attributed to the lack of parental knowledge of typical child development and the lack of awareness regarding where to seek resources to help their child. Rural children have a higher prevalence of developmental disabilities because of risk factors for not being identified include: lack of understanding of milestones, limited access to families that are diverse or currently living in poverty or rural areas, and those with limited education (Silver et al., 2017). Rural areas tend to struggle with both recruiting and retaining allied healthcare professionals, including occupational therapists (MacQueen et al., 2018). This alone may be one reason why NEIS services are typically provided via Telehealth rather than in person. Taking into consideration the fact that those residing in rural areas tend to have lower education levels, underutilize healthcare and therapy services, and limited access to resources available, all contribute to the potential delay in a child being identified as needing services (Silver et al., 2017; Weglarz-Ward et al., 2019). If the family does not understand what typical development looks like or what to look for, they may not seek services and NEIS may not be utilized to begin with. Therefore, a community-based playgroup will be utilized to help provide education on developmental milestones and actionable steps if a delay is suspected.

In Lincoln County specifically, there are currently no community-based programs in place to educate or assist caregivers with children in this age range, leading to a disproportion in

services provided. Not only does a lack of community-based programs lead to a gap in therapeutic services and caregiver education, it can greatly impact a child's occupational performance and ability to successfully participate independently in every day occupations. No known research has been conducted in Lincoln County, Nevada regarding this population and these services; therefore, a needs assessment was completed to better understand the requirements of the community. Limited high empirical research studies are being conducted in rural and frontier areas across the United States, with much of the research being completed outside of the country and with lower levels of evidence.

PIO Question

Specific to Lincoln County, there is currently no data regarding caregivers' perceptions of a community-based playgroup and how it would be received if implemented, which lead to guiding project question, "What are the perceptions of stakeholders of children ages zero to three regarding the development of an occupational therapy-based playgroup that focuses on enhancing their understanding of developmental milestones?"

Definition of Terms

Community-Based

- Conceptual: "An activity that is organized and takes place locally" (Cambridge Dictionary, n.d.).
- Operational: Taking place in a context that is located within a community and available to all community members.

Playgroup

- Conceptual: “Playgroups provide a service to children and families with developmental delays and disabilities by providing play-based therapy while simultaneously facilitating caregiver support and community connections” (Armstrong et al., 2020).
- Operational: Playgroups provide play-based therapeutic activities and hands-on learning opportunities for children and families to foster learning, provide support, and create lasting community connections through structured interactions and activities.

Caregivers

- Conceptual: “A person who provides direct care (as for children, elderly people, or the chronically ill)” (Merriam-Webster, n.d.).

- Operational**:** Any individual or group of individuals who provides direct and/or indirect care for an individual and is actively involved in their life.

Rural Area

- Conceptual**:** “Includes all people, housing, and territory that are not within an urban area. Micro areas would include an urban core of 10,000-49,999 people while counties outside of metro and micro areas are considered rural” (Health Resources and Services Administration, 2024).

- Operational: An area with a relatively low population located in the country outside of major urban areas.

Frontier Area

- Conceptual: “Frontier, like rural, suburban, or urban, is a term intended to categorize a portion of the population continuum. Frontier refers to the most remote end of that continuum (in some states the wilderness designation is considered most remote). Frontier is identified as any service area with a population density less than or equal to six persons per square mile” (Rural Health Information Hub, 2023).

- Operational: An area that has a significantly low population, located in the countryside away from typical amenities.

Section Three: Literature Review

The Differences Between Urban and Rural Communities

Children living in rural communities, when compared to children in urban areas, are at an increased risk for developing health and developmental conditions and concerns (Whiteside-Mansell et al., 2019). Families residing in rural areas have less access to resources and receive less specialized services, impacting their overall quality of life and well-being. Additionally, caregivers of rural children tend to have less education and are more likely to experience job insecurity because of the limited full-time employment available (Whiteside-Mansell et al., 2019). All these factors contribute to the disparity between urban and rural children, further deepening the existing imbalance.

One area of interest identified by Zablotsky and Black (2020) is the prevalence of developmental disabilities by urbanicity within the United States. Data was gathered from the 2015-2018 National Health Interview Survey (NHIS) and caregiver questionnaires with a sample including 33,775 children ages 3-17. Results revealed considerable differences including the fact that children living in rural areas were more likely than urban children to be diagnosed with a developmental disability, attention-deficit/hyperactivity disorder (ADHD), and cerebral palsy. In regards to receiving health care and educational services, those with developmental disabilities were less likely to have seen a mental health specialist, had a well-child checkup, and received any type of special education or early intervention services. Data revealed that nearly one-half of children with a developmental disability residing in rural areas did not utilize any specialty providers, including occupational therapy, within the past 12 months. Data collected regarding developmental disabilities was collected from caregiver questionnaires and was not validated by an outside source, impacting the trustworthiness. However, it should be noted that there was a

high response rate and large sample size. This data further supports the need for additional research and increased resources to educate those residing in rural areas as well as improve access to trained professionals to reduce the existing gap between rural and urban children.

The need for a child to receive early intervention (EI) services depends upon their eligibility requirements. Roberts et al. (2014) completed a binary logistic regression analysis to understand the relationship of urban versus rural children on the decision of eligibility to receive EI services. Data was collected from the Developmental Tracking Infant Progress Statewide (TIPS) with results revealing that a total of 356 infants were referred for an evaluation from EI services. The results revealed that children living in rural areas were three times more likely to receive eligibility for EI when compared to children in urban areas. Important considerations in regards to eligibility are decided by each state and criteria may differ between urban and rural areas. Despite being designed to be uniform it can be subjective and there is room for interpretation from the practitioner. The importance of these results revealed that the broader interpretation of edibility for EI services in rural areas may help to lessen the gap between rural and urban disparities. These results provide support for long-term positive developmental outcomes that occur due to a child receiving services at an earlier age, supporting the importance of early identification and the need for services. However, referral of a child may not immediately equate to the utilization of services.

Looking further into urban versus rural areas, McManus et al. (2015) conducted a study to describe differences among therapy service use in rural and urban populations. The purpose of this study was to identify existing disparities between the two populations and the rate at which they occur. The sample was restricted to children younger than 36 months old and with select developmental conditions. Results revealed that rural children were significantly less (ME=7.9%,

$p < .001$) likely to receive occupational therapy and physical therapy (PT) services. In addition, services being provided in rural areas were less specialized and more expensive than services provided to children in urban areas. Specialized services provided to urban children included sensory integration therapy and assistive technology training while children in rural areas received more traditional strength and balanced-based therapy interventions. Limitations include limited sample variability, with researchers only including a select sample of children with a known diagnosis rather than all children ages zero to 36 months old, limiting generalizability. Although increasing access to OT and PT services in rural communities may pose a financial burden initially, it is important to understand the long-term impact providing these services might have on the child's functioning both academically and physically. In addition to benefiting the child, families involved in the therapeutic process may benefit from education and understanding of how to assist their child.

To further examine the differences, Keys (2015) conducted an exploratory, cross-sectional study to look at a family's perceived engagement in Head Start programs in rural versus urban areas. Prior research indicates that families who are actively engaged and involved in Head Start programs tend to have better outcomes compared to families who are less involved. In addition, research has shown that families who have a positive and trusting relationship with the educator tend to have better school-related outcomes for the children, with improvements primarily being found in their health and well-being, social and academic skills, and behaviors. However, the rationale behind this study was to better understand the influences of community, such as living in a rural or urban area. Surveys were given out to families living in these areas and results revealed that families in urban areas had higher perceived levels of engagement ($t_{(336)} = 2.33$, $p < .05$) when compared to families in rural areas, meaning families in rural areas were

less likely to be actively engaged in the Head Start program. These findings indicate a need for further research to be conducted in rural communities to better understand the rationale behind limited family involvement in Head Start programs. By better understanding the role that communities have in family engagement, accommodations and modifications can be made to better suit the families. Better understanding can result in improved engagement and involvement and better functional outcomes for the children involved.

A recurring theme in the literature reviewed is a lack of specialization of services in rural areas, lower levels of perceived engagement, and how it can be costly to families (Keys, 2015; McManus et al., 2015). These factors alone further increase the healthcare and service disparities between rural and urban children regarding the quality and quantity of services they receive. One study found that children in rural areas tend to be referred to EI services more often than urban children; however, additional studies have shown the underutilization of EI services, meaning families are not taking advantage of the services being offered (Roberts et al., 2014; Zablotsky and Black, 2020). Research indicates that having strong interpersonal relationships with the service provider and caregiver provides implications on the child's overall quality of life and well-being because of the caregiver's involvement (Keys, 2015). Although there is limited research comparing rural and urban areas, the primary findings show that children living in rural areas have a higher prevalence of developmental disabilities and a greater risk of developing them as time goes on (17.3-18.4%, $p < .01$) (Zablotsky and Black, 2020). Therefore, it is indicated that further high-quality research be conducted to better understand the relationship and if there are differences between the two populations as much of the current literature is at levels three through six.

Family Involvement

Communities that primarily consist of families living in poverty tend to have lower literacy and educational attainment levels, potentially impacting their understanding of typical childhood development and leading to a delay in seeking services for their child. Litt et al. (2018) completed a retrospective cohort study to understand the relationship between the timing, duration, and intensity of community-based early intervention services for children who spent time in the neonatal intensive care unit (NICU) to understand the impact it has on academic and physical skills in kindergarten. The study found that the timing between identifying the problem and enrollment to receive services played a significant role in where the child would score both academically (95% CI, 0.43-0.99) and physically (95% CI, 0.95-3.20) in regards to their functional skills. Results revealed that for each month that passed between identifying the problem and receiving services, there was a 40% decrease in the chances of that child having average or above-average academic and physical activity skills. A downfall of this study is the lack of control for the two-to-three-year gap between receiving early intervention services and beginning kindergarten, introducing confounding factors that are not accounted for. Therefore, researchers concluded that early identification of the need for early intervention services greatly influences a child's functional outcomes in kindergarten. This supports the notion that early identification of the need for services significantly impacts a child's occupational performance and engagement in the long run.

A study conducted by Hirsh et al. (2019) examined the impact of Motherread/Fatherread early childhood intervention on mothers and fathers in rural communities. The purpose of this study was to provide the mother and/or father with the literacy skills necessary to increase the likelihood of them engaging in reading or storytelling with their child, thereby increasing their

child's readiness to enter school. The intervention was culturally sensitive by incorporating reading materials from multiple cultures and languages while meeting the parents' current level of literacy skills. The community-based sessions were provided to the caregivers while simultaneously providing childcare, a gas stipend, and a meal to increase the incentive to attend sessions. Despite providing these services, the retention rate was roughly 59%. Important takeaways from this study included a statistically significant impact on the way the parents engaged in reading with their children, including more active reading behaviors ($t(117) = 2.02$, $p < .05$) and reading aloud with their child ($t(117) = 3.75$, $p < .001$). Parental self-report assessments were administered pre and post-test, potentially introducing bias into the results. It is important to note that providing education to the caregivers can help with the longitudinal outcomes of these children as learned skills can be utilized through the transfer of learning. Implications from this study to the present project include involving caregivers' perceptions of the community-based program with the hopes of improving retention rates.

Community programs, such as Head Start, have been around for over 50 years with the emphasis of the program being placed on helping vulnerable families by providing services to ensure their child is school ready and educate parents on how to assist. Bojczyk et al. (2018) conducted a randomized control trial study using 112 mother-child dyads in rural and urban communities to further understand the interaction between a mother's self-efficacy, the home environment, and its impacts on the child's literacy skills. The study included measurements that looked at maternal self-efficacy and maternal perceptions of their child's readiness to engage in literacy-related skills. Results revealed that increasing a mother's overall feelings of self-efficacy may not be sufficient to translate over to an increase in the child's readiness for school. However, implications include the need for domain-specific instructions and hands-on

experiences for mothers to improve carry-over and implementation within the home environment, to improve their child's overall social, cognitive, and emotional development. Active engagement and participation in a program for mothers that provides them an opportunity to learn skills needed to use at home, observe the educator implement the strategies, and then practice the skills themselves may be a feasible strategy to implement and assist with literacy development in children.

One way of providing education to caregivers is through modeling and coaching demonstrated by a professional. Graham et al. (2013) conducted a one-group time series design study looking at the effectiveness of occupational performance coaching (OPC) to improve the child and mothers' performance, as well as the mother's self-competence. OPC emphasizes goals the parent identifies as most important. Coaching was described as having a goal-focused conversation centered around identifying their goals in detail and changes that need to be made to reach their desired goals. In this study, OPC is guided by OT through three different domains: Emotional support, information exchange, and a structured process. Different techniques were utilized to implement the three domains such as collaborative performance analysis, listening, observing, and modeling, as well as discussing different strategies with the mother that might work for their child. Results revealed statistically significant improvements in the mother's goals for both herself ($F_{(1, 78)} = 153.72$, $p < .001$) and her child's performance ($F_{(1, 78)} = 153.72$, $p < .001$) and were maintained at the six-week follow-up. A statistically significant improvement ($F_{(1, 72)} = 17.36$, $p < .001$) was also observed in the mother's self-competence, specifically in their sense of efficacy in parenting. Important limitations to the study include Conduction with lower levels of evidence, no control group, and the fact that the intervention therapist and assessor were not blinded during the study, which could influence the results of the study. However, this

information is still useful as it paints a picture of a larger audience OTs can reach in early intervention by not only addressing the child's needs but the caregiver's goals as well. By addressing the caregiver's goals and providing them with the tools necessary, it can help with carryover to other aspects of life.

During the first few years of a child's life, occupations are primarily completed as co-occupations with one or more caregivers. For families living in poverty or rural areas, their education and health literacy may be lower, thereby influencing their ability to engage in these co-occupations with their children and possibly influencing development (Graham et al., 2013; Hirsh et al., 2019; Litt et al., 2018). Implications for one of the studies demonstrated a need to provide more hands-on approaches to improve carryover (Bojczyk et al., 2018) while additional studies provided evidence of the benefits of providing different teaching methods to improve the mother's self-competence and their child's goals (Graham et al., 2013). Research supports the notion that by identifying the need for early intervention services within a timely manner, caregivers can have significant impacts on a child's occupational performance upon entering school (Litt et al., 2018). This literature supports the need to include and involve caregivers during the provision of services to improve their understanding and self-competence, thereby influencing the child's overall development and well-being (Bojczyk et al., 2018; Graham et al., 2013; Hirsh et al., 2019; Litt et al., 2018). Services delivered to families with children ages zero to three are typically conducted through early intervention, which takes place at the family's home or the clinic, or can be delivered in a community-based context, leading to the next key points.

Components of Community-Based Interventions

Community-based playgroups are widely utilized and more commonly researched in Australia when compared to the United States. Armstrong et al. (2020) conducted a study to better understand the key principles of therapeutic playgroups from a professional's perspective. Focus groups utilizing semi-structured questions were the primary means to collect data from participants. Data revealed a theme of five core elements that emphasized the complexity of therapeutic playgroups and they include: Facilitator characteristics, family characteristics, structural components, information provision, and playgroup logistics and administration. In addition, professionals reported perceived benefits for both the child and caregiver. For children, it assisted in early identification of developmental delays which resulted in a timely referral. For parents, it assisted in building a sense of community as well as increasing parenting skills and confidence. Although this study provided valuable insight, a limitation included a relatively small sample size and it was conducted outside of the United States, impacting the generalizability to U.S culture. In playgroups, parents are able to seek multidisciplinary support while engaging in therapeutic playgroups and receive advice individualized to their family. This literature helps provide structural support in regards to utilizing semi-structured interviews to gather perceptions regarding therapeutic playgroups. It also provides support on the importance of understanding the perceptions of the caregivers which then encourages attendance and engagement in the program.

Although playgroups are primarily conducted in outside countries, there is still a lack of consistent definitions of what it entails. A three-step study by Armstrong et al. (2021b) was conducted to map out the process describing how to develop, implement, and evaluate a playgroup for children with developmental delays. The first step identified included manually

developing the program, including triangulating data from prior studies, consultation from caregivers, and from those who will be facilitating the playgroup. The second step included using a mixed methods approach to test the feasibility of the program and lastly was making revisions and finalizing the program based on the findings from step two. Results revealed that by following these guidelines, a feasible and acceptable playgroup was developed in a community-based setting. Lack of follow-up after the cessation of the program proves to be a limitation, limiting the understanding of the lasting impacts. This study provides a foundation upon which a community-based program can be developed from, demonstrating improvements in both family support and child performance. Gathering initial information in step one, prior to implementing the program, was proven to be a beneficial step in creating a feasible program tailored to the needs of the population being served.

To provide deeper insight, Armstrong et al. (2021a) conducted a phenomenological study to better understand the key components that make a community-based playgroup successful from the parent's perspective. Community-based playgroups are established to assist in promoting child development, build community connections, and assist with parenting capacity. Participants were recruited through early intervention centers, local community-run agencies, and flyers in metropolitan Western Australia. Data was collected from the parents through focus groups and interviews. Results revealed that the parents' engagement and enjoyment of playgroups had three main themes along with ten subthemes. The three main themes included acceptance and belonging, opportunities for child development, and parent knowledge and skills. If the playgroup included these three key components, the parents were more likely to continue attending the playgroup. By further understanding the parents perspectives, future programs can be tailored to maximize engagement and enjoyment. Although member checks were utilized to

increase trustworthiness, there were limited responses from informants to validate the findings, potentially impacting the results found. The gap identified denoted that in typical early intervention services, the focus is placed on the child's development with less emphasis placed on identifying parental peer support and parental education, something playgroups specifically address. Therefore, it is important to consider providing a level of caregiver education to increase their understanding of their child's development and how to intervene if needed.

As it currently stands, there is a lack of research being conducted on support programs that are delivered in community settings, more specifically within the United States. A cross-sectional retrospective research study was conducted in New Zealand by Amersfoort and Friesen (2022) to better understand parent perceptions of a community-based supported program. Surveys were sent out to families that had participated in Space, a parent education and support program, over the past five years (2014-2018) to gain more information on key assumptions and their experiences. Surveys consisted of closed and open ended questions, with a vast majority of respondents having higher levels of education. After the data was analyzed, the perceptions revealed that participation in the program was primarily initiated via word of mouth. Data also revealed that the participants' primary motivation to attend was to make social connections, followed by wanting to learn more about their child's development during the early years. The most important finding was how community and connection, followed by the information provided were found to be the most helpful components of the community-based group. Although this information provides insight into the parents' perceptions of their experiences, the retrospective and self-report component may have influenced the results found. Families who had highly positive or negative experiences may have felt more inclined to participate. This research was also conducted outside of the United States, potentially impacting the

generalizability. This research provides support on the importance of understanding caregivers perceptions on how to then structure programs moving forward. This information can then be used to help develop programs that meet the perceptions of the families that choose to participate in the program.

Additional research studies have been conducted to further examine the parents' perspective on playgroups and the elements that make them valuable to families. McLean et al. (2014) conducted a qualitative study to gather information regarding what caregivers value most in regards to supported playgroups in school (SPinS). Participants included 50 families located in a socially vulnerable area based upon data from the Australian Early Development Index, Best Start atlas, and the Early Childhood Community Profile, who then participated in focus groups to gather their descriptions of what entails SPinS. The data gathered from the caregivers revealed three themes including: Providing a place to generate social relationships, activities to increase and foster children's learning, and the role that playgroups have in increasing a caregiver's understanding of how their child learns. Limitations include limited generalizability due to the small sample size and those agreeing to participate in the study may have higher levels of internal motivation, influencing their own and their child's overall understanding and development, which may not be truly representative of the population. SPinS can help foster an environment that promotes learning in caregivers, which in turn improves their ability to engage with their child in a way that promotes development. By better understanding what caregivers view as significant, adjustments can be made to the curriculum to increase attendance and engagement. Engagement in a playgroup can create an environment that supports caregivers' learning and confidence, ultimately influencing how they interact with their child and leading to better outcomes.

Although playgroups are not commonly used in the United States, research from other countries supports its effectiveness for families. Research indicates that playgroups should include some type of caregiver education and information and activities related to a child's development (Armstrong et al., 2021a; Armstrong et al., 2020). Across all four articles, a common finding was how the use of playgroups helps foster a sense of belonging and community among caregivers, helping to create a supportive community to share ideas and concerns regarding their child (Amersfoort & Friesen, 2022; Armstrong et al., 2021a; Armstrong et al., 2020; McLean et al., 2014). The use of playgroups may have an indirect effect on a child's development by providing caregivers education on developmental milestones and increasing their confidence in their ability to successfully engage with their child. Ultimately impacting the child's outcomes (Armstrong et al., 2020; McLean et al., 2014). Creation of a community-based playgroup should follow the three-step outline described by Armstrong et al. (2021a) to improve the feasibility of the program overall. When creating a playgroup, it is important to consider these findings to foster an environment that is conducive to learning, creates a sense of community, and meets the needs of the families.

Impact on Development

As it currently stands, there is limited research and evidence on the direct impact that playgroups have on a child's development. Sincovich et al. (2020) sought to identify the association between playgroup attendance and the child's development upon entering school. A national sample including 104,747 children ages four to six from the Australian Early Development Census (AEDC) was used to gather information regarding children's early development. Measures of a child's development were taken from the Australian version of the Early Development Instrument (AvEDI), which measures five total domains across development.

The data revealed that children who attended playgroups had higher scores across physical health and well-being, social competence, emotional maturity, language, cognitive skills, and communication and general knowledge (F72.23, $p < .001$, F107.55, $p < .001$, F64.57, $p < .001$, F289.67, $p < .003$, F249.74, $p < .002$, respectively) as well as better developmental outcomes when compared to those who had not attended. Of most importance to note was that those who were from a socioeconomically disadvantaged background had greater improvements in all five domains when compared to children from advantaged backgrounds who had attended, indicating the need to provide services for this population (F4.89, $p < .001$, F11.82, $p < .001$, F8.33, $p < .001$, F16.92, $p < .001$, F6.99, $p < .001$, respectively). Although the sample size was large, there was no way to control for the intensity and frequency of child attendance at playgroups, and was dependent on teachers' reports if they had or had not attended. This research provides evidence that playgroups do have an impact on a child's overall development but more importantly, higher levels of research need to be conducted to better understand the relationship between the two. This information can then be utilized to promote the use of playgroups here within the United States as much of the literature is conducted out of the country.

Playgroups are frequently utilized in rural areas of Australia because they are more cost-effective and reach a larger audience when compared to individual therapy sessions alone. These playgroups create an environment for young children to interact and learn social skills that will benefit them in the coming years once they begin school. Hancock et al. (2012) conducted a longitudinal study to identify the association between playgroup participation, learning competence, and social-emotional well-being in children ages four to five in Australia. The study sought to identify the different characteristics of the families participating in the playgroups and then track the child’s outcomes. The results revealed a positive association between those who

frequently attended the playgroup and their learning competence when it came to boys and girls from a disadvantaged family background. Additionally, girls from a disadvantaged family who frequently attended the playgroup had increased social-emotional functioning ($F_{(19, 2441)} = 16.24$, $p < .0001$) A significant limitation of this study was the lack of information regarding the intensity at which the children attended the playgroup. These findings suggest that disadvantaged families who have their children attend community playgroups show improvements in areas such as social-emotional functioning and skill acquisition versus disadvantaged families who did not frequently attend playgroups. The skills the child learns in the playgroup help translate to an easier transition when they begin school, emphasizing the importance of the early utilization of services.

To further explore the impact of playgroups on a child's development, Fabrizi et al. (2016) conducted a repeated-measures design study examining the effects of an occupational therapy-led playgroup on a child's playfulness and the caregiver's responsiveness to their child. The sample included children ages 15 months to three years old who were recruited through the early intervention services they were already receiving. The community-based playgroup consisted of a once-a-week, hour-long session over eight weeks. The sessions included different play opportunities including sensorimotor, exploratory, manipulative, pretend, imaginative, and social play, and were semi-structured in nature. Feedback was provided from the OT to caregivers through modeling and coaching. This type of set-up allowed for the caregivers to practice their newly learned skills and receive feedback if necessary. Results indicated that all children who participated in the program benefited from the interventions proven by a statistically significant increase in playfulness ($\eta_p^2 = .89$, $p < .01$) which can carry over to improved adaptability and coping skills. Following the study, caregivers involved remained in

contact, creating a supportive environment in which they could share ideas, and concerns, and support one another in their child's development. Although there were improvements, it may be difficult to establish if the improvements were due to the playgroup alone or in conjunction with the early intervention services the child was already receiving. An area of strength includes the primary researcher being an occupational therapist, meaning the research was conducted through the lens of OT. This literature provides a structural foundation upon which to build a playgroup including frequency, outline of content, and strategies to include.

To further understand the capacity of OT in playgroups, Fabrizi and Hubbell (2017) sought to identify OT's role in promoting playfulness, parent competence, and social participation in playgroups targeted specifically at early childhood. A quasi-experimental trial was conducted including four community locations that participated in the playgroup intervention. Recruitment of participants was conducted via flyers, social media, through their providers, and early childhood programs. Playgroups were divided into either a control group, an occupational therapy-supported playgroup, or an occupational therapy-led playgroup. Occupational therapy-supported playgroups were implemented into an already existing playgroup and OTs provided direct and indirect methods. Although the OT-led playgroup included direct and indirect methods, the primary aim was to promote healthy play routines with emphasis placed on the overall well-being of the child and family. Limitations include the diverse makeup of participants in each group, the community in which the family resides and how they may vary from one another, as well as the number of sessions attended by the families. The main takeaways from this study included a statistically significant increase in playfulness in the participating child, regardless of the playgroup method ($\eta^2 = 0.140$, $p = 0.029$); however, there was no statistically significant change in the parent's sense of competence.

Families are not the only contextual factor that influences a child's development, the social and community environment can also have an impact. A mixed-methods study was conducted by Knaus et al. (2016) to make a comparison between children who attended a supported playgroup and those who did not, and more specifically their transition to kindergarten. Participants included families classified as being either socially or economically disadvantaged, totaling 30 families for this study. Questionnaires and checklists were utilized to gather data from both the parents and teachers regarding the child's social and emotional transition and their demonstration of positive learning dispositions. Data revealed that children who attended the playgroups had higher mean scores in social and emotional development, were more willing to engage with peers and adults, had improved attention and self-regulation, and appeared more comfortable in the classroom setting; however, the changes were not statistically significant. In regards to the families' responses, data showed that having their child attend the playgroup helped provide a smooth transition to school, while teachers reported better listening skills, concentration, and a better sense of security. Benefits from attending the playgroup also included providing earlier opportunities for families to receive early intervention support prior to their child attending kindergarten, potentially helping reduce the negative impacts on a child's development. Limitations of this study include small sample size and the methods of data collection, including confirmation bias due to the researchers and teachers not being blinded. This data provides further support on the benefits of a community-based playgroup in regards to a child's occupational performance upon entering school, leaving a lasting impact on their overall engagement and development.

Literature supports the use of community-based playgroups in addressing a child's overall development regarding their playfulness, coping skills, and social-emotional functioning

(Fabrizi et al., 2016; Fabrizi & Hubbell, 2017; Hancock et al., 2012; Knaus et al., 2016; Sincovich et al., 2020). Playgroups that are conducted in the school setting have been shown to improve a child's ability to transition, social interaction skills, and attention and self-regulation (Knaus et al., 2016). Children coming from a disadvantaged background recorded improvements in their social-emotional functioning, language, cognition, and coping skills after attending a structured program (Hancock et al., 2012; Knaus et al., 2016; Sincovich et al., 2020). The fact that research on playgroups has been primarily conducted outside of the United States is noteworthy because the individualistic culture of the U.S. was not taken into consideration. Furthermore, much of the research being conducted is with lower levels of evidence, indicating the need for higher empirical research studies to be conducted to further support the usefulness of playgroups for families.

Key Takeaways

It is evident that children in rural communities are at an increased risk of developmental delay, more likely to be diagnosed with a developmental disability, and are less likely to have received any type of specialty services, including occupational therapy services (Whiteside-Mansell et al., 2019; Zablotsky & Black, 2020). Although Roberts et al. (2014) found that in Nebraska there were higher rates of referrals among those residing in rural areas, other studies revealed that the services provided in these areas tend to be less specialized, have lower retention rates, are underutilized, and have less family involvement (Keys, 2015; McManus et al., 2015; Zablotsky & Black, 2020). Involving families in the interventions through direct involvement, modeling, or coaching has demonstrated improvements in the child's functional outcomes upon entering kindergarten, positive impacts on engagement with their child, and has helped caregivers reach the goals set out for both themselves and their child (Graham et al., 2013; Hirsh

et al., 2019; Litt et al., 2018). Playgroups that foster a sense of belonging, provide opportunities for child development, and provide educational opportunities to caregivers have been found to be important components from caregiver's perspectives (Armstrong et al., 2021a; McLean et al., 2014). Significant differences have been found when comparing children who attended playgroups to those who did not attend, including learning competence and improved playfulness, attention, self-regulation, and concentration, with the greatest improvements in developmental outcomes being observed in children who come from disadvantaged families (Fabrizi et al., 2016; Fabrizi & Hubbell, 2017; Hancock et al., 2012; Knaus et al., 2016; Sincovich et al., 2020).

Across all the literature reviewed in this paper, only one study was completed with level one evidence, a randomized control trial, and the remaining literature consisted of levels three through six. Further demonstrating the need to conduct higher-quality studies. Much of the literature regarding playgroups and rural communities is conducted outside of the United States, impacting the generalizability of the studies to American culture. A common thread across all literature is the notion that children who come from disadvantaged backgrounds, including those residing in rural areas, have a greater chance of having some sort of developmental delay. Literature supports the notion that attending a community-based playgroup can have significant impacts on their development in the long run. In order to build an understanding of the discrepancies that currently exists within the United States, it is necessary to understand the perceptions of the stakeholders that would be involved in the program to tailor the programs to meet the needs of the community. Occupational therapists have a unique opportunity to fill this gap by taking on a holistic approach, looking from all angles to ensure the best fit possible for the community.

Section Four: Statement of Purpose

The purpose of this capstone project was to identify caregivers' and stakeholders' perceptions of a playgroup, the needs of the community, and the delays among children within the preschool and kindergarten classrooms to assist in program development. Therefore the projects guiding question was: What are the perceptions of stakeholders of children ages zero to three regarding the development of an occupational therapy-based playgroup that focuses on enhancing their understanding of developmental milestones? The perceptions of the caregivers and stakeholders included their perceived feasibility of the program and the benefits, and barriers they may foresee with the program. Examples of information gathered included the length of time the playgroup sessions should last, the setting in which they would prefer it take place, and how to get caregivers involved. This helped tailor the community-based playgroup specific to the needs of this community, leaving a lasting impact on those involved. The information gathered through clinical observation and interviews with caregivers, teachers, and stakeholders was then used to develop the curriculum and the schedule of the community-based playgroup. Information obtained will be utilized for program development purposes only. The significance of this project was that by creating a community-based playgroup, caregivers would have a safe place to come and learn about their child's development and how to adapt, modify, and optimize their child's occupational performance in everyday activities. Caregivers will learn the importance of co-occupations through play, education, and hands-on learning experiences.

Hypothesis

Gathering caregivers', teachers', and stakeholders' perceptions of a community-based playgroup will assist in the development of a feasible community-based playgroup, resulting in a

completed program proposal. By doing so, it may help increase retention rates and improve the overall health and well-being of the community.

Objectives

There were four main objectives established for this project. Each objective was developed to assist in the development of the program, along with gathering vital information on the perceptions of the playgroup and where the students are at developmentally. Objective one was to complete clinical observation within the preschool and kindergarten classrooms across all three towns to gather information on where the children are at developmentally. Objective two was to gather caregivers,' stakeholders,' and teachers' perceptions of a community-based playgroup through semi-structured interviews. Objective three was to create and develop a community-based playgroup, with a focus being on caregiver education of developmental milestones. Objective four was to provide consultative services to the elementary school teachers on strategies they could utilize in their classrooms to assist with typical development.

The objectives of this project were aimed at providing rich information regarding the caregivers, teachers, and stakeholders' perceptions and current gaps in care within Lincoln County, Nevada. This information was utilized to assist with program development purposes only and does not contribute to generalizable knowledge. The hypothesis was that by taking the time to understand the stakeholders' perceptions of a playgroup and existing deficits in the skills of the children, the community-based playgroup will be developed specific to the needs of the community, making it feasible for members to attend. This will assist with the feasibility and overall acceptance of the program.

Section Five: Theoretical Frameworks

Two theoretical frameworks were chosen to help provide the lens and foundation upon which to build the program and conduct the project. Since the project included developing a program to educate rural caregivers, an adult learning theory was selected; specifically, the experiential learning theory (ELT), an adult learning theory that emphasizes learning by doing, which is a core feature of the program (Kolb et al., 2014). The ELT model takes two dialectically related ways of learning. First is the concrete experience through which the individual experiences the world through tactile, visual, and active experimentation. The second is through abstract conceptualization, meaning the individual engages in more of a reflective observation and systematic approach (Kolb et al., 2014). The rationale behind selecting the ELT model is to tailor the program to the needs of each learner; whether their learning style is geared more towards observation and critical thinking or active participation and a hands-on approach. Education will be proved to the caregivers through active participation (concrete experience) and reflection (abstract conceptualization). Providing the caregiver with these opportunities will assist in their understanding of how to modify their home environments to facilitate and promote optimal engagement and performance with their child. During program development, the ELT was taken into consideration to ensure material being created is inclusive of all learning styles.

The second theoretical framework selected was the Person, Environment, Occupation, and Performance (PEOP) model because of the dynamic nature of these elements and their impact on occupational performance (Baum et al., 2015). Although the target population is the caregivers, many occupations children engage in at the ages of zero to three are done as co-occupations, meaning the caregiver plays a significant role in the process. The person, in this case the caregiver, must have the skills, knowledge, and interpersonal skills to interact with the

child. They also must be able to adapt to the environment and the occupation to best meet the needs of their child, providing them with developmentally appropriate games and activities. This incorporates the environment and occupation aspect of the PEOP model. Lastly, it is important to reflect on the performance aspect of the PEOP, as it provides vital information for adjusting and improving the program. Improved occupational performance regarding a caregiver's knowledge and understanding is important for facilitating appropriate developmental activities for their children.

A key component of the PEOP model is its client-centeredness and how it plays a vital role in one's engagement in occupations, thereby influencing occupational performance (Baum et al., 2015). The premise of this project was to gather information regarding the stakeholders' perceptions of the community-based playgroup by developing authentic relationships and gaining an understanding of barriers and facilitators these individuals face. For program development, it is important to understand how the person, environment, and occupation all influence one another so that the program can be tailored to meet the needs of the community. The information gathered during the needs assessment, clinical observations, and interviews provide valuable information regarding areas where additional focus may be needed in regards to providing education. The PEOP model assisted in identifying barriers to the person, within their environment, and the occupations they engage in and how these impact their ability to engage in their daily lives (Baum et al., 2015). This information painted a realistic picture of community needs and allowed stakeholder voices to be heard. It was then used to assist in the development of a program that is feasible and individualized to their needs.

Section Six: Methodology

Introduction

This project consisted of program development through use of semi-structured interviews and observation completed over 14-weeks. This was completed to better understand the insider's perspective of those residing in Lincoln County and their perceptions of a community-based playgroup. This information was then utilized to develop a proposed program consisting of a community-based playgroup. Interviews, which followed ethnographic methodology, were utilized to describe, and understand the informants' viewpoints, and gather information in naturalistic settings through immersion, observation, and participation (Luborsky & Lysack, 2017). The rationale behind selecting this method was to gather ample information from the community to assist in tailoring a program to meet the needs of the community. By understanding the needs, perceptions, and caregivers' knowledge, the content of the program was individualized with the hopes of having a critical, lasting impact. Information gathered through the interviews was for the use of program development only and will not be disseminated as generalizable knowledge.

Agency Description

This capstone project was developed within Lincoln County, Nevada, more specifically within the Lincoln County School District (LCSD). The current population of Lincoln County is roughly 4,482 people, with much of the population (89%) being white (U.S. Census Bureau, n.d.). Across the county, there are four elementary schools including Caliente Elementary, Panaca Elementary, Pioche Elementary, and Alamo Elementary. For this project, Alamo was excluded due to the geographic location and feasibility of traveling for the researcher. Of the adult residents in Lincoln County, the highest level of education completed for approximately

88% of residents is a high-school diploma and the median household income is estimated to be $67,412 in 2023 (U.S. Census Bureau, n.d.). The Lincoln County School District was identified as being geographically central in each of the major towns within Lincoln County, making it an ideal location to complete this project. This setting was utilized as one way to recruit caregivers to participate in the semi-structured interviews because of the likelihood of having older children already enrolled in school. Lastly, aside from NEIS, there are currently no other early intervention services being offered; therefore, for some families, preschool is the first time their child is undergoing formal screenings aside from their pediatrician.

Target Population

The target population for this project included rural caregivers of children ages zero to three, and other stakeholders including teachers, principals, the superintendent, and physicians within the community. Sociodemographic information on the informants can be found in Table 1 below.

Inclusion Criteria

- Caregivers: Reside within Lincoln County and have a child between the ages of zero to three
- Teachers: Currently employed by LCSD and a minimum of two years of teaching within LCSD
- Stakeholders: Must work in Lincoln County and hold a position of authority that either directly or indirectly works with or alongside children (0-3)

Exclusion Criteria

- Caregivers: Not residing within Lincoln County or does not currently have a child under the age of three

- Teachers: Has taught in Lincoln County for less than two years and teaches children ages seven or older
- Stakeholders: Not employed in a position within Lincoln County that directly or indirectly works with or alongside children (0-3)

Sampling Procedures

Informants were gathered through nonprobability sampling methods including convenience and snowball sampling. Recruitment flyers were given to preschool through first-grade teachers that were then distributed out and sent home to parents (see Appendix A). The same flyer was posted on the community Facebook page and left in each of the elementary school front offices. Recruitment began in week two and lasted until week six. Recruitment of stakeholders consisted of reaching out via email, text, phone call, or stopping by in-person at their offices.

Data Collection

The following qualitative data collection methods were chosen to gather stakeholders' perceptions of a community-based playgroup as well as information on the current skill set of pre-school and kindergarten aged children. There was only one primary researcher in this project, the OT doctoral student, because of time constraints and limited budget.

Observation

Naturalistic observations took place over the first two weeks within three separate preschool and kindergarten classrooms including Caliente, Pioche, and Panaca Elementary. Observations took place during the first two weeks, Monday through Thursday, and typically took place within the first several hours of the day. The length of the time in each classroom varied depending on the teacher's lesson plan for the day with some visits lasting two hours and

others lasting 45 minutes. The classroom activities observed ranged from recess, handwriting, reading, free play, and lecture at the rug. This was completed to gather subjective data related to the child's current skill sets regarding fine motor, gross motor, social, cognitive, behavioral, and sensory skills.

The makeup of the preschool classes consisted of three- to five-year-olds with the class size ranging from 10-24 students. The makeup of the kindergarten classrooms consisted of five- to six-year-olds with the class size ranging from 7 - 25 students. Since Panaca Elementary had substantially more students than the other two schools, an increased amount of time was spent there. For example, there are two separate pre-school classes whereas Caliente and Pioche only have one preschool class. A total of 11 hours was spent in Panaca Elementary, six hours in the preschool classroom (across the two classes) and five hours in the kindergarten classroom. In Caliente, five hours was spent in the preschool classroom and five hours was spent in the kindergarten classroom. In Pioche four hours was spent observing the preschool class and three hours was spent observing the kindergarten class.

The researcher did not take part in the classroom activities but rather participated as an onlooker. Although this age group was not the target audience for the program, the rationale was to gather information on delays and how they carry on throughout the first few years of elementary school. Information gathered during observations was written in a journal and evaluated to identify possible themes. Member-checks were completed with the site mentor and educators to confirm the findings, thereby improving credibility. This information was taken into consideration while developing the program to meet the needs of the community and was used to identify trends across the communities regarding their deficits.

Interviews

Semi-structured interviews were utilized to gather information regarding the stakeholder's perceptions of a community-based playgroup to assist in creating a feasible program specific to Lincoln County (see Appendix B - D). The rationale for selecting semi-structured interviews was to allow for the expansion of information gathered without the restriction of utilizing only structured interview questions. During the interviews, the researcher had the semi-structured interview questions printed out and available at all times. Prior to beginning the interview, each informant was provided a copy of the information sheet (see Appendix E). Interviews were conducted in a naturalistic and preferred setting of the informant which included the following options: a conference room at each elementary school, the informant's home, Google Meet, phone call, or any preferred setting that was convenient for them. No personal or identifiable information was gathered during interviews to keep information confidential. Informants had the choice to end the interview at any given time if they desired to ensure autonomy. The times at which interviews took place were determined by the informant to fit their schedule and needs, making it as naturalistic as possible to encourage participation. The average length of each interview across all three groups was approximately 18 minutes. The total number of hours spent conducting interviews was 7.5 hours, which does not include time spent recruiting, scheduling, and transcribing the interviews.

Data gathered during the semi-structured interviews included psychosocial, sociodemographic, and sociocultural information about their perceptions of a community-based program (see Table 1). Semi-structured interviews were utilized to generate narrative accounts that were later coded or categorized (Taylor & Kielhofner, 2017). Three separate groups (caregiver, stakeholder, teacher) were developed to complete the thematic analysis as they were

all asked separate questions. Within each of the categories, there was a co-occurrence of themes among the data, meaning some of the transcriptions spanned across multiple codes. This is to be expected due to the nature of the questions. The rationale behind selecting semi-structured interviews was to allow for additional probing questions depending on the data being collected from the informants. It also allowed for the informant to expand on questions being asked and for the researcher to dive further into their thought processes to gain a deeper understanding. Occasionally, prompting questions were required due to the ambiguity of the question and to drive further discussion. Advantages of completing semi-structured interviews included building rapport and trust with informants, allowing for further exploration and probing, and providing more in-depth understanding (Taylor & Kielhofner, 2017). Trial-run interviews were conducted with a small sample of the target population to improve the OT student's interview skills before interviewing other informants.

Caregivers (n=20), teachers (n=6), and stakeholders (n=5) were recruited, totaling 31 informants, with one caregiver failing to meet the required criteria to be interviewed and two failing to follow-up. For caregivers, 4 hours and 47 minutes was spent in total conducting the interviews, with the average length of each interview being 19 minutes and 11 seconds. The shortest duration of an interview was nine minutes and 18 seconds and the longest was 49 minutes and 47 seconds. After being given the choice on where the interview would take place, eight (53%) chose to complete it over the phone, two (13%) chose to complete it in person at their home, and five (33%) chose to complete it in a conference room at one of the elementary schools. For stakeholders, a total of one hour and 18 minutes was spent conducting the interviews with the average of each interview lasting 19 minutes and 24 seconds. The shortest interview took 12 minutes and 37 seconds and the longest took 27 minutes and 39 seconds. After

being given the choice on where the interview would take place, one (25%) chose to complete it over the phone, two (50%) chose to complete it in-person at the school, and one (25%) chose to complete it at the primary care clinic. Lastly, interviews with teachers took approximately one hour and 21 minutes with the average interview lasting 13 minutes and 32 seconds. The shortest interview was 11 minutes and 18 seconds and the longest was 20 minutes and four seconds. Interviews with the teachers typically took place on their lunch break, after school, or via phone call. Five (83%) of the interviews took place in person at the school while only one (16%) took place over the phone.

Table 1

Sociodemographic Characteristics of the Informants

Informant Characteristics	Caregivers	Stakeholders	Teachers
Gender			
n	17	5	6
% Female	88	60	100
% Male	12	40	0
Town			
% Caliente	18	60	0
% Panaca	53	40	67
% Pioche	29	0	33

Note. The town in which the teachers are reported is the town they teach in, not where they have residence.

Data Management

All information gathered through naturalistic observation and interviews was kept confidential. No identifiable data was collected throughout both semi-structured interviews and observations. Semi-structured interviews were recorded with an audio recording device which was transcribed by the researcher on a computer using Happy Scribe (Crunchbase, Version 2, Dublin, Ireland), a transcription software. If any identifiable information was given during the semi-structured interview, it was omitted from the transcription. The informant's names were not gathered for the use of the interviews, keeping them confidential. Instead, each informant was given a number, for example, Informant 2 (caregiver). Data was kept confidential on a password-protected drive that required two-step authentication for login and only the researcher, site mentor, and principal investigator had access to.

Data Analysis

The qualitative data gathered during the semi-structured interviews went through thematic analysis (Delve Tool, New York, NY, USA) to identify themes in the data. To improve the OT student's skills, a thematic analysis course was taken prior to completing data analysis. The six steps followed while completing the thematic analysis included getting familiar with the data, creating initial codes, arranging codes with supporting data, grouping identified codes into common themes, reviewing, and revising the themes, and lastly, writing the narrative of the data collected (Delve & Limpaecher, 2020). To improve the trustworthiness of data collected and themes identified, a member-checking procedure was implemented in which the site mentor and at least two stakeholders examined the final findings and provided feedback on the accuracy of the results.

Although transcription software was utilized, the researcher reviewed each interview and ensured it for accuracy. This was completed by listening to the interview and checking the transcription simultaneously. The researcher then read through the interviews to become familiar with the data prior to beginning the coding process. A hybrid approach of descriptive deductive and inductive coding methods was utilized with the data collected. This allowed for the researcher to summarize the content into a description that best encapsulated the data set (Delve & Limpaecher, 2020). Predetermined codes were utilized based upon the semi-structured interview questions, referring to top-down (deductive) coding. Any additional themes that emerged from the data that was not predetermined were coded via ground-up (inductive) coding. Each interview was coded line by line, ensuring chosen codes were appropriate for the data collected. After the initial coding of all interviews, the researcher went through the data three more times for accuracy and thoroughness, making sure no codes or themes were missed. This was completed on separate days. Once codes were finalized, they were broken down into larger themes. This was completed with the site mentor and two stakeholders as a way of improving dependability. Once agreed upon, themes were finalized and further described.

Section Seven: Ethical and Legal Considerations

Throughout the entirety of the project, the AOTA Code of Ethics was closely followed, including autonomy of all informants, justice to provide equitable services to all populations, fidelity, and beneficence (AOTA, 2020). Data that was collected via clinical observation and semi-structured interviews were used for program development purposes only and are not to contribute to generalizable knowledge. Since these methods posed a minimal risk and no identifiable information was collected, IRB exemption was granted. The study number is UNLV-2023-472. Prior to beginning each semi-structured interview, informants were provided a copy of the information sheet which detailed the purpose of the study, why they were asked to participate, and their rights during the process (see Appendix E). Participants were given full autonomy to end the semi-structured interviews at any point if desired.

All information gathered during the semi-structured interviews and clinical observation was kept confidential by assigning informants a number and keeping the audio recordings and transcriptions in a password-protected Google drive that required two-step authentication to log in. No personal information was collected at any point during this project. To maintain confidentiality, any identifiable information, including names, was omitted from the interview transcriptions. Information regarding the presence of the OT student in classrooms was disseminated to the school principals, followed by the teachers and parents to ensure parental consent for observation. Teachers obtained verbal consent from parents prior to OT student joining classroom. All student information and records continue to be kept confidential adhering to the Family Educational Rights and Privacy Act (FERPA) (U.S. Department of Education, 2021).

Section Eight: Results

Classroom Observations

The most common delays observed by the OT student across all elementary schools included immature grasp patterns, poor core and trunk strength, difficulty with emotional regulation, and poor attention.

Interviews

A total of 17 caregivers, five stakeholders, and six teachers were interviewed to gather perceptions of a community-based playgroup and their current lived experience in Lincoln County, Nevada. Thematic analysis was conducted in which codes were developed and then categorized into themes. More information regarding the process of thematic analysis is described in the methodology section. These themes revealed fundamental information regarding their perceptions, services available, and current issues the community faces. The information collected through semi-structured interviews confirmed the research hypothesis in regards to the feasibility of program implementation and attendance. This information collected was for the use of program development and was not to contribute to generalizable knowledge in this area. An in-depth report of each of the three groups is presented in the following paragraphs.

Caregiver Interview Results

A total of 15 caregiver interviews were completed with two of the interviews having more than one caregiver present. Altogether, 17 caregivers were interviewed across 15 separate interviews. Theoretical saturation was reached after the 10th interview evidenced by the recurrence of the similar answers and themes. Six main themes were identified from the data collected during the semi-structured interviews with all 17 caregivers including: “Perceptions of a Playgroup From Caregivers,” “Obstacles Caregivers are Currently Facing,” “Experiences

Seeking Services," "Support in Lincoln County," "Probable Action for Intervention," and "Familiarity of Milestones". Refer to Appendix F for themes and excerpts taken from the caregiver interviews.

Perceptions of a Playgroup from Caregivers

The first theme identified, titled "Perceptions of a Playgroup from Caregivers," revolves around caregivers' perceptions of a typical playgroup as described by the OT student. This included subthemes such as attendance, their perceived benefits for the community, scheduling of the playgroup, expectations for the playgroup, and general comments towards the program itself. Each caregiver was asked if they would have time to attend an hour-long playgroup in which eight of the seventeen caregivers (47%) reported that attending the playgroup would be feasible for them. Their motivation to attend included wanting to learn more about their child's development, wanting to be provided with education and resources, and ensuring that the playgroup fit with their schedule. The perceived benefits of a community-based playgroup included building relationships among caregivers and the children (47%), assistance and support among caregivers (41%), and helping with the overall development of children in Lincoln County (35%). When caregivers were asked what they would hope to gain from attending the playgroup, the categories that emerged included: education regarding their child's development (in topics such as fine motor, gross motor, behavioral, and sensory systems), activities to utilize at home, allowing time for questions, and a place for social connection and support. Reported barriers to attending the playgroup included scheduling (53%), fear of judgment (24%), lack of childcare for older children (11%), and the environment it was conducted in (24%). One caregiver emphasized the importance of a clean, sanitized environment due to her child's

compromised immune system. Another caregiver spoke on the importance of feeling accepted and welcomed into the playgroup, regardless of their background.

Obstacles Caregivers are Currently Facing

The second main theme was "Obstacles Caregivers are Currently Facing" which included information that caregivers in Lincoln County are currently experiencing regarding their child's development and well-being. This included a lack of specialty services (12%), the politics of Lincoln County (24%), and a general lack of understanding among and between caregivers regarding child development (47%). One caregiver reported feeling like "we're flying blind into it … things change constantly … and when we do live this far out, if I am noticing something that week, it's kind of one of those, I'm like okay, so do I make another trip to St. George … don't panic and go to St. George." Due to her child's medical complexities, she talked about not feeling comfortable seeking medical advice in Lincoln County because of the lack of pediatric specialists. A common obstacle cited by caregivers included the fact that caregivers might not understand what to look for in their child's development to identify delays. One caregiver reported that even if those families did know something was off, they believe those families still wait until their child begins school to start receiving services.

Experiences Seeking Services

The third main theme was "Experiences Seeking Services" which entails the caregivers previous experiences with seeking assistance for their child both inside and outside of Lincoln County, as well as experiences with NEIS. Caregivers (29%) reported having to take their child to Utah or Las Vegas for both pediatrician appointments or for outpatient services such as occupational, physical, or speech therapy. Only three of the 17 caregivers ever reported utilizing NEIS simply because their child did not qualify or need services. Of those that did utilize NEIS,

one reported that she did wish they were able to have more frequent visits rather than the once a month visits. One caregiver reported that she stopped using NEIS and instead takes her child over to Utah for services. Her reasoning for stopping NEIS was because she wanted her child to receive services more than once a month.

Support in Lincoln County

The limited resources within Lincoln County cited in the previous three themes helped develop the fourth theme "Support in Lincoln County." This included their perception on if there is an adequate support system in place for families with children ages zero to three. When asked if they feel there is a good support system in place, the answers varied from yes, there is support with family and friends, to no, there is no professional support. Data revealed that 10 caregivers (59%) answered no, they do not think there is support. The remaining (41%) either answered yes, there is a good support system through the school, friends, or family members or simply stated that it is lacking in this area. A common subtheme that arose with this question was a lack of specialists in the county including the absence of a pediatrician, a pediatric occupational therapist, and a pediatric physical therapist. Although the clinic within the county does have an outpatient occupational therapist, one caregiver reported that she was hesitant to switch to a new therapist because the outpatient clinic itself is not set up for children.

Probable Action for Intervention

The fifth theme identified was labeled "Probable Action for Intervention," which included caregivers elaborating on what steps they would take if they suspected their child was developmentally delayed. Typical answers included asking a family member for advice (12%), doing their own research online (24%), visiting the local clinic (17%), and the most common answer was to travel outside the county to visit their pediatrician (47%).

Familiarity of Milestones

The final theme identified was “Familiarity of Milestones," which stemmed from asking caregivers how familiar they were with developmental milestones. Data revealed that 12 caregivers (71%) reported feeling familiar with milestones and four (24%) reported feeling unfamiliar or “clueless” when it came to developmental milestones. Of the caregivers who reported feeling comfortable, it was often reported that they were familiar, but would not be able to tell what milestone their child should be doing by a certain age. Caregivers reported learning about their child’s milestones by reading posters at their pediatrician appointments or referring to the paperwork they were given by their doctor.

Stakeholder Interview Results

A total of four interviews were conducted, with one of the interviews having two stakeholders present. Three main themes emerged from the data gathered during the semi-structured interviews with the stakeholders including “Perceptions of a Playgroup,” “Issues Within the Community,” and “Seeking Services.” Refer to Appendix G for themes and excerpts taken from the stakeholder interviews.

Perceptions of a Playgroup

The theme “Perceptions of a Playgroup” included what the stakeholders perceive as barriers and motivators to getting caregivers to attend, along with their hopes for what the playgroup would do for the community. When asked what might help to encourage caregivers to attend the playgroup, one stakeholder reported that as being “the million-dollar question,” expressing that they have struggled for years to get parents to be involved and attend events for, and with, their children. The perceived barriers that might keep caregivers from attending included scheduling, time of the year, stigma, and if the family was able to find child care for

their older children. One stakeholder reported that caregivers may not attend because of the fear that they would be judged as "bad parents" or that they are doing something wrong.

Issues within the Community

The second theme identified was "Issues within the Community" which included misconceptions from the public, limited parent involvement, and the developmental themes they have observed over the past few years. Developmental themes identified by three of the stakeholders included speech delays, less play among children because of the use of tablets and devices, and problems with attention. Only one stakeholder reported not seeing any developmental themes over the years. Another category identified was how often the stakeholders believe children in Lincoln County are attending their well-child check-ups, which revealed that some families utilize the primary care providers in Lincoln County as their pediatrician. Secondly, attendance for the well-child check-ups tend to be sporadic, with one of the stakeholders reporting that after the child turns 18-months old, they are typically only brought in if they need medical attention.

Seeking Services

The final theme identified was "Seeking Services," which included what resources are available within Lincoln County should a family need them, where families are referred to, and where caregivers are directed if they have questions regarding their child's development. Services identified by the stakeholders included the school district (40%), the occupational therapist in the outpatient clinic in Caliente (20%), and NEIS (20%). If a caregiver approached a stakeholder seeking additional resources or education about their child's development, stakeholders reported that they would send them to the speech language pathologist (SLP), OT, or special education department within the school. Additional resources stakeholders reported

providing were handouts from the CDC or electronic medical record program, or they would refer them to see their pediatrician. When asked how often they were having to refer families out for further testing or additional services, the answers varied from "once every couple of months" to "once a month." When referred to specialists, the stakeholders reported that the family might be required to leave town to visit the specialist, including therapy services in Utah or Las Vegas. Depending on where the family resides, it can take anywhere from an hour to two hours to travel to Utah. For Las Vegas, it can take anywhere from an hour to four hours.

Teacher Interview Results

A total of six interviews were conducted with teachers or service providers within LCSD. There were six main themes identified within the data including, "Provided Resources," "Perceived Barriers to Attendance," "Confidence in Identifying Delays," "Themes Over Time," "Receptiveness of Parents," and "Referral Process." Refer to Appendix H for themes and excerpts taken from the stakeholder interviews.

Provided Resources

The theme "Provided Resources" referred to what teachers provide to caregivers should they have questions about their child's development, including resources within the school district and county. This theme also included how often caregivers came to them seeking resources regarding their child's development or further assistance if needed. Four of the teachers reported that caregivers "rarely" seek them out for additional information and two teachers stated that they believe the reason for this is because they are proactive in providing extra assistance if they see the child needs it. When asked for additional resources, the teachers most often stated they either provided the caregiver with a handout (33%), provided ideas verbally (33%), or directed them to a specialist (50%). Two teachers (33%) reported being

unsure of where they would access resources if a caregiver requested them. When asked what resources they were aware of outside of the school district for families with children ages zero to three, three (50%) of the teachers reported that there are currently no resources. Two teachers reported NEIS as a resource and one reported the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) but was unsure of what they offered.

Perceived Barriers to Attendance

The second theme was "Perceived Barriers to Attendance," which identified the different barriers and challenges teachers perceived that caregivers may have to attend the playgroup. The most common barriers identified included getting parents involved and willing to stay for the entirety of the playgroup (50%), transportation to and from the playgroup (33%), scheduling (33%), and the environment in which it took place (50%). One teacher discussed the difficulty that may come with reaching caregivers that have children who need extra support because the caregivers who are involved in the school are not the target population who need these services. Another comment made was that the caregivers that do attend with their younger children may have to find child care for the older children. Two of the teachers expressed their support for the playgroup, stating that they believe it would be some sort of respite for the parents that have a child with disabilities.

Confidence in Identifying Delays

The third theme was "Confidence in Identifying Delays" which referred to the teachers' assurance level in identifying developmental delays in their students in which five (83%) teachers reported feeling comfortable with it and one teacher stating she would seek out professional help from the school OT or SLP. Two of the teachers reported having a special education background. One teacher talked about how she collaborates with the preschool teacher

prior to the start of the new school year to gain more insight on the upcoming class and where extra support may be needed.

Themes Over Time

The fourth theme identified was “Themes Over Time” which was identified after asking the teachers what some of the most common developmental themes they have observed throughout their careers in Lincoln County. Five teachers (83%) reported that it is common for children to begin preschool or kindergarten with some sort of developmental delay. With that, they have identified that children who attended preschool were substantially more advanced than children who did not attend. The most common issues identified include fine motor delays (67%), speech delays (33%), and behavioral problems (33%). Two teachers reported that it is becoming increasingly common for children to have lower endurance and overall strength, evident by their inability to complete certain tasks during recess. This was attributed to the increased use of video games and tablets among students.

Receptiveness of Parents

The fifth theme identified was “Receptiveness of Parents” which was identified after asking the teachers how receptive parents are to feedback or advice provided by teachers. Four teachers (67%) reported that parents are receptive and that most want the extra help, while two teachers (33%) reported that parents are “standoffish” and are not active participants in wanting the extra help. One teacher reported that parents who have a child with an IEP typically do not follow-up or ask for additional support. Another reported that in most cases, parents are typically already aware that their child is slightly delayed, either academically or physically, and are eager to get them extra services. A large variation in responses was noticed with this specific question.

Referral Process

The final theme identified was “Referral Process” which involved the procedures teachers follow if a child is identified as having a delay and the referral process. Two teachers reported that they would speak with their special education team at the school and two reported that they would have to seek outpatient services. One teacher talked about how she will “see them out and about” and talk to the caregiver about enrolling in NEIS if she knows the child has a diagnosis or needs services but is currently not receiving them. When asked if they were aware of any resources within Lincoln County for caregivers of children ages zero to three, four (67%) reported that they were not aware of any and two (33%) reported NEIS. One teacher reported that the caregivers she has spoken to are “not real happy with NEIS and end up just going to Utah” to receive services for their child.

Summary of Results

The results of the semi-structured interviews revealed that all three groups, caregivers’, stakeholders’, and teachers’, had a positive perception of a community-based playgroup. Caregivers’ perceived benefits included improved relationships with their child, more assistance and support among caregivers in the community, and assistance with overall development of children residing in Lincoln County. Stakeholders reported that it “sounds amazing” and would be “well accepted” among caregivers and the community. They also reported that a playgroup would be a safe place for parents to express concerns regarding their child's development and receive advice. Positive perceptions from teachers of a playgroup included statements such as “I think it’s wonderful you’re trying to get some programs there” and “I think it’s a great idea because I have definitely seen that the kids who get early education do way better than kids who don’t”. Perceived barriers to attending a playgroup from all three groups included scheduling

conflicts, lack of child care, and the environment in which it was conducted. Therefore, the hypothesis of this project was confirmed in that a community-based playgroup is warranted and would be well received by this community.

Section Nine: Discussion

Occupational therapy is a diverse field that strives to provide equitable services to all populations, including those that are underserved and underrepresented. This project aims to fill a void that currently exists within a frontier community in Nevada, providing services and support to families who desperately need them. AOTA's vision for 2025 closely aligns with the objectives of this project in that it strives to maximize the overall health, well-being, and quality of life of the community members and their families (AOTA 2025, 2017). In relation to AOTF's research priorities, this project seeks to help provide equitable access to community services and provide primary prevention through health promotion and education (AOTF, n.d.). At the core of this program is promoting health and equity to an underserved population. The findings of this project suggest that there is a demand for this proposed community-based program and it would be feasible, well received, and utilized.

Since there have not been any community-based programs in Lincoln County for the past five years, the delays observed by the OT student and teachers in the classrooms may be due to lack of services available to the families, lack of education on the caregivers' behalf, or lack of exposure to activities. In addition, observation was completed half way through the school year, after the students have already established routines, new habits, and may have already been receiving services to address their delays. For future studies or projects, it would be beneficial to complete observations at the start of the school year to get a true baseline measure of their abilities. In some cases, students may have been instructed to be on their best behaviors and try their best, which may not have been truly representative of their abilities. Therefore, it may be beneficial in future research to provide general timelines on when the researcher may come in for observations to help mitigate this.

The information obtained through both observations and interviews identified a notable need within Lincoln County. When combined, 16 out of 23 (70%) teachers and caregivers expressed a lack of resources within the community for caregivers and children ages zero to three. As far as understanding where to access resources if a problem was identified, informants expressed little understanding of NEIS and how it works. Although many caregivers and teachers expressed having an understanding of developmental milestones, the level and depth of understanding was not measured. For future studies, more in-depth questions should be utilized to better assess their current level of understanding and knowledge since prior research suggests that caregivers in rural areas tend to have lower levels of education (Whiteside-Mansell et al., 2019). This would provide valuable information on where misunderstandings are and where improvements can be made on providing education and resources to caregivers.

Across all three groups interviewed, there were two common themes, including a limited understanding of the current resources available within the community as well as how NEIS works. There were a select few that were proficient in their understanding of NEIS and the process, mainly teachers with a few caregivers; however, a majority of the informants expressed knowing very little to nothing about NEIS. This revealed a significant gap among all three groups, providing support for the need to increase the understanding of what is available to caregivers of children in this age group. Only three caregivers mentioned receiving early intervention services through NEIS or having to travel out of town for pediatric therapy services. Because of this, the data may not be truly representative of families' lived experiences with a special needs child. This may appear in the data as not many families have to leave Lincoln County to seek out additional services since a majority of the caregivers (82%) interviewed do not need those services for their children, leading to undercoverage bias. Although NEIS does

provide services via Telehealth or in-person, the frequency is typically once a month, something caregivers reported as "not being enough". A major finding was an overall lack of understanding of services available, including understanding that NEIS is an option for these families.

Although there is currently an occupational therapist available through the local outpatient clinic, it was not known amongst a majority of the caregivers, teachers, or stakeholders. This may be due to the fact that the current OT has been there for less than a year. To help lessen the burden on families having to travel out of town for outpatient services, this information should be spread among all families with young children via teachers and stakeholders. For this reason, a general resource guide was developed to share with teachers and stakeholders to provide to caregivers if they have questions (see Appendix I). This further supports the notion that there is a need for a community-based playgroup to provide support and education regarding available resources for families to help improve their child's developmental outcomes (McLean et al., 2014; Sincovich et al., 2020).

The themes identified in the caregiver interviews were similar to those found in Armstrong et al. (2021a) in that it was important for caregivers to feel accepted, be provided opportunities to learn about their child's development, and to enhance their current knowledge and skill set. Although the study by Armstrong et al. (2021a) was completed in Australia, the themes appear to be consistent across the two different cultures. Within this project, it was discovered that parents found it important for the playgroup to provide social opportunities for not only them, but their children as well. Similar to the "sharing tips and strategies" theme identified in Armstrong et al. (2021a), caregivers identified potential benefits of attending the playgroup as having opportunities to speak with other parents about different parenting strategies and the opportunity to learn from one another. One caregiver mentioned the difficulty that comes

with living in a small town, such as not attending the same church as others, which leads to segregation. It is perceived that by having this playgroup, this would help break down the barriers, allowing for people across different cultures and religions to build friendships and learn from one another for the benefit of their child.

In regards to the interviews, information gathered from the interviews may have been influenced by the setting in which it was gathered; for example, a caregiver may have been more comfortable answering questions in the comfort of their own home rather than in a context they are not familiar with, like a conference room in one of the schools. During a few of the caregiver interviews, it was evident through either their body language or hesitation to answer that they were not comfortable answering the question transparently. This may have been due to the interview being recorded, the question asked, or the setting the interview was taking place in. When this became evident, the recording was either paused or stopped all together and any information obtained after the recording was not utilized. This was because there was not a way for the OT student to verify what was collected after the recording was stopped.

During an interview with one stakeholder, he explained that in some cases, families in Lincoln County utilize the local clinic to complete their well-child check-ups rather than visiting their pediatricians due to various reasons. These reasons may include being unable to align appointments with their work schedules, lack of transportation, or the financial strain it takes traveling to specialists out of the area. However, when asked what resources he would provide the caregiver with if they had questions regarding developmental milestones, he stated that he would refer them to their pediatrician. This is significant because of the findings in Zablotsky & Black (2020) in which they found that children in rural areas were less likely than urban children to have had a well-child check-up in the last 12 months. Interestingly, this particular stakeholder

reported that he had not observed any developmental themes over the years while 60% of stakeholders and 83% of teachers did report observing themes over the years. This revealed a disconnect between what is being recommended at the local clinic and what caregivers and their families actually have access to and is feasible for them.

It is important to note that teachers' perceptions of the parents may vary depending on the town they teach in. For example, one stakeholder brought up that the makeup of families differs depending on the town. Panaca tends to have more two parent households, whereas Caliente has more single parent households. Single parent households may have added stressors and barriers such as limited income, child care, and resources. This may contribute to greater attendance and retention rates in one town versus another due to extraneous variables alone. Relating this back to the PEOP model, it is important to take into consideration all aspects of the person, their environment, the occupation they are engaging in, and how those three intertwine to impact their occupational performance. This is where, in the future, the program may need to be further individualized to each of the towns to meet the needs of the caregivers.

A notable area of concern acknowledged by all three groups was the speech delays that are becoming increasingly more common in children. While addressing speech delays are not within the scope of OT, a sing-song component was brought into each playgroup to encourage expressive and receptive language. The culmination of themes identified in the interviews resulted in the development of a program proposal. This thereby successfully marked the completion of the third objective of the project. Although the data collected during the semi-structured interviews were not to contribute to the generalizable knowledge, it did provide valuable insight into what the caregivers' and stakeholders' perceptions were of a playgroup. This information was utilized to develop a program based on the needs identified, making it

individualized to this frontier community. A detailed breakdown of the proposed playgroup and what it includes is provided in the following paragraphs.

Program Development: Lincoln Littles

This proposed program was developed utilizing the themes identified through semi-structured interviews and naturalistic observations. The content of the playgroups was then tailored to the needs identified and includes a focus on fine motor, gross motor, sensory, behavioral, and cognitive aspects. The purpose of this proposed program is to fill a service gap that currently exists within Lincoln County, Nevada by helping promote the overall health and well-being of children ages zero to three, along with their caregivers. Lincoln Littles is a program that provides a safe space for families to come with their children to allow them to grow academically, developmentally, emotionally, and socially (Armstrong et al., 2020; Armstrong et al., 2021a; Hancock et al., 2012; Graham et al., 2013). Caregivers will receive education and support from a licensed and trained occupational therapist who has extensive experience working with children in the community.

Vision and Mission Statement

The vision of the proposed program, Lincoln Littles, is to create a community-based program that serves the underserved for years to come, leaving a lasting impact on both the community and the children, developmentally and academically. The mission is to provide family-centered services by facilitating engaging activities and education on developmental milestones to help promote optimal childhood development. By increasing understanding of developmental milestones, signs of developmental delays can be caught earlier, helping children receive services within the critical developmental period (Knaus et al., 2016; Litt et al., 2018;

Hancock et al., 2012) . Through our commitment and expertise, we will strive to create a supportive and nurturing atmosphere for the caregivers of Lincoln County.

Objectives

This program aims to:

1. Provide education to caregivers on developmental milestones
2. Improve caregiver understanding of developmental milestones
3. Improve caregiver understanding of where to access resources within the community if needed
4. Build a sense of community and belonging among caregivers
5. Help children develop the skills needed for a successful transition to preschool and for engagement in everyday life
6. Improve the overall quality of life of both families and their children in Lincoln County through education and active participation

Setting

This proposed program will take place at the community-level in one of the local elementary schools. The first year the program will take place in Panaca, Nevada at the Panaca Elementary school because its geographical location lies in the center of the three communities. The rationale for executing the program in only one location to begin with is to collect feedback from participants on areas of improvement before scaling to the other towns.

Target Audience

This proposed program aims to serve caregivers of children ages zero to three residing in Lincoln County, Nevada.

Duration

The proposed program will take place over an eight-week period for an hour and a half each week, twice a year. If a family has two children, one under the age of one and one between the ages one and three, they will have the option to attend the littles playgroup prior to the main playgroup. To ensure activities were developmentally appropriate, a separate 0–12-month playgroup was developed alongside the one- to three-year-old playgroup. The 0–12-month playgroup will begin roughly 20-30 minutes before the one- to three-year-old playgroup. The families attending the 0–12-month playgroup will have the option to stay and attend the one- to three-year-old playgroup for as long as they would like. In total, the program will last an hour and a half, not including time for preparation and clean-up.

Playgroup Outline

The proposed program includes a week-by-week schedule, including a structured timeline with activities, materials, and time required (see Appendix J). It also includes instructions for the facilitator such as education on the rationale behind certain activities, developmental milestones covered that week, weekly measurable goals, set up and clean up procedures, and the objectives of that session. Along with the structured weekly sessions, one to two objectives and measurable goals were developed to quantify the progress of the program. Each session will cover a different set of milestones and different areas of development.

Caregiver handouts were created to go along with each of the weekly sessions, including take home activities with information on what each activity worked on and a developmental milestone handout (see Appendix K - M). In addition, a general reference guide was created that includes developmental milestones, signs of developmental delay to look for in their child's

development, and where to access resources if needed. This differs from the weekly developmental milestone handouts in that it is not as detailed and specific when addressing developmental milestones. Each of these handouts were written at a third to sixth-grade reading level to ensure comprehension of the material given due to the lower levels of education in Lincoln County (U.S. Census Bureau, n.d.). To ensure readability, each handout was checked using the Hemingway Editor, which scored the readability and rated it at the appropriate grade range. To further enhance accessibility, the contrast of each document was checked, ensuring the contrast ratio was at least 4.7:1, making it easier to read. While creating the caregiver handouts, data was gathered from trusted sources including the CDC and the Developmental Milestones Guide 4th Edition by Busch et al. (2023). The handouts were assessed by the site and faculty mentor prior to including them in the program to ensure the information included is correct, accurate, and easy to comprehend.

Each week will include a focus on developmental milestones, along with different developmentally enriching activities and strategies to use at home that promote optimal development for their child. Take-home activities consist of low-cost options since the community is in a lower socioeconomic area. For each take-home activity, a small supplies bag will be provided to allow an equal opportunity for all families to participate in the activities. Since this program requires a significant start-up cost, a detailed budget was created, including operational and staffing expenses (see Appendix N). While the program was developed using the data collected from the community, it also included what is currently supported through literature. The program includes occupation-based strategies in the weekly playgroups and teaching strategies that have been found useful for this population. From the needs identified in the community, activities were graded using a PEOP approach, taking all areas into

consideration. In all, the community-based playgroup program includes a detailed schedule for each of the eight weeks including activity plans, take-home activities, developmental milestones, and caregiver handouts.

Grant Funding

To advance this program forward, grant funding is needed to purchase required supplies and provide compensation for the program facilitator. Since the program itself can be facilitated at each of the elementary schools, there will be no costs associated with the use of the facility. Each of the weekly playgroups has an outline of the required supplies needed to execute that week's activity. The costs outlined in the budget are based on the current costs found online, which may increase or decrease depending on the time of year the supplies are purchased and inflation. The grant identified is through the Foundation for Rural Service Community Grant Program and the applications open May 6, 2024 and close September 9, 2024. This grant will be applied for in partnership with LCSD.

Program Evaluation

A before and after questionnaire was developed to be administered before the start of the playgroup at week one and at week seven (see Appendix O). This will allow the caregivers one week to complete the questionnaire. The information gathered from the questionnaire will be confidential and does not ask for any identifiable, personal information. The data collected from the questionnaires will be utilized for quality improvement purposes and to measure the program’s ability to efficiently articulate developmental milestones, including the caregiver's overall understanding and comfort levels on the materials and education provided. Ordinal data will be collected, along with open-ended questions on the post-test. This is to provide more in-depth information on areas of improvement for the program moving forward. There will be time

at the end of week eight for an open discussion with the caregivers to provide feedback. This will allow for open conversation and provide more in-depth information on what areas can be improved moving forward.

Limitations

Limitations of the project include limited generalizability to rural areas outside of Nevada, lack of randomized sampling procedures, and limited resources. Because the program was tailored to Lincoln County, Nevada, it may lack generalizability to other rural communities, limiting the transferability of the program upon completion. Since convenience sampling methods were utilized to recruit caregivers, it introduced the risk of researcher bias and the data gathered may not be truly representative of the target population. Moreover, those who chose to participate in the interviews may be biased toward the playgroup, possibly skewing the outcomes of this project. The primary researcher had limited experience with conducting semi-structured interviews, potentially impacting the depth at which the interviews were conducted. Another limitation included completing classroom observation in the middle of the school year, meaning the children have had five to six months in the classroom setting. To account for this in future projects, it would be beneficial to complete naturalistic observation at the start of the school year instead. Lastly, the inability to complete a pilot study of the program to test feasibility; however, in-depth questions were asked during the semi-structured interviews to gain insight into what would be feasible for the caregivers and stakeholders.

Implications for Practice

Occupational therapists should continue to move forward with community-based care to reach a broader audience and provide services at the primary level. Community-based playgroups may be a way OT's can reach more families at the population level, potentially

making it more feasible for families to attend and receive education regarding their child's development. The lack of specialty services, including OT, in rural and underserved areas is a barrier for caregivers and their families to receive services and education that may be beneficial to their child's development (Ashburner et al., 2016; Silver et al., 2017). Adults residing in rural areas also tend to have lower education levels, therefore it is important for the OT to modify and adapt the information being provided to a level that is comprehensible (Silver et al., 2017). This includes providing information on how to modify their home environments and activities in a way that promotes optimal child development given their circumstances and abilities.

It is within OT's scope of practice to provide caregiver education about child rearing and engaging in co-occupations of play, social interaction, and self-care. By providing education to these caregivers, the goal is to improve their overall understanding of developmental milestones, identify signs of developmental delay earlier, and seek services for their child in a timely manner. This would thereby improve their child's and family's overall quality of life. Increased caregiver education and understanding can help lead to early identification of the need for services, potentially improving the child's academic and physical functioning later in life, setting them up for success from the start (Litt et al., 2018; Minard, 2018; Weglarz-Ward et al., 2019).

Implications for Future Research

Although this program was not able to be implemented during the 14-week capstone experience, valuable information was obtained regarding the perceptions of the playgroup among stakeholders and caregivers within Lincoln County, Nevada. Future research needs to be conducted on the program itself to measure feasibility and impact of the program on overall understanding of the education provided. In addition, studies should be conducted in other rural and frontier communities to assess the feasibility of the program itself. To further measure the

impact of the program and the education provided, a longitudinal study should be conducted to measure the lasting impact on child development, academic success, and occupational performance. In general, more research needs to be conducted on the use of community-based playgroups within the United States as much of the literature has been completed in Australia.

Information obtained from the interviews revealed a large disparity in services to families with children ages zero to three, indicating that more services are needed within this frontier community. Community-based services that are provided should focus on providing education and resources to increase understanding and accessibility of available services within Nevada. Across occupational therapy more research needs to be conducted in rural areas to further understand the impact that limited access to services has on a child's overall development and occupational performance. Occupational therapists provide services to people across the lifespan, including both caregivers and children. Providing these families with the education they need to better understand their child's development can help foster healthier, happier communities.

Section Ten: Conclusion

Rural children, when compared to urban children, are at an increased risk of developmental delay and are less likely to have had a well-child check-up within the last 12 months (Zablotsky & Black, 2020). Additionally, there is a lack of high-quality research being conducted in rural communities, more specifically research focused on educating rural caregivers, which supported the need for this project (Ashburner et al., 2016; Silver et al., 2017). Furthermore, there is currently no information available regarding caregivers' perceptions of a community-based playgroup in rural Nevada, including Lincoln County. Aside from the NEIS, there are no early intervention services or community-based resources available to families regarding developmental milestones, exposing a significant disparity in services provided to this community. Research does support the use of community-based playgroups in providing education to families and rural communities with a focus on improving child playfulness and caregivers' confidence (Fabrizi & Hubbell, 2017; Graham et al., 2013; Hirsch et al., 2019). In conclusion of the qualitative study completed which supported more resources, a community-based program, Lincoln Littles, was developed and tailored to meet the needs of this rural community. This was completed through identifying the caregivers', stakeholders', and teacher's perceptions of a playgroup and identifying delays among preschool and kindergarten students within the rural community.

The outcome of this project was an increase in the researcher's understanding of caregivers' perceptions of a community-based playgroup which thereby assisted in the development of a community-based playgroup, Lincoln Littles. Future research should be conducted on the effectiveness of a playgroup within the United States and the lasting impact it has on a child's overall development. The secondary outcomes of this project included the

development of caregiver handouts on developmental milestones, activities caregivers can utilize at home with their child, and a handout with the current resources available to caregivers residing in Lincoln County, Nevada. The third outcome was identifying a funding source to help support and sustain the program moving forward. Occupational therapists should continue pursuing community-based care to reach a broader audience. By providing caregivers education on their child's development, signs of developmental delay can be caught sooner thereby impacting their overall well-being, both physically and mentally. This program will provide services in an underserved area by providing a community-based resource that meets the identified needs. The program was proposed to the local clinic (Grover C Dils Medical Center), LCSD, the Lincoln County Coalition, and all caregivers who participated. It was accepted and encouraged by all parties for implementation in 2025 after grant funding is secured.

Appendix A

Caregiver Recruitment Flyer

Are you the parent or guardian of a child between the ages of 0-3?

Hi there! My name is Chesnee Clingman and I am looking for YOUR input! I am a UNLV Occupational Therapy Doctoral Student and I am working on developing a program for our community. The program will help educate parents on developmental milestones for their child during the first three years of their life.

Children living in rural areas are more likely to have some sort of developmental disability compared to urban children.
(Zablotsky & Black, 2020)

What I need from you:

- **Your time!** I would like to complete a very casual interview with you to get your thoughts and opinions on my program
  - 20-30 minutes
  - Interview will take place whenever and wherever is convenient for you!
- Any and all information will be kept confidential
- **Interested in helping?! Contact me!**

Contact Information
Chesnee Clingman
Call or text: 775-962-3191
Email: hardic2@unlv.nevada.edu

References

Appendix B

UNLV

Semi-Structured Interview Questions

Caregiver Questions

- How familiar are you with developmental milestones?
- If you suspected your child was developmentally delayed, what would you do or what steps would you take?
- Has your child ever received any type of early intervention services? (Occupational Therapy, Physical Therapy, Speech Language Therapy)
    - If yes, how often did your child receive services? Did you feel they addressed both yours and your child's needs?
- What areas do you wish to improve your understanding in regards to your child's development? For example, improved understanding of fine or gross motor skills, sensory differences, cognitive, behavioral, etc.
- Do you think you would have time to attend a weekly or biweekly playgroup? If no, why not?
- What would you hope to gain from attending a playgroup? For example, a support group of parents, certain skills to use with your child.
- Is there anything you specifically would like to learn from a playgroup? For example, learn more about your child's development, new activities to try at home.
- What would encourage you to attend a playgroup?
- What do you see as some potential challenges in attending a playgroup?
- How do you think a playgroup would benefit the community?
- Do you feel that there is a good support system in place within Lincoln County for parents of children ages 0-3?

Appendix C

UNLV

Semi-Structured Interview Questions

Stakeholder Questions

- If a parent came to you with questions regarding developmental milestones, who or what would you direct them to?

- How often do you have to refer a family out for further evaluation?

- Do you feel it is common to see children who are developmentally delayed or are not meeting their milestones?

- Do you think it is common for families to have to miss appointments with their pediatricians?

- How often do families come to you, seeking information regarding outside services for their children?

- Are there any trends you have seen over the years in regards to children's development?

- Where do families typically go for help when their child does have a known diagnosis/condition?

- Are you aware of any resources available within Lincoln County for parents of children ages 0-3? If so, what are they?

- What do you see as the benefits of a community playgroup?

- What would you hope caregivers gain from attending the playgroup?

- What do you foresee as potential challenges and barriers that may keep families from attending the playgroup?

Appendix D

UNLV

Semi-Structured Interview Questions

Teacher Questions

- How common is it for children to begin preschool with a fine motor, gross motor, behavioral, or cognitive delay?
- What are some of the most common developmental delays you have observed over the years?
- How comfortable are you in identifying developmental delays?
- Are parents receptive to feedback you give them?
- What do you think some of the barriers and challenges will be with getting people to attend the playgroup in Lincoln County?
- How often do parents come to you seeking resources to assist their child/children?
- If parents have questions regarding developmental milestones, do you direct them to anyone/anything? If so, what specifically?
- Are you aware of any resources available within Lincoln County for parents? If so, what are they?

Appendix E

Information Sheet

INFORMATION SHEET

Department of Brain Health – Occupational Therapy Doctorate Program

TITLE OF PROJECT: A PROGRAM PROPOSAL FOR A COMMUNITY-BASED PLAYGROUP FOCUSED ON CAREGIVER EDUCATION OF DEVELOPMENTAL MILESTONES

INVESTIGATOR(S) AND CONTACT PHONE NUMBER:
CHESNEE CLINGMAN 775-962-3191

The purpose of this project is to gather rural caregivers' perceptions of a community-based playgroup with focus on enhancing understanding of developmental milestones. This information will be kept confidential and will be utilized to assist in the development of a community-based program. The information gathered is for program development purposes only and will not be disseminated for a broader audience. You are being asked to participate in the project because you meet any of the following criteria: caregiver of a child ages 0-3, reside within Lincoln County, have lived within Lincoln County for at least 2 years, stakeholder within Lincoln County for this program, have experience working with this population, or have worked in/with the school for at least two years.

If you volunteer to participate in this project, you will be asked to do the following: Answer questions regarding your perceptions of the development of a community-based program through semi-structured interview questions.

This project includes only minimal risks. The semi-structured interview will take 15-30-minutes of your time. You will not be compensated for your time.

Your participation in this project is voluntary. You may withdraw at any time. You are encouraged to ask questions about this project at the beginning or any time during the project or interview.

Participant Consent:

I have read the above information and agree to participate in this project. I am at least 18 years of age. A copy of this form has been given to me.

Appendix F

Themes Derived from Interviews with Caregivers

Theme 1	Description	
Perceptions of a playgroup from caregivers	Caregivers were asked questions regarding what would motivate them to attend the playgroup, what they would hope to gain from attending, how it would benefit the community, and what might hold them back from attending.	
Subthemes	Description	Statement Examples
Attendance	What would encourage them to attend the playgroup	"I just think the social aspect … is what really engages me, because there isn't a lot of just activity whatsoever here."
Perceived benefits for the community	How they think the playgroup would help serve the community	"I feel like there's probably a lack of knowledge in what you can do to help them, especially if you catch delays early. I just feel like a playgroup would be very beneficial in that setting, just that they can see 'oh, there's things that I can do' or 'oh, this isn't normal, but I can intervene.' It's not going to ruin your child's life. There's things that you can do to change and help him, whether there's issues or not."
Scheduling of playgroup	When would work best for them to encourage participation	
"Wants" for playgroup	What they would hope to see in the playgroup	
Barriers to attending	What caregivers might perceive as keeping them from attending the playgroup	
Comments	Any additional comments made regarding the playgroup	"the support group of other moms, being able to socialize with other parents who have children in the same age range outside of just in passing while you're doing your shopping … is something that I think can be very beneficial to all parents … being able to play, but also learn and just be on top of what's to be expected, what's to come."
Theme 2	Description	
Obstacles caregivers are currently facing	Issues caregivers currently face living in Lincoln County that interfere with either their child receiving services or issues they are facing at home, in the school setting, or in the community that impact their child	
Subthemes	Description	Statement Examples
Lack of specialty services	The lack of services available within Lincoln County and their perceptions of the services offered	"When you go into a public setting, even within the county, when your child's behavior is not the norm or the typical people are watching and they're judging, and so it's really hard to take a child that has a lot of different

Politics of Lincoln County	Misunderstanding and judgment from community members and other families	behaviors and sensory and emotions and needs and take them out into public where you're being judged and you need them to semi behave"
Misconceptions on caregivers' behalf	The lack of understanding among parents in terms of what is developmentally appropriate for their child or a general lack of understanding overall	"I don't know what I would do for her because I know there's a lot of parents that can't get those resources because they can't get out of town, and they're waiting until their child is three and can go into the school system and then start getting help." "It is very difficult here in Lincoln County. A lot of parents don't even notice that their children are delayed until they get to the preschool age and a teacher points it out. But especially first-time parents, because they're not familiar with what … they don't have anything to compare it to"

Theme 3	Description	
Experiences seeking services	Caregivers' personal experiences receiving past services both within Lincoln County and from outside the county.	
Subthemes	Description	Statement Examples
Early intervention	Family's perceptions of the Nevada Early intervention program	"because we go out of town at least once a week, sometimes twice, depending on the therapists schedule … sometimes I can't get the OT and PT on the same day even and so then we end up at two separate days."
What they "currently" do	The steps families currently take to ensure their child is receiving the help they need	"we waited almost six months to get her [the OT] in the house. So from the time she was two and a half until three, she, the occupational therapist, came once a month. And then it was really hard because I couldn't, I tried to reschedule an appointment because just something came up and because she was from Elko, it was like, well, I can't come now … so we had to skip that month, which was really disheartening to me because I knew she [the child] needed that."

Theme 4	Description
Support in Lincoln County	The current services and support systems in place within Lincoln County and their perceptions of the services available

Subthemes	Description	Statement Examples
Lack of specialists	The lack of pediatric specialists within the community including pediatricians and designated spaces where outpatient OT services can be provided	"there's not really a support system. I feel like it's very much like you're kind of flying solo with things, especially for kids zero to three … it's really more of you having to seek the information out on your own" "There's nothing, there's no, I mean, there's really nothing. Even there's no daycares or anything. So your kids would be watched by other people and they don't know what to look for." "with where we live in Lincoln County, there not actually being a pediatrician, that changes things too, because sometimes … the doctors here will be like 'oh, let's just, let's give it time' where as a pediatrician is a little more, you know, in tune with some of the kids."
Theme 5	Description	
Probable action for intervention	What families are doing or would do if they were concerned about their child's development and wanted additional help	
Subthemes	Description	Statement Examples
Asking family members	Seeking out advice or assistance from family members first	"I follow a lot of people on Instagram like PTs and stuff … I kind of go to them and see kind of where they're showing their kids are at and I kind of compare it to my kids to where they kind of should be … just to follow along with that." "I would probably ask my pediatrician what to do, and then, I don't know, I guess … if it was bad enough that … they needed … therapy, I guess we would just travel, but it wouldn't be ideal, but we would do it." "I feel like if I ever really need anything, then I don't stay here … I go outside of Lincoln County." "my first step is do as much as I can at home and then probably around age two or three, if things really aren't starting to progress as they should, then I would try to find a way to get them to intervention at that point."
Personal research	Trying to look online (Google, Instagram, etc.) for more information on the area they are concerned about or just "waiting and seeing"	
Services outside Lincoln County	Any services that are provided outside the bounds of Lincoln County, Nevada	
Services inside Lincoln County	Services provided within the bounds of Lincoln County at the clinic, outpatient clinic, or one-on-one services from professionals	

Theme 6	Description	
Familiarity of milestones	How familiar families currently are with identifying and understanding developmental milestones	
Subthemes	Description	Statement Examples
How they learned about the milestones	The different methods by which they have learned about developmental milestones during their time as a caregiver	"I want to say … I know what they are. I don't know right off the top of my head like what milestones should be at what age"

Appendix G

Themes Derived from Interviews with Stakeholders

Theme 1	Description	
Perceptions of a playgroup	Information regarding stakeholders' perceptions of the playgroup such as what might encourage families in to attend, what they hope is included, and what might prevent families from attending	
Subthemes	Description	Statement Examples
Attendance	Motivators and barriers that stakeholders perceive for caregivers in regard to attending the playgroup	"I think a lot of times even new parents or even parents that maybe, you know, have space in between kids developmentally, things that we just don't know to look for. So I think giving them insight on what the red flags are and where their child should be … I think just giving them some insights and knowledge of where their child should be."
Hopes for the playgroup	What the stakeholders hope caregivers and community members can gain from attending the playgroup	
Theme 2	Description	
Issues within the community	Issues and/or concerns within Lincoln County that the stakeholders have expressed regarding children ages zero to three	
Subthemes	Description	Statement Examples
Misconceptions from the public	Misunderstandings among the public regarding services offered or typical childhood development	"I mean, if you have a parent that brings them in for a well-child exam, it's … pretty rare." "We see once the child hits about that 18 month, we know that we lose them because it's not that common that parents are bringing their kids in for their two, three, four-year-old checks."
Developmental themes	The themes identified over the years regarding a child's development within Lincoln County	
Child check-ups	How often it is believed that caregivers take their child to their well-child check-ups	"I feel like there's a lot less play now. We're really starting to hand kids over tablets and things, and they're missing out on some of those big milestones and we're not even realizing it."
Theme 3	Description	
Seeking services	How often parents are seeking outside resources for their children and where they are directed if they want more information or need a referral	
Subthemes	Description	Statement Examples
Resources in Lincoln County	Services available to families to utilize within	

	Lincoln County for their child	"[Are you aware of any resources for families of children ages zero to three] Oh, shoot, I am not aware of anything right offhand."
Where to direct caregivers with questions	If caregivers come to a stakeholder with questions regarding their child, where they are directed to get more information or what they are provided with to answer their questions	"we would give them [caregivers] information like that … you know, let's give it six months, do this at home, see how they do" "I usually refer them to the school district."
Where people are sent for referrals	Where caregivers are sent if they require a specialist or further testing	

Appendix H

Themes Derived from Interviews with Teachers

Theme 1	Description	
Provided resources	What teachers provide to caregivers when parents ask for more information and how often caregivers are coming to them for additional information	
Subthemes	Description	Statement Examples
Parents seeking resources	How often parents are seeking additional resources	"Well, I think it's just I don't know that parents necessarily come and seek me out for it, but what I do is if I notice a kid is struggling, I will send a text to the parent and I'm pretty good about just sending home extra stuff."
Resources given	The type of resource given to parents including handouts, verbal advice, recommendations to professionals, or being unsure of where to access anything	"Um, I would have to research that because I don't know. I don't know of any websites offhand or have any handouts offhand."
Resources in Lincoln County	Teachers understanding of available resources within the community for families with children ages zero to three	"No. I don't know of any other resources, other than what we provide in the school. I don't know of any community resources that we have."
		"There are none. So outside of the school district, no."
		"But the problem is too because they come from Ely or Elko (early intervention teams). We need something here."
Theme 2	Description	
Perceived barriers to attendance	The teachers' perceptions of what they view as potentially benefitting the community from the playgroup, along with what might discourage families from attending	
Subthemes	Description	Statement Examples
Thoughts on the playgroup	Perceptions of the playgroup in general	"I just think that whatever program you can come up with … the parents are just going to love because, you know, especially if there are kids with some disabilities, the parents need kind of a break and know that they're going to a safe place."
Barriers and challenges for families to attend	What teachers perceive as potential barriers to getting families to attend and engage in the playgroup	"You will have, in my opinion, there's not a whole lot of parent involvement."
Theme 3	Description	

Confidence in identifying delays	The educators' comfort levels in identifying developmental delays in their classrooms	
	Statement Examples	
	"Mmm…I usually will get ahold of Trisha. I usually leave that for them because they are the professionals." "I'm comfortable with that [identifying delays]." "I feel I'm pretty confident, we have a pretty good, um, our early intervention teacher and I…we talk a lot…Usually within the first week [of starting school], you can pretty much tell what delays they have."	
Theme 4	Description	
Themes over time	The most common developmental themes and/or delays they have observed over their years of teaching in Lincoln County	
Subthemes	Description	Statement Examples
Preschool vs. no-preschool	Skills in the children that have attended preschool versus those who have not	"And if the kids don't go to preschool, you can tell, there's a huge difference between the kids that go to preschool and do not. Our preschool kids that have had three and four-year-old preschool come way more prepared than the ones that have not received any services."
Developmental trends	Trends that have been observed regarding a child's fine motor, gross motor, and speech skills. It also includes behavioral issues observed.	"The most common is lack of fine motor. They have a hard time focusing and they need constant…entertaining." "Our preschool teacher has really been struggling with the three- and four-year-olds just not having any experience with cutting and…some of the three-year-olds she's gotten have never even held a crayon."
Theme 5	Description	
Receptiveness of parents	How involved the parents currently are in their child's education and/or IEP process.	
Subthemes	Description	Statement Examples
Understanding and openness	A parent's understanding of where their child is at and how receptive they are to feedback provided by professionals	"Sometimes you do get a parent that doesn't see it, especially if they don't have other children and it's their only child and they're coming in and you're pointing it out and they're like, oh, I didn't realize that was being delayed."
Involvement	How involved parents are with their child's schooling or IEP's	"there's not a whole lot of parent involvement. Like, they let their kids flounder, which is

		what we're seeing, why we're seeing some of the behaviors we're seeing."
Theme 6	Description	
Referral process	If teachers notice a delay, this is where they will refer the family or send them for more information	
Subthemes	Description	Statement Examples
Procedures	What steps are taken when a child is identified as needing additional help	"if I notice a kid is struggling, I will send a text to the parent and I'm pretty good about just sending home extra stuff."
Outside services	Services that are provided outside of the school district	"sometimes we just catch them like, we'll see them out and about and…be like okay…this is their problems here, we ask and then the parents will let us know and then we refer them."

Appendix I

General Reference Guide for Caregivers

DEVELOPMENTAL MILESTONES:

A RESOURCE FOR CAREGIVERS

Developed by: Chesnee Clingman (UNLV Occupational Therapy Doctoral Student)
Under supervision of Trisha Pearson OTR/L
2024

TERMS TO KNOW

Developmental milestones:

Milestones are the things that your child should typically be able to do once they reach a certain age.

Fine motor skills:

These skills involve the small muscles in your child's hands. It involves manipulating small objects such as buttons for dressing, beading a necklace, and using a pencil correctly. These skills help with things such as feeding themselves, cutting, and playing.

Gross motor skills:

These skills involve the larger muscles in your child's body. Movements such as walking, jumping, and climbing are all considered gross motor movements. These are necessary movements in order for your child to move and interact with their environments.

Social-emotional:

This involves your child understanding their own and others emotions. It also includes their ability to understand what is socially appropriate and what is not.

Cognitive:

These are the skills your child will need to learn about the world they live in. It includes different skills such as problem solving and critical thinking.

DISCLAIMER! Information included within this packet is for educational purposes only and is not all encompassing. Information should be used as a guide only. If you believe your child has a delay, please see your child's pediatrician or a trained medical professional.

All information was obtained from the following references:

Busch, A., Hall, L., Myott, F., & Rackley, M. (2023). *Developmental milestones for professionals: A quick screening, assessment, and goal writing reference* (4th ed.). Costal OT Connections.

Centers for Disease Control and Prevention (CDC). (2023). *Milestones. https://www.cdc.gov/ncbddd/actearly/milestones/index.html*

BIRTH TO 6 MONTHS

Developmental Milestones

FINE MOTOR

- Brings their hands to their mouth (middle of their body)
- Swings at toys using their arms
- Holds onto toy when placed in their hands
- Transfers toys hand to hand using mouth to stabilize

GROSS MOTOR

- Holds their head up while on tummy
- Moves both hands and legs
- Pushes up onto their elbows/forearms while on tummy
- Maintains head control while sitting with support

COGNITIVE

- Watches you move around
- Looks at objects/toys for several seconds
- Looks at their hands with interest
- May repeat actions that produce pleasurable results

SOCIAL EMOTIONAL

- Looks at your face
- Is soothed when spoken to or picked up
- Smiles when you interact with him/her
- Initiates and participates in social play
- Tries to keep your attention by looking at you or making sounds

All information was obtained from the following references:

Busch, A., Hall, L., Myott, F., & Rackley, M. (2023). *Developmental milestones for professionals: A quick screening, assessment, and goal writing reference* (4th ed.). Costal OT Connections.

Centers for Disease Control and Prevention (CDC). (2023). *Milestones. https://www.cdc.gov/ncbddd/actearly/milestones/index.html*

6 TO 12 MONTHS

Developmental Milestones

FINE MOTOR

- Uses fingers to "rake" food towards themselves
- Moves things from one hand to the other hand
- Begins to pick small things up between thumb and pointer finger
- Gross grasp on crayon (closer to 9-12 months)

GROSS MOTOR

- Gets into a sitting position by themselves
- Sits without support
- Crawls with belly on ground
- Pulls up to stand
- Walks while holding onto furniture or parents hand

COGNITIVE

- Looks for objects when they are dropped out of their sight or hidden
- Puts things in containers
- Moves to obtain something or get a desired result
- Imitates simple gestures and play
- Looks at pictures in a book

SOCIAL EMOTIONAL

- Shows several facial expressions (happy, sad, angry)
- Looks when you call their name
- Reacts when you leave
- Plays games with you, like peek-a-boo

All information was obtained from the following references:

Busch, A., Hall, L., Myott, F., & Rackley, M. (2023). *Developmental milestones for professionals: A quick screening, assessment, and goal writing reference* (4th ed.). Costal OT Connections.

Centers for Disease Control and Prevention (CDC). (2023). *Milestones. https://www.cdc.gov/ncbddd/actearly/milestones/index.html*

RED FLAGS TO BE AWARE OF

0 - 12 MONTHS

YOUR CHILD DOES NOT FOLLOW MOVING OBJECTS WITH THEIR EYES

APPEARS "FLOPPY"; LOW MUSCLE TONE; DOES NOT BRING HANDS TO MOUTH

YOUR CHILD DOES NOT RESPOND TO EXTERNAL STIMULI (EX: LOUD NOISES)

DOES NOT ACTIVELY REACH FOR ITEMS IN ENVIRONMENT

IS NOT MAKING ANY SOUNDS (COOING, SQUEELING, LAUGHING)

8-12 MONTHS: DOES NOT CRAWL; DOES NOT BEAR WEIGHT IN ARMS/LEGS

All information was obtained from the following references:
Busch, A., Hall, L., Myott, F., & Rackley, M. (2023). *Developmental milestones for professionals: A quick screening, assessment, and goal writing reference* (4th ed.). Costal OT Connections.
Mid-State Early Childhood Direction Center. (2012). *Developmental checklists: Birth to five.* https://www.stic-cil.org/images/pdf/ecdc/Developmental_checklists_Updated2012.pdf

1 TO 2 YEARS

Developmental Milestones

FINE MOTOR

- Uses fingers to feed themselves
- Neat pincer grasp - fingertip to fingertip (12-15 months)
- Begins to scribble (18 months)
- Begins to attempt using eating utensils (18 months)
- Starts using second hand as stabilizer when manipulating (one hand holding the paper down while the other scribbles)

GROSS MOTOR

- Takes a few steps on their own (15 months)
- Walks without holding onto anyone or anything (18 months)
- Climbs on/off chair or couch without help
- Runs 10 feet

COGNITIVE

- Waves "bye-bye"
- Understands function of objects and how they work
- Recognizes names of some body parts
- Copies you doing chores
- Attends to shapes of objects and how they work

SOCIAL EMOTIONAL

- Shows you affection (hugs or cuddles you)
- Frustration often results in temper tantrums
- Moves away from you, but looks to make sure you are nearby
- Points to things they find interesting and want you to engage
- Fear of unknown people increases

All information was obtained from the following references:

Busch, A., Hall, L., Myott, F., & Rackley, M. (2023). *Developmental milestones for professionals: A quick screening, assessment, and goal writing reference* (4th ed.). Costal OT Connections.

Centers for Disease Control and Prevention (CDC). (2023). *Milestones. https://www.cdc.gov/ncbddd/actearly/milestones/index.html*

2 TO 3 YEARS

Developmental Milestones

FINE MOTOR

- Begins to use a digital pronate grasp when writing (holds a crayon with their fingers facing down, towards the paper)
- Hand preference is established
- Both hands active in object manipulation
- Able to string beads
- Eats with utensils

GROSS MOTOR

- Kicks a ball
- Able to jump off ground with two feet
- Hops on one foot
- Catches large ball with arms and body
  - Able to catch ball with hands, not body by 2:9 - 3:0 years
- Walks up and down stairs alternating feet

COMMUNICATION

- Uses at least two words together
- Uses more gestures than just waving and pointing
- Names things in a book when you point and ask "what is this"

(By three years)

- Talks well enough for others to understand, most of the time
- Has at least 200 words

SOCIAL-EMOTIONAL

- Notices when others are hurt or upset
- Plays next to other children and occasionally plays with them
- Inflexible in routine
- Is able to calm down after ~10 minutes after leaving them at school or daycare

All information was obtained from the following references:

Busch, A., Hall, L., Myott, F., & Rackley, M. (2023). *Developmental milestones for professionals: A quick screening, assessment, and goal writing reference* (4th ed.). Costal OT Connections.

Centers for Disease Control and Prevention (CDC). (2023). *Milestones. https://www.cdc.gov/ncbddd/actearly/milestones/index.html*

RED FLAGS TO BE AWARE OF

12 - 24 MONTHS

- YOUR CHILD BEGINS TO LOSE SKILLS THEY ONCE HAD
- DOES NOT CRAWL; DOES NOT BEAR WEIGHT IN ARMS/LEGS
- CANNOT WALK BY 18 MONTHS
- DOES NOT SPEAK AT LEAST 10-20 WORDS BY 20 MONTHS

24 - 36 MONTHS

- FAILS TO UNDERSTAND SIMPLE INSTRUCTIONS
- DOES NOT ACTIVELY REACH FOR ITEMS IN ENVIRONMENT
- SHOWS LITTLE INTEREST IN OTHER CHILDREN
- IS FREQUENTLY FALLING OR LOSING THEIR BALANCE

All information was obtained from the following references:
Busch, A., Hall, L., Myott, F., & Rackley, M. (2023). *Developmental milestones for professionals: A quick screening, assessment, and goal writing reference* (4th ed.). Costal OT Connections.
Mid-State Early Childhood Direction Center. (2012). *Developmental checklists: Birth to five.* https://www.stic-cil.org/images/pdf/ecdc/Developmental_checklists_Updated2012.pdf

7

WHEN SHOULD I WORRY?

All children develop at their own pace, sometimes meeting milestones early and sometimes meeting them a little later. But how do you know when to sound the alarms?

Using the milestone guides above, check to see where your child is developmentally. Are they only missing one? Or are there a few they are missing?

If they are missing a few of them in a row, it may be a good idea to get an evaluation done. Using the resources guide on pages 9-11, schedule an appointment to get an evaluation done.

If you have already visited a doctor and they told you it may be best to "wait and see" but you are still unsure, listen to your intuition. Get a second opinion, reach out to Nevada Early Intervention Services, or schedule an evaluation with a specialist.

When you go to your evaluation, take note (using this guide) on the milestones they are missing. Keep note of what your child is struggling with. You know them best!

RESOURCES FOR 0-3

Notice your child isn't quite meeting some of their milestones?

Take a breath! There are resources and people available to help!

Talk with your child's pediatrician or their primary care provider or....

Nevada Early Intervention Services (NEIS)

Phone: 1-800-522-0066

Email: ProjectAssist@dhhs.nv.gov

Website: https://dhhs.nv.gov/programs/idea/early_intervention_programs/

- Evaluations are FREE of charge for families
- You do not need a referral from an outside professional but you can have them make a referral for you if you'd like
- Once you contact them, you will be assigned a service coordinator to begin the process

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Outpatient Rehab (Physical and Occupational Therapy)

Caliente Phone: 775-726-8074

Alamo Phone: 775-726-8059

- Talk with your pediatrician or primary care provider about a referral for an evaluation
- Talk with your insurance to see if/how many sessions they will cover

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Lincoln County School District (3+ years old only)

District Phone: 775-728-8000

- If your child has an individualized family service plan (IFSP), they may qualify to begin 3-year-old preschool as soon as their 3rd birthday. Contact the school for more information.

RESOURCES FOR 0-3

Trisha Pearson OTR/L

Phone: 1-775-962-2073

Email: pearson0408@gmail.com

- Registered and licensed occupational therapist who has 10+ years of experience working with children with a wide variety of diagnoses
- Cash-pay only for private sessions

Grover C. Dils Medical Center

Caliente Phone: 775-726-8001

- If you are wanting a referral to an outside specialist not listed here, talk with your primary care provider

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Special Supplemental Nutrition Program for Woman, Infants, and Children (WIC)

Phone: 775-962-8086

Website: nevadawic.org

Location: 1005 Main Street. Panaca, NV 89042

- Available to income eligible mothers, infants, and children who are at nutrition risk
- Provides education on nutrition, health screenings, and breastfeeding support

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Rural Regional Center

Phone: 775-687-5162

Website: www.ADSD.NV.GOV

- Available to assist with service coordination, supported living, family preservation program, respite, and psychological services

---

Is this sheet missing something? Let me know!

harding.chesnee@gmail.com

RESOURCES FOR 0-3

Instagram accounts to follow:

Occupational Therapy

- @ontrackbaby
- @play_at_home_mummy
- @candokiddo
- @thesensoryproject208
- @babybegin
- @ot.outside.the.box

Speech Therapy

- @speechsisters

Educational Accounts

- @busytoddler
- @happytoddlerplaytime
- @chaoswithcara

Informational Websites:

- Centers for Disease Control and Prevention (CDC)
  - https://www.cdc.gov/ncbddd/actearly/milestones/index.html
- Zero to Three
  - https://www.zerotothree.org/resources/for-families/
- The OT Toolbox
  - https://www.theottoolbox.com/parent-toolbox/

Book Recommendations (for caregivers)

- The Out-Of-Sync Child | By Carol Stock Kranowitz
- Tiny Humans, Big Emotions | By Alyssa Blask Campbell & Lauren Elizabeth Stauble
- Uniquely Human: A Different Way of Seeing Autism | By Barry M. Prizant
- An Early Start for Your Child with Autism | By Sally J. Rogers, Geraldine Dawson, & Laurie A. Vismara
- Raising A Sensory Smart Child | By Lindsey Biel & Nancy Peske

Appendix J

Lincoln Little's Playgroup Overview and Schedule

Lincoln Little's playgroup weekly overview and schedules can be found at https://docs.google.com/document/d/1wtU15Roqu2B73x-IGPIdf3YOrwCmUpTctuK9vMW3TX4/edit?usp=sharing

Appendix K

Playgroup Take-Home Activity Handouts

DIY TUGGING BOX

AGES: 6 MONTHS - 2 YEARS

MATERIALS NEEDED:

- Cardboard box (shoe box size)
- Yarn, ribbon, pipe cleaners tape, felt
- Scissors
- Crayons, markers to decorate box (optional)

HOW TO:

1. Poke small holes throughout the box to lace the strings through
2. Lace the different sized strings/fabrics through the holes, from one side of the box to the other. Use a pipe cleaner to help push the string through if needed
3. Once threaded, tie a knot at the end of each of the strings so your child cannot pull them out completely
4. Tape up the openings and watch your baby have fun!

WHAT DOES THIS WORK ON?

- Fine motor skills: Your child is learning to use both of their hands together to complete a desired activity, also known as bilateral coordination.
- Sensory input: Your child is learning to explore new textures with the different ribbons and fabrics.
- Cognition: Your child is discovering the cause and effect of their actions and objects around them

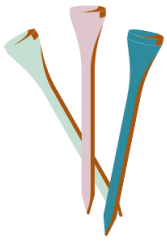
DIY GOLF TEE ART

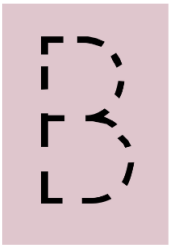
AGES: 2+ YEARS

*This activity is best completed outside, but if weather does not permit, you can always use flower foam and place the paper overtop of it.

MATERIALS NEEDED:

- Golf tees & traced picture





HOW TO:

1. Have your child lay on their belly on the grass. Place the paper on the grass in front of them with the golf tees spread all around the paper. To make it harder, create a scavenger hunt around the yard to find the different colored golf tees
2. Have the child press the golf tee through the paper on the appropriate colored dot
3. Continue until all colored dots are filled with the golf tees and creates the image

WHAT DOES THIS WORK ON?

- Fine motor skills: This works on hand strength and precision by placing the tees in the correct spots. They are also learning appropriate pressure to place on the tee to sink it into the ground. This will help when it comes to writing and learning how much pressure to put on the pencil.
- Cognition: Your child is working on recognizing colors and problem-solving. They are learning how to visually scan around to find the correct colored tee's.
- Gross motor: Having your child lay on their belly can work on increasing their core and neck strength. By having them play in this position for longer periods of time, it can help with their endurance.

DIY TEXTURE CRAWL

AGES: 4-18 MONTHS

MATERIALS NEEDED:

- Masking tape or duct tape
- Different textured materials from around the house, this is up to you!

Some ideas may include:

- Tin foil, tissue paper, parchment paper, sand paper, faux fur, etc.

HOW TO:

1. Depending on resources available, you can either tape the different textured items down directly to your floor or if you have a roll of craft paper, lay that out and tape that to the floor, followed by the different textured items. Encourage your child to explore the different textures while laying on their belly, really working on strengthening their back and neck muscles! See example below.

WHAT DOES THIS WORK ON?

- Gross motor: This may be a good way to motivate your child to begin crawling. It can help encourage bilateral coordination (using their limbs together), strength (holding themselves up), neck extension (works on strengthening their muscles)
- Sensory: Exposes your child to different sensory experiences, stimulating multiple areas of the brain
- Cognitive: Encourages the child to interact with their environment. It allows your child to learn, problem solve, and explore!

WATER RACE

PRE-SCISSOR SKILLS ACTIVITY

AGES: 1.5+ YEARS

MATERIALS NEEDED

1 large mixing bowl filled with water

2 sponges

2 cups

HOW TO

1. Fill the mixing bowl with water, almost to the top
2. Place the sponges in the water and demonstrate to your child how the game works
3. How the game works: Squeezing the sponge in the water, each child is going to try to fill the cup up as fast as they can. They can only use their sponge to fill the cup up, getting as much water in it as they can. First one to fill their cup wins!

WHAT DOES THIS WORK ON?

- Fine motor: Your child is working on what we call, "pre-scissor skills". This means these are the skills your child will need to properly use a pair of scissors. This works on increasing their hand and finger strength. Completing the activity over and over also works on the endurance of their tiny hand muscles. It can be hard work!

FEATHER PLUCK

AGES: 6+ MONTHS

If your child likes to put things in their mouth, please make sure you are close by to help prevent choking.

MATERIALS NEEDED

- Colander
- Colorful feathers of various sizes

HOW TO

1. Once you have your colander and feathers, place them into the holes with only a little popping out
2. Demonstrate to your child pulling them out. Watch them have fun!

WHAT DOES THIS WORK ON?

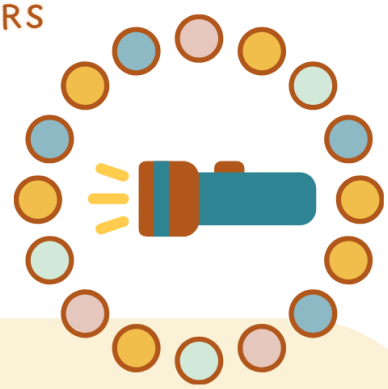
Fine motor: This game will challenge your child's fine motor skills, working on their hand and finger strength and helps refine their finger movements.

- By 7 - 9 months, your child should be using a lateral pincer grasp (using their thumb and index finger) to pick up small objects
- By 1 year old, your child should be using a neat pincer grasp (using fingertip to fingertip with their index and thumb)

This activity will help work on the progression of appropriate grasp!

CIRCLE SCAVENGER HUNT

AGES: 1.5+ YEARS



MATERIALS NEEDED:

- 10-12 different sized cut out circles
- Flash light

HOW TO:

*This game is best played in a dark room or when it is dark outside

1. Have your children stay in a separate room while you hide the circles around the house
2. To make it harder, hide the circles at different heights around the house. Put them next to like colored items, or hide them under/behind things. To help them, give them clues!
3. Turn off the lights and give your child a flash light and a basket (similar to an Easter egg hunt). Have them find the circles using their flashlights!

WHAT DOES THIS WORK ON?

- Vision: Your child is learning to search around the room to find specific items, known as visual scanning. This also works on their ability to differentiate between items that are similar.
- Cognitive: This helps work on your child's concentration and attention.
- Gross motor: Challenge your child's balance and strength by hiding the circles at different heights.

ALPHABET CLOTHESLINE

AGES: 2+ YEARS

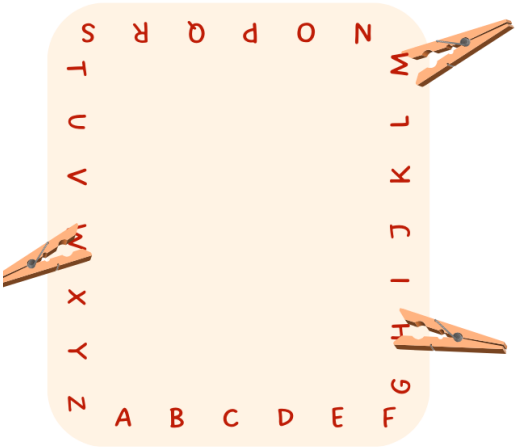
MATERIALS NEEDED

- 26 clothespins (one for each letter of the alphabet)
- ABC's Sheet (Cardboard, paper, poster board, etc.)
- Markers

HOW TO:

1. Write each (single) letter on a clothespin until all 26 clothespins have a letter on them
    a. If your child is not familiar with letters yet, try matching colors or shapes
2. Place the clothespins on the edge of a bucket, bowl, chair, etc. so your child has to "pinch" them off to receive them
3. Have your child match the letter on the clothespin to the letter on the paper

Tip! To make it harder, you can place the clothespins around the room so they have to search for them. You can also make it an obstacle course, having the clothespins at one end and the paper at the other.



WHAT DOES THIS WORK ON?

Fine motor: This will help develop your child's pincer grasp (fingertip to fingertip using index and thumb). It also helps strengthen the muscles in their hands and fingers.

Vision: This activity works on letter recognition. It also works on their ability to tell the difference between letters and colors.

POM POM WHISK PULL

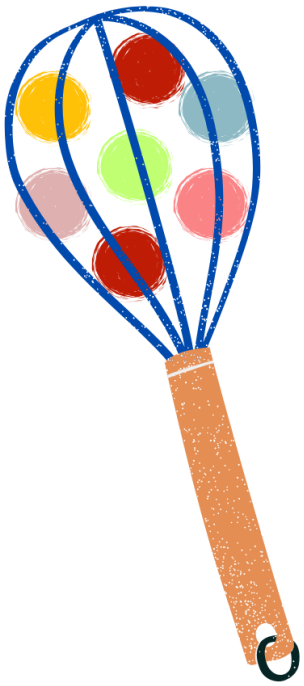
AGES: 6+ MONTHS

MATERIALS NEEDED

- Large whisk
- Pompoms of multiple sizes

HOW TO

1. Using the different sized pompoms, push them into the wire part of the whisk
2. Demonstrate to your child how to pull them out!



WHAT DOES THIS WORK ON?

Fine motor: This will work on developing your child's refined pincer grasp. This means using the pad of their index finger and the pad of their thumb finger to grab the pompoms out. It can also work on their finger and hand strength.
Cognitive: This will work on your child's problem solving abilities.

ICE CREAM SORT

AGES: 12+ MONTHS

MATERIALS NEEDED

- 1 large Ziploc bag
- 25 pompoms (colors matching the handout)
- Masking or painters tape
- Printed ice cream cone handout
- 1 cup water

HOW TO ASSEMBLE

1. Add roughly 1 cup water to Ziploc bag
2. Add in 25 pompoms (5 of each color) to the bag
3. Seal the bag tightly with as little air inside as possible
4. Using masking or painters tape, put the ice cream cone handout down first, followed by the Ziploc bag overtop
5. Show your child how to move the pompoms in the bag using their finger, matching the colors as they go!

WHAT DOES THIS WORK ON?

Fine motor: This will work on strengthening your child's finger and hand strength. It also works on finger isolation (learning to use one finger at a time).

Cognitive: Your child is learning to recognize and sort colors. It can also work on their sustained attention span.

WEATHER I-SPY SENSORY BIN

AGES: 12+ MONTHS

If your child likes to put things in their mouth, please make sure you are close by to help prevent choking.

MATERIALS NEEDED

- Cotton balls
- Rice
- Tiny snow flakes
- Tiny blue beads
- Lightening bolts (pipe cleaners molded to shape)
- Sun
- Bowl/bin for rice
- Cut out object identification cards

HOW TO:

1. Pour rice into bowl/bin
2. Add in the snow flakes, blue beads, cotton balls, sun, and lightening bolts
3. Mix around so objects are hidden in the rice
4. Cut out the identification cards and place them next to the rice bin
5. Have your child find the hidden objects and correctly match them to the cards!

WHAT DOES THIS WORK ON?

Fine motor: This will work on your child's ability to use their tiny finger muscles to grab the items out.

Vision: This will work on your child's ability to visually scan (look through the rice and other objects). It also works on visual discrimination (ability to tell the difference between objects).

Cognition: This will work on your child's processing speed, which is the speed at which they problem solve. It also works on their attention span.

PONY BEAD RAINBOW

AGES: 12+ MONTHS

If your child likes to put things in their mouth, please make sure you are close by to help prevent choking.

MATERIALS NEEDED

- Pipe cleaners (red, orange, yellow, green, blue, purple)
- Flower foam (6"x6" will work)
- Pony beads (colors matching pipe cleaners)
- Cups to separate colors

HOW TO

1. Using the flower foam, place each end of the pipe cleaner into the foam, creating an arch with each piece. Similar to a rainbow!
2. Stagger each color so they are slightly in front of one another
3. Demonstrate to your child: Take one end out of the foam and place the beads onto the pipe cleaner, stringing them like a necklace until the entire ray of the rainbow is filled
4. Once filled, stick the pipe cleaner back into the flower foam and continue until all colors are completed

WHAT DOES THIS WORK ON?

Fine motor: This works on your child's pincer grasp, using fingertip to fingertip to pick up the small beads.
Cognition: This works on your child's ability to concentrate for longer periods of time. They are also working on color recognition and problem solving.

COLOR HUNT

AGES: 12+ MONTHS

MATERIALS NEEDED:

- Colored construction paper (at least 6 different colors)
- Toys (use random ones you already have)

HOW TO:

1. Gather at least 3-5 toys matching each colored paper you have
   Ex) Red paper = 3 red toys
2. Hide the toys around the room at various heights. Make them work for it!
3. Either let them find the toys themselves and match the colors or you tell them what color to find. Ex) Can you find a pink bird?
4. Each time they find the toy, have them place them on the colored paper until they have all been found!

WHAT DOES THIS WORK ON?

Cognition: This works on your child's color recognition, attention, and problem solving skills.

Gross motor: Depending on where you hide the toys, your child may have to crawl, climb, or reach to get them. This will challenge their balance and work on their strength.

SENSORY ACTIVITIES

AGES: 6-12 MONTHS

NIGHT SKY

Materials needed:

- Large cardboard box (big enough for your child to play in)
- 1 String of LED Christmas lights

How to:

- Poke holes through the top or sides of the box and stick the lights through the holes, creating a starry sky
- You can have your child complete tummy time while in there or just let them visually explore all the lights!

JELL-O SEARCH & FIND

Materials needed:

- 3 packages Jell-O (to help prevent your child's skin getting stained, use yellow or one without dye)
- Toys / cookie cutters

How to:

- Follow directions on Jell-O package to make the 3 packages
- Once it is all mixed, place it in a large cake pan and put toys inside (make sure they are large enough that your child will not choke)
- Once Jell-O is set up, place your child on a surface that you can easily clean (things are going to get messy) and let them explore!

WHAT ARE THE BENEFITS OF SENSORY PLAY?

- Depending on your child's needs, it may be a way to help soothe them when they are feeling overwhelmed. Your child's sensory system is how they respond to the world around them!
- It can help with your child's brain development, exposing them to different sensory experiences

SENSORY ACTIVITIES

AGES: 18+ MONTHS

DOG WASH STATION

Materials needed:

- 2 large bins or bowls
- Soap
- Dirt
- Animals or toys they prefer
- Small toothbrush

How to:

- Fill 1 bin with dirt + a little water (make some mud) and 1 bin with warm soapy water
- Place the toys/animals in the mud and hide them under it so your child has to "dig" to find them
- Encourage your child to give their toys a bath using their hands and the toothbrush

PUZZLE FIND

Materials needed:

- 2-3 Peg puzzles
- 1-2 large bags of rice
- Spoon
- 1 large bin

How to:

- Pour the rice into the large bin, hiding the puzzle pieces in the rice
- Place the puzzles next to the rice bin and have your child search through the rice to find the correct pieces
- They can use the spoon or their hands to search for the pieces
- To make it harder, ask your child to find specific pieces of the puzzle.

WHAT ARE THE BENEFITS OF SENSORY PLAY?

- Depending on your child's needs, it may be a way to help soothe them when they are feeling overwhelmed. Your child's sensory system is how they respond to the world around them!
- It can help with your child's brain development, exposing them to different sensory experiences

DIY OBSTACLE COURSE

AGES: 6+ MONTHS

Depending on the child's age, you can make the obstacle course more or less challenging. Please supervise your child during this activity to help prevent injury

MATERIALS NEEDED

- Couch cushions
- Blankets
- Chairs
- Large books (use as stepping stones)
- Pillows
- Any furniture from around the house

IDEAS TO INCLUDE

- Balance beam
- Army crawl section
- Stepping stone walkway
- Tunnel
- Slide
- Hoops to jump through

WHAT DOES THIS WORK ON?

- Gross motor: This will help work on your child's body awareness and coordination. It can also help increase their strength and endurance.
- Cognitive: This can help increase their confidence and self-esteem. It will help teach them to trust their instincts

*Tip: To improve motivation and engagement, have motivating toys at the start and end

BALLOON VOLLEYBALL

AGES: 1+ MONTHS

Because balloons can be a choking hazard, please be near by in case it pops so that you can clean up the pieces as soon as possible to prevent choking. Do not leave extras laying around.

1-12 MONTHS

Materials needed:

- 2 balloons (filled with helium) + string

How to:

- Loosely tie the strings around your child's ankles and help mimic a kicking action to make the balloons dance!

12+ MONTHS

Materials needed:

- 1 bag of large balloons

How to:

- Blow up the balloons and have them "keep it up"
- Depending on their age, have them count how many times it is hit back and forth

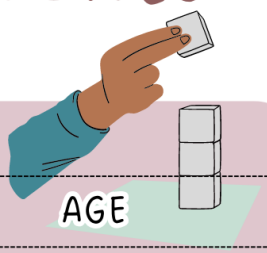
WHAT DOES THIS WORK ON?

- Gross motor: Tracking the balloon and hitting it can work on their bilateral coordination. Depending on how long you can get your child to engage for, it can work on their endurance.
- Vision: Your child is learning to visually track and follow the balloon in the air. They are also working on their visual processing speed. This is their ability to see the balloon and make appropriate adjustments on time.

Appendix L

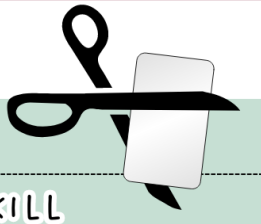
Developmental Milestone Handouts (One- to Three-Year-Olds)

WEEK #1
FINE MOTOR MILESTONES



GRASP DEVELOPMENT

SKILL	AGE
Lateral pincer grasp (thumb and index finger)	0:7 - 0:9 months
Gross grasp on crayon	0:11 months - 1 year
Neat pincer grasp and thumb opposition present	1 year - 1:3 years
Digital pronated grasp of writing utensil	2 - 3 years
Static tripod grasp of writing utensil	3:6 - 4 years



SCISSOR SKILLS

SKILL	AGE
Snips edge of paper	2 years
Snips on target / along line	2:4 - 3 years
Cuts 6 inch paper in half	2:5 - 3:2 years
Cuts straight line, curved line, and circle	4 - 5 years
Cuts out more complex shapes	5-6 years

All information was obtained from the following reference:
Busch, A., Hall, L., Myott, F., & Rackley, M. (2023). *Developmental milestones for professionals: A quick screening, assessment, and goal writing reference* (4th ed.). Costal OT Connections.

WEEK #2

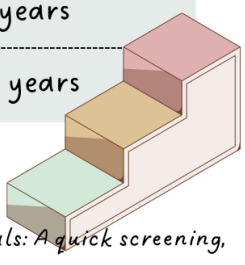
GROSS MOTOR MILESTONES

WALKING & RUNNING

SKILL	AGE
Walks on their own	1:0 - 1:3 years
Walks sideways	1:6 - 1:10 years
Walks backwards 10 feet	2:1 - 2:2 years
Runs 10 feet	1:8 years
Runs with good coordination and stops without falling	3:9 - 4:0 years

STAIRS

SKILL	AGE
Creeps up and down stairs	1:2 - 1:4 years
Up three steps - with support, nonreciprocal (taking one step at a time)	1:3 - 1:9 years
Down with one hand held	1:5 - 1:9 years
Walks up/down alternating feet	2:10 - 3:0 years



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WEEK #3

SOCIAL EMOTIONAL

Social-emotional development refers your child's ability to identify their own emotions. It also includes their ability to engage in socially appropriate behaviors.

SOCIAL EMOTIONAL DEVELOPMENT	
SKILL	AGE
Initiates and participates in social play	0:4 months
Strong bond with mother/caregiver (separation anxiety begins)	0:5 to 0:6 months
Turns head when name is called	0:9 months
Enjoys repetition in play (peek-a-boo)	0:10 months
Begins imitative play	0:7 - 0:11 months
Frustration often results in temper tantrums	1:2 to 2:0 years
Repeats activities to make adults laugh	2:0 years
Participates in turn taking; plays mainly with the same sex	3:0 - 4:0 years

All information was obtained from the following reference: Busch, A., Hall, L., Myott, F., & Rackley, M. (2023). *Developmental milestones for professionals: A quick screening, assessment, and goal writing reference* (4th ed.). Costal OT Connections.

WEEK #4

FUNCTIONAL VISUAL DEVELOPMENT & BODY PARTS

Functional visual development involves visual perception, which is the ability for someone to take in visual information and interpret what it means. It is how we take what we see and make it meaningful.

FUNCTIONAL VISUAL DEVELOPMENT

SKILL	AGE
Recognizes distant objects (i.e.: dad)	0:4 - 0:6 months
Eyes straight (no strabismus)	0:6 months
Looks at pictures Watches moving toy	0:7 - 0:10 months
Imitates facial expressions	0:9 months
Reads body language and facial expressions	1:0 - 2:0 years
Matches simple forms	3:0 years

BODY PARTS

SKILL	AGE
Able to point to one body part	1:3 years
Points to three parts	1:7 years
Points to six parts	1:10 years
Identifies by pointing to six parts on a doll	2:6 years

All information was obtained from the following reference:
Busch, A., Hall, L., Myott, F., & Rackley, M. (2023). *Developmental milestones for professionals: A quick screening, assessment, and goal writing reference* (4th ed.). Costal OT Connections.

WEEK #5
BALL SKILLS & PLAY

BALL SKILLS

SKILL	AGE
Kicks ball inaccurately Throws tennis ball (overhand) inaccurately	1:3 - 1:4 years
Kicks a still ball	2 years
Catches large ball with arms and body	2:1 - 2:2 years
Kicks moving ball	3:0 - 3:6 years
Catches large bounced ball with hands	3:8 - 4:5 years

DEVELOPMENTAL PROGRESSION OF PLAY

SKILL	AGE
Exploratory Play: Play using senses (mouthing, looking at objects); focuses on building relationships with caregivers	0:0 - 0:6 months
Functional play: Simple pretend play such as pretend sleeping or eating; will imitate simple play schemes	1:0 - 1:6 years
Parallel play: Plays beside others with little interaction; focus on material manipulation as well as construction	1:0 - 3:0 years

Continued on page 2..

All information was obtained from the following reference:
Busch, A., Hall, L., Myott, F., & Rackley, M. (2023). *Developmental milestones for professionals: A quick screening, assessment, and goal writing reference* (4th ed.). Costal OT Connections.

1

WEEK #5
BALL SKILLS & PLAY

DEVELOPMENTAL PROGRESSION OF PLAY CONT.

SKILL	AGE
Exploratory/Solitary play: Plays individually; explores environment to learn body/space relationships through gross motor activities	1:6 years
Independent/Symbolic play: Occupies self through independent and role play; begins social play; uses objects, toys to represent animals and people; plays house	2:0 - 3:0 years
Associative/Imaginary play: Emergent skills in symbolic, dramatic, and interactive play; begins to prefer play with other children; real life and feelings enter scripts; enjoys puzzles and blocks	2:9 - 4:0 years
Social play: Games with simple rules; dress up and role play	4:0 - 5:0 years
Cooperative play: Plays by rules more consistently and in groups with increase in dramatic and imitative play; board games	5:0 - 6:0 years
Competitive play: Participates in team sports and activities that promote competition with structured rules; card games, starts to develop hobbies; play with same group of friends	6:0 - 10:0 years

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WEEK #6

BILATERAL HAND SKILLS & PRE-WRITING SKILLS

BILATERAL HAND SKILLS

SKILL	AGE
Symmetrical movement patterns reach with both hands and bring to midline	0:3 - 0:10 months
Bangs objects holding one in each hand; able to hold toy in one hand while using other to explore it	0:10 months
Refining skills leading to using 2 hands at the same time but for different actions in midline	1:6 to 2:0 years
Emerging use of one hand to stabilize item while other hand activates (string beads, snip with scissors)	2:0 - 2:5 years

PRE-WRITING SKILLS

SKILL	AGE
Initiates scribbling	1:1 - 1:6 years
Imitates vertical line	1:6 to 2:0 years
Imitates horizontal line	2:0 - 2:6 years
Imitates a circle	2:0 - 2:9 years
Imitates a cross	2:0 - 3:0 years
Copies a circle	3:0 years

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WEEK #7

ATTENTION & DRESSING MILESTONES

ATTENTION

SKILL	AGE
Engages in simple task with reinforcers needed	2:6 to 3:0 years
Begins task with minimal prompting	3:6 to 4:0 years
Focuses on task with distractions present - less than five minutes	3:6 to 4:0 years
Begins task independently Able to maintain attention for 5-10 minutes	4:1 - 5:0 years

DRESSING SKILLS

SKILL	AGE
Socks:	
• Removes socks	1:2 - 1:6 years
• Puts on socks correctly	3:0 - 4:0 years
Shirt:	
• Helps with putting on shirt	1:0 year
• Puts on shirt (may be backwards)	2:10 years
• Dresses/undresses upper body with supervision	3:0 years
Pants:	
• Helps by pushing legs through	1:0 year
• Pulls pants down with help	2:2 years
• Pulls pants up with help	2:4 years
• Independently pulls down pants	3:0 years

All information was obtained from the following reference:

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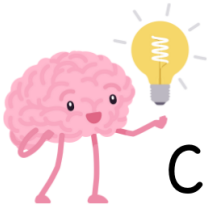


WEEK #8

COGNITIVE MILESTONES

Your child's cognitive skills include their ability to problem solve and critically think. This is how they gather knowledge to understand the world they live in.

COGNITIVE DEVELOPMENT

SKILL	AGE
Moves to obtain something or get a desired result Searches for hidden object Begins to use advanced skills such as poking, pulling to explore objects	0:6 - 0:9 months
Beginning to see cause/effect relationship Behaviors are goal directed Responds to name Looks at pictures in book Imitates simple gestures and play	0:9 - 1:0 months/year
Starts to use trial and error for problem solving Tries to activate simple toys	1:0 + years
Understands function of objects and how they work Recognizes names of some body parts	1:0 - 1:6 years
Uses inanimate object to perform an action Object permanence is fully developed	1:8 - 2:0 years
Creates imaginative play using entire scripts Uses multiple actions to complete a play scheme	2:0 - 3:0 years
Imaginary objects are utilized in play Challenging activities are attempted Will take turns with other children	3:0 - 4:0 years

All information was obtained from the following reference:
Busch, A., Hall, L., Myott, F., & Rackley, M. (2023). *Developmental milestones for professionals: A quick screening, assessment, and goal writing reference* (4th ed.). Costal OT Connections.

Appendix M

Developmental Milestone Handouts (0-12 Months)

WEEK #1

HEAD CONTROL & TUMMY TIME

Why are they important?

TUMMY TIME

Tummy time is when you place your child on their belly while they are awake.

2-3 TIMES PER DAY
3-5 MINUTE INCREMENTS

Work your way up to 15-30 minutes a day by the time they are 7 weeks old

WHAT DOES IT HELP WITH?

- Strengthens their neck, core, arms, and back muscles
- Helps prevent flat spots on their head
- Helps them discover how to move their body!

All information was obtained from the following reference:
American Academy of Pediatrics. (2022). Back to sleep, tummy to play: Pediatric parent education. https://publications.aap.org/patiented/article-abstract/doi/10.1542/peo_document285/80192/Back-to-Sleep-Tummy-to-Play?redirectedFrom=fulltext

HEAD CONTROL

SKILL	AGE
Lifts head from caregiver's shoulder	0:1 - 0:2 months
Turns head to either side laying on belly Maintains head in midline (the middle) while laying on back	0:2 - 0:3 months
Maintains head control while sitting with support	0:3 - 0:5 months
Lifts head in supine (on back)	0:5 - 0:6 months
Holds head in line with body when pulled to sit	0:4 - 0:6 1/2 months

All information was obtained from the following reference:
Busch, A., Hall, L., Myott, F., & Rackley, M. (2023). *Developmental milestones for professionals: A quick screening, assessment, and goal writing reference* (4th ed.). Costal OT Connections.

TIPS FOR TUMMY TIME

It is okay if they cry! Odds are that your child is not going to like it for the first few tries, but keep with it! It is for their benefit.

Place engaging toys around them, encouraging them to reach for them.

Try these tips!

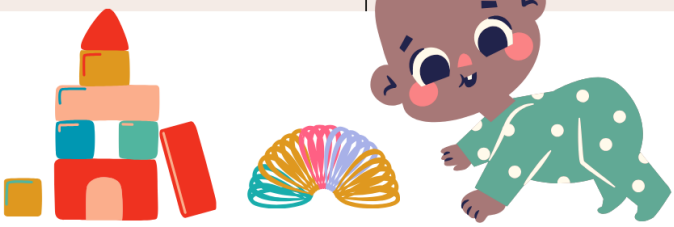
- Putting a mirror slightly in front of them
- Place objects around them that catch their attention (light up toys, singing toys, you!)
- If they are struggling, place a rolled up blanket or wedge under their arms and on their chest to help prop them up more. This requires less work on their part!

Supervision at all times while they are on their tummy is very important, do not leave your child unattended in this position. When they are very little, they lack the strength to roll themselves over and become fatigued quickly.

WEEK #2
MOBILITY MILESTONES

MOBILITY

SKILL	AGE
Extends both legs and kicks reciprocally	0:0 - 0:2 1/2 months
Weight bearing on legs emerging	0:5 months
Weight bears with most of the weight on the legs	0:6 - 0:7 months
Raises hips pushing with feet while on back	0:6 1/2 months
Bounces on legs with trunk support	0:5 - 0:7 months
Crawls with belly on ground	0:9 months
Pulls to stand and lowers at furniture	0:9 - 0:10 months
Moves legs as if walking with support	0:10 months
Momentarily stands	0:11 months
Walks with one hand held	1:0 - 1:1 years
Takes 2-3 steps independently	1:0 - 1:1 1/2 years
Stands from supine moving through quadruped (from laying on back to on all fours to standing)	1:3 years



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WEEK #3

SOCIAL EMOTIONAL DEVELOPMENT

This is your child's ability to identify their own emotions and how they begin to engage in socially appropriate behaviors.

SOCIAL EMOTIONAL	
SKILL	AGE
When held, hears voice, or sees face, ceases crying	0:1 month
Increased awareness of others Social smile	0:2 months
Initiates and participates in social play Interacts with familiar and unfamiliar people	0:4 months
Recognizes own image	0:6 - 0:7 months
Babbles to interact with caregiver	0:6 months
Strong bond with caregiver (separation anxiety begins)	0:7 - 0:8 months
Turns head when name is called	0:9 months
Begins imitative play	0:7 - 0:11 months
Separation anxiety continues; bedtime difficult	1:0 year

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WEEK #4

GROSS & FINE MOTOR MILESTONES: SITTING & BILATERAL HAND SKILLS

SITTING (GROSS MOTOR)

SKILL	AGE
Sits momentarily leaning on hands when put in position	0:5 months
Sits sustained leaning on hands	0:6 months
Attains sitting position without assist	0:6 - 0:10 months
Sits momentarily without arm support	0:7 months
Sits sustained without arm support for 10 minutes	0:9 - 0:10 months
Pivots in sitting; twists to pick up objects	0:11 months

BILATERAL HAND SKILLS (FINE MOTOR)

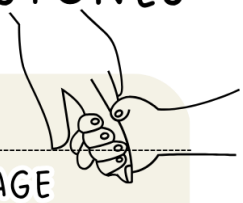
SKILL	AGE
Asymmetrical movement patterns (movements are not a mirror of each other)	0:0 - 0:3 months
Symmetrical movement patterns reach with both hands and bring to midline	0:3 - 0:10 months
Bangs objects holding on in each hand; Able to hold a toy in one hand while using other to explore it	0:10 months
Refining skills leading to using 2 hands at same time but for different actions in midline	1:6 - 2:0 years

All information was obtained from the following reference:

Busch, A., Hall, L., Myott, F., & Rackley, M. (2023). *Developmental milestones for professionals: A quick screening, assessment, and goal writing reference* (4th ed.). Costal OT Connections.

WEEK #5

FINE MOTOR: GRASP/RELEASE MILESTONES



GRASP/RELEASE	
SKILL	AGE
Hands are predominantly closed	0:0 - 0:3 months
Indwelling thumbs disappear (thumb tucked in hand); voluntary grasp emerges	0:2 - 0:3 months
Palmer grasp Using their four fingers and palm to pick things up	0:4 - 0:5 months
Radial palmer grasp Using all five fingers and the palm to pick things up	0:6 - 0:7 months
Lateral pincer grasp Using their thumb and index finger to pick things up	0:7 - 0:10 months
Gross grasp on crayon Using their whole hand, with fingers wrapped around it, thumb facing up	0:11 - 1:0 months
Neat pincer grasp and thumb opposition present Using fingertip to fingertip to pick things up	1:0 - 1:3 years

All information was obtained from the following reference:

Busch, A., Hall, L., Myott, F., & Rackley, M. (2023). *Developmental milestones for professionals: A quick screening, assessment, and goal writing reference* (4th ed.). Costal OT Connections.

SCREEN TIME

WHAT YOU SHOULD KNOW

HOW MUCH SCREEN TIME SHOULD MY CHILD HAVE?

- Children ages 0-18 months should have zero screen time. If they do, it should only be when video chatting an adult
- For children ages 18-24 months, make sure it is a high quality, educational video. Avoid giving them a device and allowing them to click through the videos
- For children ages 2-5, limit them to one hour of screen time a day

TOO MUCH SCREEN TIME COULD LEAD TO..

- Behavior issues
- Obesity
- Difficulty with attention
- Delays in language and social skills
- Difficulty sleeping

WHAT TO TRY..

- Set time limits on the device your child is using
- Avoid screens at least 30-60 minutes before bed
- Interact with your child as you are watching the show together. Ex) Did you see that bird? What color was it?
- Eliminate background TV throughout the day

All information was obtained from the following reference:
Mayo Clinic. (2022). *Screen time and children: How to guide your child.* https://www.mayoclinic.org/healthy-lifestyle/childrens-health/in-depth/screen-time/art-20047952#:~:text=If%20you%20introduce%20digital%20media,doesn't%20work%20as%20well.

Appendix N

Playgroup Budget: Year 1 Expenses and Start-Up Costs

Table N1

Staffing Expenses

Staffing Expenses			
Category/Item	**Cost Per Unit**	**Number**	**Total**
Personnel			
Program facilitator (non-expendable) - 1 OTR/L	$46 per/hour - 5 hours/week x 8 weeks = $1,840 - 10 hours (preparation before playgroup) = $460	1	$2,300 (for initial start-up 8-week playgroup)
	$46 per/hour - 5 hours/week x 8 weeks = $1,840	1	$1,840 (for every 8-week program after)
	1st Year Total for staffing:	(1 playgroup ran) = $2,300 (2 playgroups ran) = $4,140	
	Cost for every 1 year after (2x per year):	$3,680	

Table N2

Operational Expenses

Operational Expenses					
Materials, Supplies & Equipment	**Non-Expendable**	**Expendable**			
Administrative Supplies					
Printer	X		$250	1	$250
Ink		X	$67	1	$67
Printer paper (8 reams)		X	$66	1	$66
Lysol wipes (Jumbo bucket – 700 ct)		X	$63	1	$63
Disinfectant spray		X	$8	4	$32
Gallon sized plastic bags		X	$85	1 carton (250 bags)	$85
Snack size plastic bags (100 ct)		X	$7	1	$7
Collapsible folding outdoor utility wagon	X		$88	1	$88
Thermal laminator	X		$36	1	$36
Lamination sheets		X	$31	4	$124
Masking tape (10 rolls per order)		X	$19	5	$95
Clear tape (12 rolls per order)		X	$23	1	$23
					Total: $936.00

Table N3

Playgroup Supplies

Playgroup Supplies	**Non-Expendable**	**Expendable**			
6 Qt Storage Box (12 pack)	X		$55	2	$110
Sensory toys (50-piece set)	X		$45	1	$45
Building blocks (plastic) (300 piece)	X		$69	1	$69
Large pop-beads	X		$22	1	$22
Farm with animals	X		$27	1	$27
Magnetic tiles	X		$60	1	$60
Puzzles - 7 Pack peg puzzle - 4 Piece puzzle (4 pack)	X	-	- $37 - $17	1 (of each)	$54
Brown paper bags (100 ct)		X	$9	1	$9
Foam shapes (3000 ct)	X		$25	1	$25
Glue sticks (30 ct)		X	$9	1	$9
Elmers's liquid glue (12 ct)		X	$33	1	$33
Crayons (1000 ct)	X		$35	1	$35
Children's scissors	X		$20	1	$20
Adult scissors (4 ct)	X		$13	1	$13
Colored construction paper (2 pack – 480 ct)		X	$17	2	$34
Stickers		X	$9	1	$9
Large rolls of paper		X	$119	2	$238
Stepping stones	X		$85	2	$170
Crash pad	X		$178	1	$178
Balance beam	X		$60	1	$60
Beach ball (2 pk)	X		$7	1	$7
Treasure chest	X		$14	1	$14
"Treasure" toys - Gold coins - Gemstones	X		- $9 - $8 - $12	- 1 - 1 - 1	$44

- Fish - Seashells - Fake jewelry			- $15	- 1	
Tissue paper (200 ct)		X	$10	2	$20
Craft paint (11 colors 16 oz)		X	$54	1	$54
Dawn dish soap (55 oz)		X	$11	1	$11
Small/medium toy animals (100 ct)	X		$40	1	$40
5 Qt storage bins (12 pack)	X		$53	2	$106
Small dish brushes (3 pack)	X		$8	1	$8
Bubbles - Large bubble wand - Small (4oz) bubbles		X	$40 - 2 ($10) - 1 ($20)	3	$40
Translucent ABC letters	X		$13	1	$13
Food coloring		X	$4	1	$4
Bowling pins set	X		$33	1	$33
Sidewalk chalk		X	$10	1	$10
Children's books (set of 10)	X		$25	1	$25
Wooden building blocks (100 ct)	X		$28	1	$28
Easter eggs (50 ct)	X		$14	1	$14
Dome cones	X		$10	1	$10
Kickball (6 ct)	X		$20	1	$20
Mini trampoline	X		$80	1	$80
Throw down base set	X		$15	1	$15
20 lb. pound of rice		X	$12	2	$24
Super glue		X	$9	1	$9
Funnels (4 ct)	X		$8	1	$8
Pack of mini assorted toys (500 ct)	X		$17	1	$17
Play-Doh (24 ct)		X	$22	1	$22
Playdoh tools	X		$16	1	$16
Cereal (Froot Loops, Cheerios, etc.)		X	$5	2	$10

Yarn		X	$4	1	$4
Paint brushes (10 ct)	X		$7	1	$7
Pompoms (1000 ct)		X	$10	1	$10
Hole punches (10 pack)	X		$10	1	$10
Balloons (54 ct)		X	$6	1	$6
Ocean balls (100 ct)	X		$30	1	$30
Visual timer	X		$24	1	$24
Tongs (12 ct)	X		$13	1	$13
A Little Spot of Emotion (book set)	X		$60	1	$60
Sandbox toys	X		$12	1	$12
Soccer ball	X		$14	1	$14
Dodge ball (5 ct)	X		$26	1	$26
Butterfly net	X		$8	1	$8
Bug enclosure	X		$8	1	$8
Mindful yoga cards	X		$20	1	$20
Baby swaddles (4 ct)	X		$30	1	$30
Baby toys	X		$33	1	$33
Soft mat	X		$47	1	$47
Play mirror	X		$22	1	$22
Busy board	X		$27	1	$27
High contrast baby books	X		$13	1	$13
Pop-up tunnel	X		$20	1	$20
Baby instruments	X		$39	1	$39
Hair gel (4 ct)		X	$6	1	$6
Googly eyes (500 ct)		X	$5	1	$5
Bubble wrap		X	$10	1	$10
Double sided tape (3 ct)		X	$7	1	$7
Inflatable pool	X		$20	1	$20
Tummy time water mat	X		$15	1	$15
					Total: $2,468.00

Table N4

Take-Home Activity Supplies

Take-Home Activity Supplies	**Non-Expendable**	**Expendable**			
Yarn		X	$4	2	$8
Ribbon		X	$5	2	$5
Pipe cleaners (200 ct)		X	$8	1	$8
Golf tees (100 ct)		X	$11	2	$11
Tissue paper (360 ct)		X	$13	1	$13
Felt fabric sheets (42 ct)		X	$13	1	$13
Sand paper (25 ct)		X	$15	1	$15
Flashlights (16 ct)		X	$26	1	$26
Cookie cutters (32 ct)		X	$14	1	$14
Small toothbrush (25 ct)		X	$10	1	$25
Small/medium animals (60 ct)		X	$12	1	$12
Balloons (54 ct)		X	$6	1	$6
Dish sponges (16 ct)		X	$12	1	$12
Feathers (300 ct)		X	$13	1	$13
Wooden clothespins (50 ct)		X	$8	4	$32
Tiny snowflakes (50 ct)		X	$9	1	$9
Blue beads (170 ct)		X	$10	1	$10
Pony beads (1100 ct)		X	$7	1	$7
Flower foam (24 ct)		X	$14	1	$14
					Total: $253.00

Table N5

Yearly Total Expenses

Expenses	Total
1st Year	
Total annual staffing expenses	- Ran once: $2,300 - Ran twice: $4,140
Administrative supplies	$936
Playgroup supplies	$2,468
Take-home activity supplies	$253
1st year total start-up cost:	- Ran once: $5,957 - Ran twice: $7,797
Years moving forward	
Total annual staffing expenses	- Ran once: $1,840 - Ran twice: $3,680
Administrative supplies	$562 - Subjective depending on materials left over from year one, could be less
Playgroup supplies	$421 - Subjective depending on materials left over from year one, could be less
Take-home activity supplies	$253 - Subjective depending on materials left over from year one, could be less
Yearly cost moving forward:	- Ran once: $3,076 - Ran twice: $4,916

Appendix O

Before and After Questionnaire for Playgroup

Lincoln Littles Playgroup: Pre-Program Questionnaire

1. What is your current understanding of developmental milestones?
    - Very knowledgeable
    - Knowledgeable
    - Somewhat knowledgeable
    - Unknowledgeable
    - Very knowledgeable
2. What is your current understanding of where to access resources if needed? (specialists, more information on your child's development, etc.)
    - Very knowledgeable
    - Knowledgeable
    - Somewhat knowledgeable
    - Unknowledgeable
    - Very knowledgeable
3. How confident are you in your ability to identify a developmental delay in your child?
    - Very confident
    - Confident
    - Somewhat confident
    - Not confident
    - Not confident at all
4. How confident are you in your ability to select developmentally appropriate activities for your child?
    - Very confident
    - Confident
    - Somewhat confident
    - Not confident
    - Not confident at all
5. What is your motivation for attending this playgroup?

Lincoln Littles Playgroup: Post-Program Questionnaire

1. After attending the playgroup, what is your current understanding of developmental milestones?
    - □ Very knowledgeable
    - □ Knowledgeable
    - □ Somewhat knowledgeable
    - □ Unknowledgeable
    - □ Very knowledgeable
2. After attending the playgroup, what is your current understanding of where to access resources if needed? (specialists, more information on your child's development, etc.)
    - □ Very knowledgeable
    - □ Knowledgeable
    - □ Somewhat knowledgeable
    - □ Unknowledgeable
    - □ Very knowledgeable
3. After attending the playgroup, how confident are you in your ability to identify a developmental delay in your child?
    - □ Very confident
    - □ Confident
    - □ Somewhat confident
    - □ Not confident
    - □ Not confident at all
4. After attending the playgroup, how confident are you in your ability to select developmentally appropriate activities for your child?
    - □ Very confident
    - □ Confident
    - □ Somewhat confident
    - □ Not confident
    - □ Not confident at all

6. This playgroup provided an opportunity for you to ask questions about your child's development
    - Strongly agree
    - Agree
    - Undecided
    - Disagree
    - Strongly disagree
7. Yours and your child's needs and concerns were addressed
    - Strongly agree
    - Agree
    - Undecided
    - Disagree
    - Strongly disagree
8. What do you wish was included in the playgroup?

9. What improvements would you like to see made in the future?

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Curriculum Vitae

Chesnee Clingman
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Education

University of Nevada, Las Vegas Anticipated Graduation May 2024
Occupational Therapy Doctorate
Capstone Title: A Program Proposal for a Community-Based Playgroup Focused on Caregiver Education of Developmental Milestones
Advisor: Dr. Kaitlin Ploeger OTD, OTR/L, BCP

Utah Tech University December 2020
B.S. in Exercise Science

Related Clinical Experience

Capstone Experience
Lincoln County School District | Community and School-Based January 2024 – April 2024
Caliente, NV | Panaca, NV | Pioche, NV

- Conduct semi-structured interviews with caregivers, teachers, and stakeholders to assist with program development
- Create a community-based playgroup including caregiver handouts and occupation-based activities
- Provide consultative services to educators regarding strategies to implement within their classrooms to assist with sensory, behavioral, and fine motor development

Level II Fieldwork:
Speakeasy Therapy Services | Outpatient Pediatrics Summer 2023
Las Vegas, NV

- Administer and score assessments including BOT-2, Peabody, Sensory Profile, and VMI
- Provide comprehensive, client-centered, and occupation-based interventions to individuals with a variety of conditions including developmental delay, autism spectrum disorder, cerebral palsy, Down syndrome, ADHD, ADD, etc.
- Collaborate with other disciplines, including physical therapy and speech therapy, along with patient's caregiver to establish appropriate plan of care

Intermountain St. George Neuro Rehab | Inpatient Adults Summer 2022
St. George, UT

- Perform evaluations on patients who had suffered from neurological, orthopedic, respiratory, and cardiac-related conditions

- Create and implement high-intensity interventions customized to each patient to increase neuroplasticity
- Perform in-home assessments with both the patient and the OT to best assess at-home recommendations

Level I Fieldwork:

Inclusion Fusion | Community-Based	Fall 2023
Clark County School District	Spring 2023
Cornerstone Christian Academy and Tykes Preschool	Fall 2022
Mike O'Callaghan Military Medical Center | Outpatient	Spring 2022
The Garden Foundation | Adult Daycare	Fall 2021

Professional Affiliations

Nevada Occupational Therapy Association	2024
American Occupational Therapy Association	2021 – Present
Student Occupational Therapy Association	2021 – Present
Phi Theta Epsilon | Alpha Phi Chapter	2023 – Present

Honors and Awards

UNLV OTD Capstone Support Scholarship	2024
UNLV OTD General Scholarship	2024
UNLV OTD Out-of-Area Capstone Scholarship	2024
UNLV OTD General Scholarship	2023
UNLV OTD Out of Area Scholarship	2022

Institutional Service

Phi Theta Epsilon, Alpha Phi Chapter | Secretary	2023 - Present
University of Nevada, Las Vegas	
Pre-Health Professionals | President/Founder	2019-2020
Utah Tech University	
Exercise Science Club Member	2017-2020
Utah Tech University	