Standard Practice in Early Intervention: Targeted Domains Within Individualized Family Service Plans

Thesis

Presented in Partial Fulfillment of the Requirements for the Degree Master of Arts in the Graduate School of The Ohio State University

By

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The Ohio State University
2014

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Abstract

Under Part C of the Individuals with Disabilities Education Act, states are required to provide Early Intervention (EI) services to infants and toddlers with diagnosed conditions and developmental delays. Individualized Family Service Plans (IFSPs) are developed to guide implementation of EI services. Included in this document are objectives (referred to as "outcome statements"). These outcome statements identify specific goals for the eligible child and/or family that will functionally help the family achieve its priorities with the child. According to best practice, child-focused outcomes should enable increased participation for the child in the context of their everyday life.

States are held accountable for reporting the degree to which their Early Intervention (EI) programs enable a child to meet three global outcomes: attainment of positive social relationships, acquisition of skills, and ability to use appropriate behaviors to meet their needs. To meet these global outcomes, skills spanning multiple developmental domains (cognitive, motor, adaptive, social-emotional, communication) may need to be targeted simultaneously for each child. While past studies have investigated the types of services that are provided to children receiving services under Part C, there has been little research investigating the types of outcomes that are developed for eligible children based on developmental themes.
In this study, 102 outcome statements from seventy-three participants were coded for their relationship to each of the five developmental domains. Data was then analyzed to determine the frequency with which developmental themes were targeted within IFSP outcomes with respect to child characteristics. The frequency with which developmental domains were concurrently targeted was also analyzed.

Result from the study revealed that outcome statements written for EI participants are most often related to the developmental domain of communication. Data also revealed that despite child characteristics known to be associated with maladaptive behavior (overall substantial delay, substantial delay in communication), outcomes do not consistently address the specific areas of deficit. Finally, despite recommendations to integrate skills across the domains within outcome statements, it was found that the vast majority of outcomes addressed participation in a single domain only.

Results from the study indicate a need for a more coordinated, transdisciplinary approach to outcome development on IFSPs. This would assist in creating outcomes that better address the holistic needs of the child, as opposed to separate, domain-specific outcomes that continue to be written. Additionally, professional development provided through a transdisciplinary model enhances the knowledge and skills of all EI service providers, thus enabling them to better serve each unique child.
Acknowledgements

First and foremost, I would like to thank my grandmother, Faye Kaplan, for her generosity and the incredible gift of a college education. I would not be where I am today without her support, and I cannot put into words how grateful I am for all the opportunities that she has provided me.

I would also like to express my deepest appreciation to my advisor, Dr. Kathy Lawton, who has given her valuable time, guidance, and encouragement throughout my experience in the program and with this thesis. Her positive energy and deep passion for the field has been a true inspiration both personally and professionally.

I would also like to thank Dr. Diane Sainato for sparking my interest in early childhood intervention, and for her support as a committee member for this thesis.

Finally, I would like to thank Dana Saltzman, my colleague and teammate for the past year. Working together has been a blessing. I appreciate all the ideas, insight, and expertise she has shared with me, and I wish her all the best in the future.
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# Table of Contents

Abstract .............................................................................................................................. ii

Acknowledgments .............................................................................................................. iv

Vita ..................................................................................................................................... v

List of Tables .................................................................................................................... vii

List of Figures ................................................................................................................... vi

Introduction ......................................................................................................................... 1

Methods ............................................................................................................................... 22

Results ............................................................................................................................... 36

Discussion .......................................................................................................................... 44

References ........................................................................................................................ 59

Appendix A: Tables .......................................................................................................... 63

Appendix B: Figures .......................................................................................................... 74

Appendix C: IFSP Summary Sheet .................................................................................... 79
List of Tables

Table 1. Reasons for participant eligibility.......................................................... 63
Table 2. Developmental results per assessed domain........................................... 64
Table 3. Ages of study participants........................................................................ 65
Table 4. Number of outcomes statements written for study participants............... 66
Table 5. Agreement among raters for developmental themes present within outcome statements .................................................................................................................. 67
Table 6. Developmental domains targeted per child based on overall level of developmental delay .................................................................................................................. 68
Table 7. Frequency of developmental themes targeted per child with respect to developmental assessment scores .................................................................................................................. 69
Table 8. Number of developmental domains targeted per outcome statement....... 70
Table 9. Developmental domains concurrently targeted within single outcome statements ................................................................................................................................. 71
Table 10: Number of domains targeted across outcomes per participant............... 72
Table 11: Developmental domains targeted across all outcomes per participant..... 73
List of Figures

Figure 1. Consort for IFSP inclusion ............................................................................ 74

Figure 2: Frequency with which participants have outcomes targeting each
developmental domain .................................................................................................. 75

Figure 3. Developmental themes targeted per participant based on level of delay in
adaptive behavior .......................................................................................................... 76

Figure 4. Developmental themes targeted per participant based on level of delay in
receptive communication .............................................................................................. 77

Figure 5. Developmental themes targeted per participant based on reported level of
delay in expressive communication ........................................................................... 78
Introduction

Literature Review

Legislative Background in Early Intervention

In 1975, the federal government passed The Education of Handicapped Children Act (known today as the Individuals with Disabilities Act), which provided funds to states to ensure that children ages 3-21 with disabilities received a free and appropriate public education. In 1986, the law was reauthorized, and Congress created a new program, now referred to as Part C, extending services to infants and toddlers by providing early intervention to eligible children birth to age three (Blackorby et. al., 2010). Congress established the Part C program as result of “an urgent and substantial need to enhance the development of infants and toddlers with disabilities, minimize their potential for developmental delay, and to recognize the significant brain development that occurs during a child’s first three years of life.” Congress identified the benefit of a program aimed at the development of infants and toddlers. Among other reasons, they acknowledged that early intervention would prevent the need for special education services later in life and would enhance the capacity of families to meet the special needs of their infants and toddlers with handicaps (Kupper, 2012).
Part C of The Individuals with Disabilities Education Act (IDEA) provides funding to states to operate comprehensive, multidisciplinary, statewide programs of early intervention. In order for states to participate in Part C programs, they are required to ensure that services are made available to all infants and toddlers with disabilities and their families. (Hebbeler et. al., 2007). Currently, all fifty states participate. (National Dissemination Center for Children with Disabilities, 2012).

Eligibility for Part C Services

Early intervention (EI) is concerned with the developmental skills that infants and toddlers typically experience between birth and their third birthday. Diagnostic instruments and procedures are used to test for the presence of delays in the following areas: (1) cognitive development, (2) motor development, (3) adaptive development, (4) social-emotional development, (5) communication development. Cognitive development refers to a child’s thinking and problem-solving abilities and includes skills such as counting and sorting. Physical (or motor) development includes skills associated with fine motor skills (such as picking up objects) and gross motor skills (such as walking or crawling). Adaptive development refers to self-help skills that lead to independence, such as eating and dressing. Social-emotional development refers to a child feeling secure and knowing how to express their feelings, and includes skills such as sharing and cooperating. Development in the communication domain refers to a child’s talking, listening, and understanding, reflected in behaviors such as responding to words and gestures and using simple words (Heward, 2013).
Part C regulations define an infant or toddler with a disability as a child “under the age of three who needs early intervention because they are experiencing developmental delays in one or more of the five developmental areas, or who has a diagnosed physical or mental condition that has a high probability of resulting in developmental delay” (US Department of Education, 2012). In this definition, children with developmental delays are included first. In general, a developmental delay is considered any significant lag in a child’s development compared to what is expected for a typical child (Scarborough et. al., 2006).

In order to qualify for services due to a developmental delay, an evaluation must first be completed. This initial evaluation includes assessment across all five developmental domains. In the assessment, an examiner observes a child performing domain-specific tasks and identifies any delays that exist in their performance against what would be expected for a child their age (Heward, 2013).

IDEA requires that states develop their own rigorous definition that specifies what constitutes a developmental delay. Due to this flexibility given to states, the severity of delays making infants and toddlers candidates for early intervention varies across states. For example, some states may determine that a child must be two standard deviations below the mean in a single developmental domain while others may require that a child be 1.5 standard deviations below the mean in two or more developmental areas (Scarborough et. al., 2006). Currently, only eighteen states have eligibility criteria that require a child to be more than 1.5 standard deviations below the mean (Rosenberg et. al., 2013).
IDEA's definition of an infant or toddler with a disability also includes children with diagnosed physical and mental conditions. These "established conditions of risk" may be the result of various conditions, including "chromosomal abnormalities; genetic or congenital disorders; severe sensory impairments, including hearing and vision; inborn errors of metabolism; disorders reflecting disturbance of the development of the nervous system; congenital infections; disorders secondary to exposure to toxic substances, including fetal alcohol syndrome; and severe attachment disorders" (Shackelford, 2006). Specific conditions qualifying children under this category include down syndrome, fragile x syndrome, fetal alcohol spectrum disorder, sensory impairments, and AIDS (Heward, 2013).

For children with diagnosed conditions, the family may become aware of the disability at birth, or even before the child is born. For this reason, children with diagnosed conditions often begin receiving intervention services early in their infancy (Hebbeler et. al., 2007). Infants and toddlers under this category are eligible for services, regardless of developmental status (Shackelford, 2006).

In addition to children with developmental delays and children with diagnosed conditions, states are given the option to qualify children for services under a third category based on biomedical or environmental conditions that put them at risk for delay if services were not provided (U.S. Department of Education, 2012). Biomedical risk factors include conditions such as low birth weight and chronic lung disease, while environmental risk factors are the result of
circumstances in a child’s life, such as parental substance abuse, poverty, and child abuse or neglect. Though risk factors do not always lead to delay, the more risk factors experienced by a child, the greater the potential for developmental delay. States who opt to serve children with risk conditions typically require identification of three to five risk factors for a child to be eligible for services (Shackelford, 2006). Like children with diagnosed conditions, children who are eligible due to risk conditions are likely to begin services at a very young age (Bailey et al., 2004). While given the option, most states choose not to serve at-risk infants and toddlers. In fact, currently only four states opt to do so (Rosenberg et al., 2013).

A final way that a child can qualify for early intervention services is through informed clinical opinion (ICO). In order to safeguard against eligibility determination based on the results of test scores alone, Part C regulations require that this method be included as a means qualifying a child for services. A combination of qualitative and quantitative information is used to reach ICO, including interviews with the child’s parents, observation of the child across settings, physical examinations, use of an evaluation instrument, and a review of educational and medical records. This information is then synthesized by an early intervention professional, allowing them to make a recommendation for service eligibility (Lucas & Shaw, 2012).

*Part C Participants*

In 2012, the U.S. Department of Education reported that 333,982 children in the United States were receiving services under Part C. This represents 2.77% of
the birth to two population and reflects an increase from the 2.23% of the population that was served a decade prior, in 2003 (Early Childhood Technical Assistance Center, 2012). While these percentages indicate that more and more children are receiving services, research has shown that many children considered candidates for early intervention are not enrolled in Part C programs. In fact, it was found that only roughly 10% of eligible children actually receive services (Rosenberg et. al., 2008).

Analysis of children enrolled in Part C programs has shown that the majority of children served are between the age of two and three, followed by children between age one and two, and infants birth to one, respectively (Technical Assistance and Dissemination Network, 2012). It was also found that the majority (about 60%) of children served are boys (Blackorby et. al., 2010).

Part C Programs provide intervention services to a variety of infants and toddlers across all three eligibility categories (diagnosed conditions, developmental delays, and at-risk). The National Early Intervention Longitudinal Study (NEILS) investigated the distribution of those receiving services based on eligibility criteria and found that 64% of children receiving services were eligible due to developmental delay, 20% were eligible based on a diagnosed condition, and 16% were eligible due to risk conditions (Hebbeler et. al. 2007). Patterns in Part C enrollment reveal that generally infants and toddlers with diagnosed conditions and those at risk for developmental delay begin services earlier (in the first six months
of life) compared to children with established developmental delays (Scarborough et. al, 2006).

For infants entering Part C programs before the age of twelve months, data has revealed that reason for eligibly is distributed fairly evenly among eligibility categories (diagnosed condition, developmental delay, or risk condition). However, research has found that reason for eligibility varies by age at entry, with older children (age 24 to 26 months) entering services primarily because of developmental delay. While only 32% of children qualified for services under developmental delay before twelve months of age, 91% of toddlers entering early intervention programs between 24 and 36 months were eligible because of identified developmental delays (Scarborough et. al., 2006).

Children served under Part C vary considerably in their developmental characteristics. Those who qualify due to diagnosed conditions and risk conditions may have no measureable delay, some may have a delay in a single developmental area, while others may exhibit delays across several domains. As part of the National Early Intervention Longitudinal Study, telephone interviews were conducted with parents of eligible children to obtain information on the developmental characteristics of children entering Part C programs. According to these parent reports, the following information was obtained: in regards to motor functioning, 22% eligible infants and toddlers performed age-expected skills, 17% performed age-expected communication skills, 19% performed age-expected independence skills, and 26% were reported to perform age-expected cognitive
skills (Scarborough et. al., 2007). Half of parents reported that their child did not function at age-expected levels in any of the four skill areas (motor, communication, independence, or cognitive) at entry into early intervention, and only 18% of children entering Part C programs were reported as able to perform all of the skills at age level (Hebbeler et. al., 2007).

As reflected in the aforementioned parent reports, there is a wide discrepancy between age-expected skills and those exhibited by children receiving early intervention, particularly in regards to communication. Research has shown that speech and communication delays are the most common developmental issue among those receiving intervention services, with a reported 41% of children eligible for services for this reason. With only 17% of infants and toddlers able to perform age-expected skills at entry into Early Intervention, this represents the largest discrepancy in skill level across the five domains (Scarborough et. al, 2007). Communication deficits are a particularly common reason for eligibility in older toddlers; 75% of children entering Part C programs after 24 months of age were reported as having a speech or communication problem. Communication skills are critical in enabling a child to participate, and thus impaired communication can lead to problems in other areas as well (Hebbeler et. al. 2007).

Aside from communication delays, other commonly reported reasons for eligibility for service include prenatal or perinatal problems (19%), motor delays (17%), and an overall delay in development (12%). The many additional identified reasons for eligibility comprising relatively small percentages of children reveals the
substantial diversity of children served through Part C (Hebbeler et. al. 2007). As Hebbeler et. al. (2007) stated, “the diversity is so great the describing a ‘typical’ child in EI is impossible.”

Results of Early Intervention

The National Assessment of the implementation of the Individuals with Disabilities Act provided a description of the types of outcomes that children experienced as a result of participation in Part C programs. Through telephone interviews, parents answered questions about their child’s ability to perform age-expected tasks at both 36 months of age and at kindergarten.

Parent reports of child cognitive skills indicated that following receipt of Part C services, former EI participants continued to lag behind children in the general population. Thirty-two percent of former EI participants were reported as having mastered all cognitive milestones for their age at 36 months. In kindergarten, only 14% of children who had participated in EI had mastered cognitive milestones expected of a five-year old (Blackorby et. al., 2010).

Parents also reported on their child’s ability to perform age-expected skills within the physical (motor) domain following participation in EI programs. At 36 months, 28% of children were reported as having met physical milestones. In kindergarten, 21% of former EI participants were reported as having met physical milestones expected of a five-year old (Blackorby et. al., 2010).

The social-emotional skills were reported for children who had received EI services as well. At 36 months, 28% of parents reported that their child had met all
social-emotional milestones. By the time these children reached kindergarten, the percentage of children who had social-emotional milestones increased to 38% (Blackorby et. al., 2010).

Parents provided a report of their child's skills pertaining to adaptive behavior. At 36 months, only 8.5% of children had met all adaptive milestones. In kindergarten, the percentage of children having met age-expected milestones increased to 15% (Blackorby et. al., 2010).

Parent reports of child communication skills at 36 months indicated that children who participated in EI continued to demonstrate communication skills below what is expected for children their age. For example, only 42% of parents reported that their child communicated their needs as well as other children their age, 19% were reported as being easy to understand, and only 29% were reported by parents as having mastered all age-expected communication milestones. Parent reports of child performance in kindergarten indicated that 37% of former EI participants had mastered communication milestones expected of a five year old. (Blackorby et. al., 2010).

*The IFSP*

Although eligibility for services in early intervention programs is often contingent on the presence of a developmental delay in the infant or toddler, intervention does not focus exclusively on the child. Great emphasis is put on the family as well, with the understanding that infants and toddlers are dependent on their families for survival and nurturance (McGonigel et. al., 1991). It is well
recognized that in order to effectively address the needs of eligible children, their families must also be supported. (Hebbeler et. al., 2007). Thus, the law requires that needs of the child are viewed in the context of the family and that decisions for the child are viewed in the context of the family's life (McWilliam et. at. 1998). It is now widely accepted that parents are capable of effectively fostering their children's skills (Odom & Wolery, 2003), and the IFSP provides a framework that supports them in accomplishing this.

The IFSP is a required, key feature of Part C services and has been described as a vehicle for practitioners and families to attaining meaningful outcomes (Jung & Grisham-Brown, 2006). This document contains information pertaining to the developmental status of the eligible child, resources, priorities, and concerns of the family, outcomes to be gained, and services to be provided (Kupper, 2012). While service plans for older children with disabilities (individualized education plans) are professionally driven, the IFSP is instead a family-driven document reflecting priorities of the family. (Campbell et. al., 1992). An important underlying principle of the IFSP process is that every family receiving services has their own structure, value system, and beliefs, and therefore all IFSPs are to be unique and individualized (McGonigel et. al., 1991). Parents must be equally involved in order for a high quality plan to be developed. (Campbell et. al., 1992).

Providing intervention early in a child's life has proven effective in improving developmental outcomes and altering developmental trajectories for those experiencing delays across developmental domains. Although children may
continue to exhibit lags later in life, early intervention can prevent further decline. Several studies have demonstrated the benefit of intervention for children with a range of disabilities. (Guralnick, 2005). In fact, it was found that at 36 months of age, 40% of children who had participated in early intervention were reported as demonstrating age-expected skills across all five developmental domains (Blackorby et. al., 2010). Parent perception of early intervention also reflects positive outcomes, with 76% of families (regardless of their child’s eligibility) indicating that it had a lot of impact on their child (Hebbeler et. al., 2007).

**IFSP Outcome Statements**

At the heart of the IFSP are the outcome statements, representing the shared goals of families and professionals. These statements indicate who will do what, as well as the rationale that explains the effect that doing so will have on the family (Rosenskoetter & Squires, 2000).

In general, two types of outcomes exist: family-focused outcomes and child-focused outcomes. A family-focused outcome is one based on the desire and needs the child’s parents or caregivers, helping them to develop skills that will directly or indirectly assist them in parenting their child with a disability. In contrast, child outcomes focus primarily on enhancing the participation of the eligible infant or toddler in activities and routines important to the family (Shelden & Rush, 2013). Most outcomes written are child-focused. In fact, one study found that child-related outcomes were written four times as often as family outcomes (McWilliam et. al, 1998).
In the past, child-focused outcomes targeted discipline-specific goals and services were provided based on the child’s deficits (Sheldan & Rush, 2013). However, when developing child outcomes, the team should not focus on the child’s abilities as isolated skills, but rather how those disabilities affect the child’s participation in everyday life. Identified outcomes should bring together skills from multiple developmental domains that lead to increased participation for the child (Wilcox & Woods, 2011). Due to the various skills needed to perform many daily living skills and self-help tasks, adaptive behavior was identified as a domain of interest in the present study. Similarly, particular attention was paid to communication, as communication skills often promote participation in activities across other domains. In the present study, multiple themes were often targeted within a single outcome statement or across outcomes for a single participant. As a result, percentages reporting on the developmental themes targeted do not total 100%.

By enabling a child to participate, infants and toddlers are capable of learning new skills through their everyday experiences. In contrast, when a child is unable to participate, learning opportunities become restricted. From a social-ecological perspective, as a child’s ability to participate increases, the degree of their disability decreases (Wilcox & Woods, 2011).

The everyday activities in which young children participate differ across families. A family’s culture influences the kinds of routines that comprise their daily lives, as well as the expectations for young children within those routines (Wilcox &
Woods, 2011). Conversations with the family about their priorities, concerns, and daily life, along with observation of the child, comprise assessment, which is then used to guide development of IFSP outcomes. Tools such as the Routines Based Interview help to structure conversations with the family to help identify their priorities (McWilliams, 2010), and observation of the children can help practitioners understand the concerns that have been communicated by the family (Jung & Grisham-Brown, 2006).

Regardless of the family's culture and life style, there exist multiple activities occurring throughout a typical day for families. It is within these activities that skills can be targeted, thereby enhancing a child's development (Dunst et. al., 2001). There are several advantages to developing outcomes that fit into the daily routines of eligible children and their families. First, by focusing on skills in the context of everyday life, it is ensured that the interventions will be functional for the child and family. Targeting skills within naturally-occurring activities also ensures that intervention is feasible for families, as it does not disrupt what they are already doing in their day-to-day lives. Because family-identified routines can occur several times throughout the day, this also allows for multiple opportunities for the child to practice the targeted skills (Jennings et. al, 2012). Jennings et. al. (2012) further suggests embedding interventions into a child's preferred routines in order to increase their motivation and engagement in learning the new skills.

The necessity of goals should be considered when developing outcomes. Those that are necessary for the child to be successful in their everyday life should
be targeted, rather than those that have no immediate effect on their life (McWilliam et al., 1998). All members of the team should understand why specific outcomes are targeted and should be aware of the effect that this will have on the child and family (Rosenskoetter & Squires, 2000).

Much research has been conducted investigating the quality of IFSP outcomes. It has been found that teams struggle to write outcomes that follow recommended guidelines (i.e. outcomes reflect family priority, are functional, cut across disciplines). For example, despite the emphasis on developing outcomes that address the needs and concerns of the family, studies have found that IFSPs continue to contain professionally-driven outcomes that are unrelated to family concerns. Likewise, it was found that the concerns voiced by families are not always addressed in outcomes (Jung & Grisham Brown, 2006). A study by Jung & McWilliam (2005) found that nearly 14% of outcomes written were professionally, rather than family, driven. A cost-effective way of increasing outcome quality is to embed prompts in the IFSP form. In one study, written cues prompting teams to consider (a) family routines (b) family priorities for support and (c) how to connect routines and priorities to outcomes, IFSP quality was found to improve across seven of twelve quality indicators (Jung, 2010).

**Supports and Services for Part C Participants**

In addition to developing outcomes, the law requires that family-directed assessment be used to identify supports and services needed to enhance the family's capacity to help their child develop and learn and that these services are outlined on
the IFSP (section 636). As best practice, services are to be provided in the home, with the service provider working with the family on how to best support the child’s development. (Hebbeler et. al., 2007).

The National Early Intervention Longitudinal Study identified twenty-three services provided to families under Part C. Most families received two to four services, but some families (26%) received six or more. Aside from service coordination, which is required for all families, the other most common services provided to eligible children and their families included speech/language therapy (52% of children), special instruction for the child (43% of children), occupational therapy (38% of children), developmental monitoring (37% of children), and physical therapy (37% of children). The study found that while eligible children and their families differ in services received, most receive at least one of these services. Other services available to children and their families through Part C were found to be provided infrequently, with fewer than 19% of families receiving them (Hebbeler et. al., 2007). Such additional services include audiology, nursing services, nutrition services, and psychological services (nichy.org).

The breadth of available services in combination with a “problem-centered focus” in which a service is assigned for each deficit found through an evaluation often results in an overabundance of services being directly provided to the child and family. While the intent may be good, this “service overkill” can actually be more than what is helpful. An effective alternative is the use of the of a primary service provider model (Jung, 2005). A primary service model, often referred to as a
transdisciplinary model (TD), aims to provide more coordinated and integrated services to meet the complex needs of children (King et. al., 2009). TD encourages teams to move away from fragmented, domain-specific interventions targeting skills under an isolated developmental domain and instead, have team members share observations in order to develop integrated recommendations and interventions that target multiple domains (Boyer & Thompson, 2013). The family then selects one service provider (called the primary service provider) who works with the family to deliver the intervention while continuing to consult with experts from the other disciplines (Jung, 2005). In contrast to domain-specific interventions that are limited in their application, this model promotes generalization of targeted skills. TD has been identified as the most efficient model of service delivery in early intervention (Bruder, 2010).

Providing intervention in natural environments through daily activities and routines more effectively promotes child development than providing services in clinics or hospitals, as families are able to collaborate and learn from therapists on how to help their child in the context of everyday life. (Jennings & Woods, 2012). In contrast to therapy-based instruction where intervention is provided for a limited time during relatively brief sessions, coaching parents on how to provide interventions in the context of their child’s everyday activities allows for maximum intervention time, and thus more positive developmental outcomes for the child. (Hebbeler et. al., 2007). It should also be recognized that while practitioners
provide intervention during home visits, it is what the family does with the child between those visits that leads to results (Bernheimer & Weisner, 2007).

It is recommended that services not be based on child needs as determined by assessment instruments. Rather, they should be determined based on the outcomes that were developed by the IFSP team (Jung & Grisham-Brown, 2006). Jung (2005) suggested that the “line between evaluation/assessment and services be broken, and a clear family role inserted.” In doing so, decisions about supports and services are based on the family’s priorities and the specific goals that they have for their child and family, and the services provided will directly relate to their ability to achieve those goals (Jung, 2005). While there is a current emphasis on providing services based on targeted outcome rather than on children’s results of developmental assessments, services and intervention strategies may continue to be based on skill-deficits identified on administered assessments.

*Accountability for Part C Programs*

Because outcomes are written to target participation of the child in the context of the family’s life, they are likely to cut across developmental domains. Thus, recommended practice is for IFSP outcome statements to be discipline-free (Sheldan & Rush, 2013). As stated by Jung (2007), “discipline-specific outcomes may indicate that the IFSP was driven by professional assessments rather than guided by family routines, priorities, and concerns.”

Because outcomes for eligible children are to be driven by family priorities and concerns rather than assessments, holding Part C programs accountable based
on measures of functioning across the five developmental domains was found to be inappropriate. Rather, it was decided that accountability would be based on more global outcomes of the child, requiring demonstration of children bringing together their skills from all the domains. States are therefore required to provide information demonstrating that services are enabling a child to meet three global outcomes: attainment of positive social relationships, acquisition of new skills, and the ability to use appropriate behaviors to meet their needs (Hebbeler & Rooney, 2009).

Aims of Study

Participation in Part C programs benefit young children by enabling them to progress toward the three global outcomes: positive social relationships, knowledge and skills, and appropriate behaviors to meet needs. Outcomes statements can generally be categorized based on their relationship to skills included within the five developmental domains of cognitive, motor, adaptive, social-emotional, and communication. The intent is that outcomes developed for the child cut across domains. However, with evidence that specific services and strategies are often prescribed to children without taking the targeted outcomes into account, conclusions from current studies cannot be drawn.

This project is part of a larger study investigating the reliability and validity of a developed assessment tool used to evaluate the quality of IFSPs. The overarching goal of this sub-study was to examine the types of outcomes that are developed for infants and toddlers receiving early intervention services as they
relate to the five developmental domains. The specific study aims are as follows:

**Aim 1:** To understand the frequency with which developmental themes are targeted across IFSP outcomes for EI participants.

**Aim 2:** To understand the frequency with which developmental themes are targeted across IFSP outcomes based on the eligible child’s level of developmental delay.

  **Aim 2.1:** To identify the frequency of developmental themes targeted across outcomes statements for children eligible due mild developmental delay(s).

  **Aim 2.2:** To identify the frequency of developmental themes targeted across outcome statements for children eligible due to substantial delays.

**Aim 3:** To understand the frequency with which developmental themes are targeted across IFSP outcome statements based on the child’s reported levels of functioning.

  **Aim 3.1** To identify the frequency with which developmental themes are targeted for children identified as having no delay, a mild delay, or a substantial delays in receptive communication.

  **Aim 3.2:** To identify the frequency with which developmental themes are targeted for children identified as having no delay, a mild delay, or substantial delay in expressive communication.

  **Aim 3.3:** To identify the frequency with which developmental themes are targeted for children identified as having no delay, a mild delay, or substantial delay in adaptive behavior.
**Aim 4:** To identify the frequency with which outcome statements concurrently target skills across developmental domains.

**Aim 4.1:** To identify the frequency with which outcomes are written, targeting skills within one developmental domain only.

**Aim 4.2:** To identify the frequency with which outcomes are written, targeting skills across two or more developmental domains.

**Aim 5:** To identify the frequency with which skills from multiple developmental domains are targeted across outcomes for EI participants.

**Aim 5.1:** To identify the frequency with which collective outcomes for a participant address developmental skills within an isolated domain.

**Aim 5.2** To identify the frequency with which collective outcomes for a participant address development skills spanning two domains.

**Aim 5.3** To identify the frequency with which collective outcomes for a participant address developmental skills spanning three domains.

**Aim 5.4:** To identify the frequency with which collective outcomes for a participant address developmental skills spanning four domains.

**Aim 5.5:** To identify the frequency with which collective outcomes for a participant address developmental skills spanning all five domains?
Method

Participants

This study includes several groups of participants. These included counties, children, and coders. Each will be described below.

Counties.

In this study, the existing IFSPs of infants and toddlers receiving early intervention services under Part C of IDEA were collected from eighteen of Ohio’s eighty-eight counties (20.5%). All geographic regions across Ohio (northwest, northeast, central, southwest, and southeast) were represented within the counties recruited.

Children

The children for whom IFSP outcome statements were analyzed represented a diverse population. Children differed in their eligibility characteristics, their age, and their developmental levels. Furthermore, the number of outcomes targeted for each child varied across participants.

In order to be eligible for early intervention services under Part C in the state of Ohio, infants and toddlers must have either have a either a diagnosed physical or mental condition or an identified developmental delay. Developmental delay is defined in Ohio as scoring 1.5 or more standard deviations below the mean in at
least one of the developmental domains (cognitive, motor, adaptive, social-emotional, or communication) as determined by developmental assessment tools. Ohio does not opt to provide services to children considered at risk for developmental delay, so no "at risk" infants or toddlers were included in this study's population.

As shown in table 1, participants in this study qualified for Part C services for a variety of reasons. For those eligible due to developmental delay, participants were further classified on the level of delay experienced. A mild delay was defined as a delay in one domain of 1.5-1.99 standard deviations. Multiple Mild Delays was defined as two or more delays of 1.5 to 1.99 standard deviations, but no delay of 2.0 or more standard deviations. A substantial delay was defined as a delay in at least one domain of 2.0 standard deviations.

The vast majority (94.5%) of participants were eligible for services due to some level of developmental delay. Of those eligible due to developmental delay, 87.0% were classified as having a substantial delay, 10.1% were eligible due to a mild delay, and 2.9% were eligible for services due to multiple mild delays.

For the purpose of analysis, in this study eligible children were grouped into two, rather than three, categories based on their level of developmental delay. The decision was made due to the relatively small number of children comprising the mild delay and multiple mild delay subgroups. As a result, children who had a delay of 1.5 – 1.99 standard deviations in one or more domains as indicated by developmental assessment were collectively grouped under the label mild delay(s).
Eleven children in this study were determined to have mild developmental delay(s). Children with a delay greater than 2.0 standard deviations in any single domain were classified under the term *substantial delay*. Sixty-one children were identified as having a substantial developmental delay.

Diagnosed physical and mental conditions were also a reason for Part C eligibility. In this study, if a child had a diagnosed condition accompanied by developmental delay, their reason for eligibility was considered the diagnosed condition. A diagnosed condition was the reason for eligibility for 4.1% of infants and toddlers included in the study. Far more children (n=22) originally recruited had diagnosed conditions, however they were not included because they lacked developmental assessment data that was needed for the purpose of this study.

In addition to developmental delay and diagnosed conditions, one child (1.4% of total participants) was eligible due to Informed Clinical Opinion (ICO) for suspected delays in the adaptive and social-emotional domains.

A requirement for participation in this study was that developmental assessment data be available for each participant, thus allowing for classification of children based on their developmental characteristics. In particular, this study investigated infant and toddler outcomes with respect to their adaptive and communication skills.

Participants in the study were categorized based on level of functioning as reported by developmental assessment results. If assessment results indicated that the child scored less than 1.5 standard deviations below the mean, the child was
considered to have no delay with respect to the assessed domain. If assessment results indicated that the child scored between 1.5 and 1.99 standard deviations below the mean, they were considered to have a mild delay with respect to the assessed domain. If the child scored 2.0 or more standard deviations below the mean, they were considered to have a substantial delay respect to the assessed domain. In this study, delayed areas of interest included adaptive behavior and communication. Developmental assessments provide a score for both expressive and receptive communication, and both are analyzed here.

Table 2 shows the developmental assessment results for study participants in the adaptive and communication domains. Results obtained from developmental assessments indicated that with respect to adaptive behavior, 17.8% of participants had substantial delays, 20.5% had mild delays, and 61.6% had no delay. Communication scores for infants and toddlers are reported in terms of both receptive and expressive communication. With respect to receptive communication, 21.9% of participants had substantial delays, 9.6% had mild delays, and 54.8% had no delay. With respect to expressive communication, 49.3% of participants in this study were identified as having a substantial delay, 13.7% had mild delays, and 37.0% had no identified delay.

Table 3 shows the ages of the all child participants included in the study. Ages reported indicate the child’s age at the time in which the IFSP outcomes were written. Again, only six-month IFSPs were collected, and therefore no children between birth and six months of age could be included. Of the seventy-three
participants in the study, five (6.8%) were under the age of one, twenty-eight (38.4%) were between one and two years of age, and forty (54.8%) were between the age of two and three.

During initial recruitment, only six-month IFSP reviews were requested. As a result, no IFSP documents were included for infants and toddlers just entering Early Intervention programs. All IFSPs in this study were developed between the months of January and June of 2013.

When IFSPs are written, teams determine the number of outcomes they wish to target for the child and their family based on family preference. While some may opt to have only a single outcome, others choose to have several. The number of outcomes decided upon is a result of the family's priorities and identified areas of need across their day.

Among the seventy-three participants included in the study, a total of 102 outcomes were coded for analysis. Table 4 shows the number of outcomes written per participant in this study. The number of outcome statements per eligible child varied between one and three outcomes. For the majority of children (n = 46), data for only one outcome statement was available. Data for two outcome statements were available for twenty-three participants, and data for three outcome statements were available for analysis for four of the participants. In this study, no more than three outcome statements were available for analysis from any of the participants.
Criteria for IFSP Inclusion:

A total of 73 IFSPs from eligible children were analyzed in this study. As shown in figure 1, 119 children were excluded from the study. This number was reduced from the original 192 children who were enrolled in the larger study due to missing data as well as the study's strict inclusion/exclusion criteria.

The first criterion for inclusion into the present study was the availability of coded IFSP outcomes for at least one of the child’s reported IFSP outcome statements. Despite multiple attempts by the principle investigator of the larger study (AW) to obtain IFSPs from the counties within the requested time frame, many of the incoming documents were received late, resulting in delayed coding and reporting of corresponding data by the study staff. At the time of data analysis for the present study, there were several participants for whom coded outcome data was not yet reported. The researcher of this study (CA) attempted to attain this missing information by contacting the principle investigator of the larger study, but was unsuccessful. Due to insufficient coded outcomes, ninety-seven of the 192 participants were excluded from the present study.

Another criterion for inclusion into the study was availability of developmental assessment data. Assessment scores from either the Bayley Scales of Infant Development-III or the Batelle Developmental Inventory-2 were reported for every child eligible due to developmental delay. Because children with diagnosed physical or mental conditions are eligible for services without these assessments, there were numerous children for whom this data was not reported. Consequently,
twenty-two additional participants were excluded. As a result of the criteria set for participant inclusion, seventy-three of the 192 originally recruited participants were included in this study.

Coders

Three individuals on the project staff completed coding of the Individualized Family Service Plans. Coder 1 was a graduate student at The Ohio State University, who was working towards her Master of Arts degree in Special Education, with an emphasis on early childhood intervention. Coder 1 also had a Bachelors of Science in Education and four years of professional experience teaching early childhood education. Throughout the study, she worked as a Nisonger Center intern, providing behavioral consultation to teachers at an early childhood center.

Coder 2 was the Program Director of the School-Aged Autism and Developmental Clinic at Ohio State's Nisonger Center, as well as a faculty member for the Leadership Education in Neurodevelopmental Disabilities (LEND) program at Ohio State. Her educational experience included a Ph. D. in psychology from The Ohio State University, as well as the completion of a Postdoctoral fellowship at Nationwide Children's Hospital, with an emphasis on developmental disabilities.

Coder 3, the researcher for the present study, was a graduate student at The Ohio State University working towards her Master of Arts degree in special education, with an emphasis on applied behavior analysis. Coder 2 also had a Bachelors of Science in special education, with an emphasis on moderate-intensive disabilities. Her professional experience included working three years as an
intervention specialist for children with autism, grades 1-8. Throughout the study, she worked as a Nisonger Center intern providing behavioral consultation to teachers at an early childhood center.

**Procedures:**

**Recruitment:**

The Ohio State Nisonger Center obtained contact information for local Early Intervention providers throughout Ohio from The Ohio Department of Health (ODH) and the Ohio Department of Developmental Disabilities (DoDD). The Nisonger Center then sent recruitment emails to all counties in Ohio to identify those willing to participate in the study. A total of twenty-seven counties expressed interest in participating.

The study staff then informed ODH representatives of which counties were willing to participate. After receiving this information, ODH representatives generated a random sample of children receiving Part C services in Ohio and requested IFSP documents from the Early Intervention representatives from the corresponding counties.

**Mailing procedure**

The Nisonger Center staff sent out large envelopes with specific directions for the Early Intervention representatives for each participating county, along with a business reply envelope. To ensure confidentiality, the early intervention representatives were asked to remove all personally identifying information (name of child, service coordinator, name of specific clinics, etc.) from the documents so
that no child or county could be identified. Counties accomplished this by either
whiting out the information or crossing out the information with a dark marker.
IFSP documents were then coded with an ID that only state and local EI providers
were able to identify, thus ensuring that all participants remained anonymous to the
Ohio State study staff. After de-identifying all IFSP documents, county providers
mailed the documents back to the Nisonger Center in the provided business reply
envelopes. Of the twenty-seven counties that had expressed interest in
participating in the study, eighteen sent back the requested documents.

*Early Track*

Ohio’s Part C Early Intervention program uses a web-based data collection
system called Early Track. Within this system, all pertinent Part C child information
is reported. This includes eligibility determination detail, required or related
assessment data, outcome data, and service delivery detail (chapinhall.org). Early
Track is maintained by ODH, and it is through ODH that all participant information
was obtained for the current study.

This study utilized specific Early-Track information. Relevant information
included (1) the age of the child (reported in months), (2) eligibility information
indicating why the child qualified for services (including specific diagnosis if
applicable and level of developmental delay), and (3) domain-specific assessment
scores. Reported scores came from developmental assessment using either the
Bayley Scale of Infant and Toddler Development-III (Bayley-III) or the Batelle
Developmental Inventory-2 (BDI-2). Assessment results individually reported the
child's level of functioning within the following domains: cognitive, fine motor, gross motor, adaptive, social-emotional, receptive communication, and expressive communication. Further information regarding these assessment tools will be provided later.

Rater training

Because each coder differed in her background and familiarity with early intervention, the three coders from the Nisonger Center separately read assigned research articles pertaining to best practice in Early Intervention. The study staff then convened to discuss the importance of outcome functionality, measurability, and family relatedness within IFSPs. The study staff also discussed the importance of evaluating the quality of IFSPs that are developed. The Nisonger study staff worked together to modify existing evaluative tools, thus creating the Nisonger IFSP Goal and Strategy Assessment Tool.

The three coders were then trained on using the Nisonger IFSP Goal and Strategy Assessment Tool. Relevant to the present study, this entailed filling out an IFSP Summary Sheet (see Appendix C). This summary sheet indicated the child's ID number, age, and outcome statement (What do we want to happen in the next six months?). All information to complete this was taken from section VI of the child's IFSP. Additionally, coders were asked to identify the developmental theme(s) to which each outcome statement was related (motor, cognitive, adaptive, social-emotional, or communication). This was accomplished by reading the identified outcomes and circling the related developmental domain. If the outcome
statements cut across developmental domains, multiple developmental themes were circled on the form.

During training, the three coders independently coded de-identified IFSP documents from a county that had opted not to participate in the study. Between one and three IFSPs were coded each week during training. During weekly meetings, the coders shared the results of their coded IFSPs, including the developmental domains targeted within the identified outcome statements. For disagreements, existing literature was referenced to help the team decide on the correct coding. Training on the tool lasted for two months. By the final set of ratings completed during training, the three coders reached an agreement of 80% - 90% for all items on the Nisonger IFSP Goal and Strategy Assessment Tool.

Official data collection

Once the IFSPs from participating counties were received by The Nisonger Center, official coding of IFSPs began. At this time, coder 1 had 6-9 months of experience with the Nisonger IFSP Goal and Strategy Assessment Tool, and coders 2 and 3 each had 3-6 months of experience with the tool. Each IFSP outcome statement was randomly assigned to one of the three coders. A random assignment of outcomes ensured that each member of the study staff coded IFSPs from a combination of all participating counties.

Of the IFSP outcomes coded for the present study, coder 1 completed coding for fifty-five outcome statements, coder 2 completed coding for twenty-nine
outcome statements, and coder 3 completed coding for seventy-two outcome statements.

Data collection followed the same procedures as were followed during training: using section VI of the de-identified IFSPs, the coders filled out the front page (IFSP Summary Sheet) of the Nisonger IFSP Goal and Strategy Assessment Tool. Coders then independently identified the domain-related theme(s) present within each outcome statement.

As a measure of inter-rater reliability, fifty-four IFSP outcomes were assigned to two of the three coders. Agreement across coders is shown in Table 5. Reliability was measured for each domain by using percent agreement. An agreement of 90.7% was reached between participants coding for the presence of outcomes statements relating to the cognitive domain of development. An agreement of 88.9% was reached between participants coding for the presence of outcomes relating to the motor domain. An agreement of 92.6% was reached between participants coding for the presence of outcomes relating to the adaptive domain of development. An agreement of 83.3% was reached between participants coding for the presence of outcomes relating to the social-emotional domain. An agreement of 92.6% was reached when coding for the presence of outcomes that were communication-related.

Measurement

Each outcome statement was rated for the presence of domain-related themes (cognitive, motor, adaptive, social-emotional, and communication). Once
this was accomplished, completed forms were turned into the principle investigator of the larger study. Results obtained from the IFSP summary sheet were then entered into a database for the project.

For outcome statements that were double-coded for reliability measures, the results used for the present study were those obtained through Coder 1. If Coder 1 was not involved in coding for that outcome, the results obtained from Coder 2 were used. For all other outcome statements (coded by one person only), their individual results were reported.

Information obtained from ODH via Early Track was also entered into the database. This included each participant’s eligibility information and their developmental assessment scores. Data was subsequently analyzed for each participant in the study.

*Developmental Assessment Tools*

Either the Bayley-III or the BDI-2 was used to determine the level of developmental functioning for each participant in the study. Both tools measure a child’s level of functioning across each of the five developmental domains. The Bayley-III is designed to measure the developmental of children ages 1-42 months of age. This assessment tool includes five scales, one for each domain of development. The cognitive, motor, and language scales are completed based on child interaction, and the social-emotional and adaptive behavior scales are completed via parent questionnaires (Bayley, 2014). The BDI-2 measures development for child children birth through eight years of age. Assessment is
completed through structured play-based activities, observations in the child’s natural setting, and scripted interviews with parents and caregivers (Newborg, 2014). Both the Bayley-III and BDI-2 are norm-referenced assessments, and results are reported as scaled scores.
Results

In the current study, available data were analyzed to determine the frequency with which developmental domains were targeted within IFSP outcomes. These outcomes were considered with respect to individual child characteristics, including the child’s level of developmental delay and their level of functioning across select domains. This study also investigated how developmental domains were concurrently targeted within outcomes and across participants. All analyses were completed using descriptive statistics.

Developmental themes

The frequency with which developmental themes were targeted within outcome statements was calculated and analyzed on a per participant basis. That is, all outcomes for a single participant were coded, and the resulting data was combined and reported to reflect all the developmental themes targeted for each individual. The percentage of all participants who had outcomes targeting each of the five developmental domains was calculated.

Analysis of the data revealed that outcomes related to the communication domain were targeted most frequently for EI participants, with over two thirds of children having communication-related outcomes statements on their IFSPS. Figure 2 shows the frequency of developmental themes targeted per participant. Five
participants (6.8%) were found to have outcomes related to the cognitive domain of development. Nineteen participants (26.0%) were found to have outcomes related to the motor domain of development. Sixteen participants (21.9%) were found to have outcomes related to the adaptive domain of development. Twenty-two participants (30.1%) were found to have outcomes related to the social-emotional domain of development. Fifty participants (68.5%) were found to have outcomes related to the communication domain of development.

Developmental themes and level of developmental delay

Developmental themes targeted for each eligible participant were further analyzed based on participant level of developmental delay. Results indicated that regardless of the child’s level of developmental delay, communication continued to be targeted most frequently. Table 6 shows the developmental domains targeted for participants with respect to their identified level of delay. With respect to the eleven participants labeled as having mild delays, the cognitive domain was targeted across IFSP outcomes for 0% of children (n = 0). The motor domain was targeted across outcomes by 18.2% of children with mild delays (n = 2). The adaptive domain of development was targeted across outcomes by 27.3% of children with mild delays (n = 3). The social-emotional domain was targeted across outcomes for 54.5% of children with mild delays (n = 6). Communication was targeted across outcomes for 63.6% of children with mild delays (n = 7).

The frequency of developmental domains present in outcomes was also analyzed for the 61 children identified as having substantial delays. For participants
with substantial delays, the cognitive domain was targeted across IFSP outcomes for 8.2% of children (n = 5). The motor domain was targeted across outcomes for 27.9% of children with substantial delays (n = 17). The adaptive domain was targeted across outcomes for 19.7% of children with substantial delays (n = 12). The social-emotional domain was targeted across outcomes for 24.6% of children with substantial delays (n = 15). The communication domain was targeted across outcomes by 65.6% of children with substantial delays (n=40).

Developmental themes and domain-specific functioning

Developmental themes targeted for infants and toddlers were analyzed based on level of functioning within specific developmental domains. Results indicated that regardless of the child's identified level of delay in adaptive behavior and communication, participants most frequently had outcomes targeting communication. Table 7 shows the distribution of developmental domains targeted for each participant based on their level of delay within the adaptive domain, receptive communication domain, and expressive communication domain.

The frequency of targeted themes was calculated for children based on their level of delay with respect to adaptive behavior. Results are shown in figure 3. Of the forty-five children identified as having no delay in adaptive behavior, three (6.7%) had outcomes that targeted the cognitive domain. Ten (22.2%) had outcomes that targeted the motor domain. Seven (15.6%) had outcomes that targeted the adaptive domain. Fifteen (33.3%) had outcomes that targeted the
social-emotional domain. Thirty-three (73.3%) had outcomes that targeted the communication domain.

Of the fifteen participants identified as have a mild delay in adaptive behavior, one (6.7%) had outcomes that targeted the cognitive domain. Four (26.7%) had outcomes that targeted the motor domain. Four (26.7%) had outcomes that targeted the adaptive domain. Six (40.0%) had outcomes that targeted the social-emotional domain. Eight (53.3%) had outcomes that targeted communication.

Of the thirteen participants identified as having substantial delays in expressive communication, one (7.7%) had an outcome targeting the cognitive domain. Five (38.5%) had outcomes targeting the motor domain. Four (30.8%) had outcomes targeting the adaptive domain. Two (15.4%) had outcomes targeting the social-emotional domain. Eight (61.5%) had outcomes targeting communication.

The frequency of targeted domains was also calculated for children based on their level of delay with respect to receptive communication. Results are shown in figure 4. For the forty children identified as having no delay in receptive communication, zero children had outcomes that targeted the cognitive domain. Thirteen (32.5%) had outcomes targeting the motor domain. Seven (17.5%) had outcomes that targeted the adaptive domain. Eleven children (27.5%) had outcomes that targeted the social-emotional domain. Twenty-five (62.5%) had outcomes that targeted the communication domain.
Of the seven children identified as having mild delays in receptive communication, zero had outcomes that targeted the cognitive domain. Two (28.6%) had outcomes that targeted the motor domain. One child (14.3%) had outcomes that targeted the adaptive domain. Three (42.9%) had outcomes that targeted the social-emotional domain. Seven children (100%) had outcomes that targeted the communication domain.

Of the twenty-six children identified as having substantial delays in receptive communication, five children (19.2%) had outcomes that targeted the cognitive domain. Four children (15.4%) had outcomes that targeted the motor domain. Seven (26.9%) had outcomes that targeted the adaptive domain. Nine (34.6%) had outcomes that targeted the social-emotional domain. Sixteen (61.5%) had outcomes that targeted communication.

Finally, the frequency of domains targeted for participants was calculated based on the child’s identified level of delay in expressive communication. Results are shown in figure 5. Of the twenty-seven children in the study identified as having no delay in expressive communication, one child (3.7%) had an outcome that targeted the cognitive domain of development. Eleven children (40.1%) had outcomes that targeted the motor domain. Seven (25.9%) had outcomes that targeted the adaptive domain. Eight (29.6%) had outcomes that targeted the social-emotional domain. Fourteen (51.9%) had outcomes that targeted the communication domain.
Of the ten participants identified as having a mild delay in expressive communication, one child (10%) had an outcome that targeted the cognitive domain of development. Two children (20%) had outcomes that targeted the motor domain. One child (10%) had an outcome that targeted the adaptive domain. Three (30%) had outcomes that targeted the social-emotional domain. Seven (70%) had outcomes that targeted the communication domain.

Of the 36 children identified as having substantial delays in expressive communication, three children (8.3%) had outcomes targeting the cognitive domain. Six (16.7%) had outcomes targeted the motor domain. Seven (19.4%) had outcomes that targeted the adaptive domain. Twelve (33.3%) had outcomes targeted the social-emotional domain. Twenty-eight (77.8%) had outcomes targeted the communication domain.

*Outcome statements and developmental domains*

The coding of individual outcome statements with respect to the domain-related themes allowed for identification of concurrently targeted skills from across the five domains. Analysis of outcome statements revealed that the vast majority of outcome statements targeted a single domain only. Results are shown in Table 8. Of the 102 outcomes included in this study, 84 (82.4% of all outcome statements) targeted skills within a single domain only. Two outcomes statements (2.0%) targeted the cognitive domain only. Nineteen outcome statements (18.6%) targeted the motor domain only. Eight outcome statements (7.8%) targeted the adaptive domain only. Twelve outcome statements (11.8%) targeted the social-emotional
domain only. Forty-three outcome statements (42.2%) targeted the communication domain only.

Seventeen outcome statements (16.7% of all outcome statements) targeted skills across two developmental domains. Three outcomes (2.9%) were written that targeted the cognitive domain in addition one other domain. Three outcomes (2.9%) were written that targeted the motor domain in addition to one other domain. Eight outcomes (7.8%) were written that targeted the adaptive domain in addition to one other domain. Twelve outcomes (11.8%) were written that targeted the social-emotional domain in addition to on other domain. Eight outcomes (7.8%) were written that targeted communication in addition to one other domain. Note: There was one outcome in the study for which no identified domains were targeted. This may be due to rater error or be the result of a family outcome being written (the targeted developmental domain would not be relevant). In Table 9, this results in percentages not totaling 100%.

Table 19 shows the frequency with which specific developmental domains were concurrently targeted within single outcome statements. Combinations of concurrently targeted domains included social-emotional and communication (n = 6), cognitive and communication (n = 2), adaptive and social emotional (n = 5), motor and adaptive (n = 3), and cognitive and social-emotional (n = 1).

Domains targeted across outcomes for each participant

Because multiple outcomes were reported for some participants, additional analyses were conducted examining the domains targeted across outcomes for each
participant. It was found that between one and four domains were targeted per child, with the majority of children having outcomes targeting only one domain. Results are shown in Figure 10. Of the seventy-three participants included in the present study, forty-four (60.3%) had outcome(s) relating to only one of the five developmental domains. Twenty-three children (31.5%) had outcomes targeting two domains. Five participants (6.8%) had outcomes targeting three domains. One participant (1.4%) had outcomes that targeted four of the five developmental domains.
Discussion

This study sought to determine the frequency with which developmental domains were targeted within IFSP outcomes with respect to child characteristics. The frequency with which developmental domains were concurrently targeted within outcomes and across participants was also analyzed. A total of 102 IFSP outcome statements from 73 participants were coded to identify the developmental theme(s) to which each written outcome was related. ODH’s Early Track provided information regarding each participant’s reason for eligibility as well as their domain-specific developmental assessment scores. Significant findings from this study include (1) outcomes statements are most often related to the developmental domain of communication, (2) despite child deficits known to be associated with maladaptive behavior, outcomes do not consistently target those specific areas of deficit, and (3) despite recommendations to integrate skills across the domains within outcome statements, the vast majority of outcomes address participation in only one domain.

Developmental themes

Again, results very strongly suggested that communication-related outcomes are targeted most frequently for EI participants. A comparable number of participants were found to have outcomes targeting motor, adaptive, and social-
emotional related outcomes. Cognitive-related outcomes were targeted the least, ten times less often than communication-related outcomes.

Past research has shown that communication is the most common deficit among recipients of EI, so these results were to be expected. However, outcomes are developed based on concerns and priorities of the families participating in Part C programs, not on assessment-identified deficits. No previous research has identified the frequency with which domain-related outcomes were written for children receiving services. These findings indicate that communication is highly valued for families receiving early intervention. The results further highlight the important role of communication with respect to participation in family routines and activities.

In contrast, these findings suggest that the development of cognitive skills are not as highly valued for families. The limited number of outcomes targeting the cognitive domain may, however, be concerning given that only 32% of former EI participants were reported as having mastered cognitive milestones at 36 months, and only 14% of former participants were reported as having mastered cognitive milestones in kindergarten. Compared to impairments in other domains (i.e. gross motor, communication), cognitive deficits may not be as obvious to parents of young children. This likely explains why cognitive skills are targeted so infrequently.

With over two thirds of children having outcomes targeting communication skills, these results necessitate a need for service providers who are knowledgeable of effective communication-related intervention strategies. The transdisciplinary
model has been identified as the most efficient model of service delivery, and stresses consultation between a primary service provider and experts from the various disciplines. Because a child or family may never work directly with a speech-language pathologist (SLP) within this model, special consideration should be taken to ensure that primary service providers consistently consult with SLPs to learn specific strategies that will help children meet their communication outcomes.

**Developmental themes and level of developmental delay**

Additionally, the data reveals both commonalities and differences in domain-related outcomes with respect to level of delay. For both children with mild delays and substantial delays, communication-related outcomes are developed most frequently (63.5% and 65.6%, respectively) and cognitive-related outcomes are developed least (0% and 8.2%, respectively). These findings further support the high value that families place on their child’s ability to communicate, regardless of the child’s identified level of developmental delay. Because communication has been shown to have a strong relationship to other developmental skills, focusing on communication is likely beneficial for all children. The comparatively low number of children with cognitive-related outcomes is likely because cognitive deficits are less obvious to families, particularly for children with only mild delays.

Families of children with mild and substantial delays differ in how they prioritize other developmental objectives. Children with substantial delays more often have goals targeting the motor domain (27.9%) compared to children with mild delays (18.2%). In contrast, children with mild delays have goals targeting
social-emotional skills with more than twice the frequency of those with substantial delays (54.5% compared to 24.6%).

These findings are consistent with past work showing that many children under the age of three with substantial impairment show impactful motor impairments. For these families, it is likely that improving their child’s motor capabilities will have a positive impact on the child’s ability to participate in family routines. Parents of children with mild delays who are not as impacted are in a different position to prioritize outcomes, and therefore are likely less apt to develop outcomes targeting the motor domain.

Perhaps the most surprising finding is the significant difference between the two groups with regard to social-emotional outcomes. Over half of children with mild delays were reported as having outcomes targeting the social-emotional domain, suggesting that aside from communication, the development of the child’s social-emotional skills are most highly valued for families of children with mild delays. In contrast, less than one quarter of children with substantial delays had outcomes targeting the social-emotional domain. The relatively small percentage of children with substantial delays who have social-emotional related outcomes may be a cause for concern. Considerable research supports the link between a child’s inability to communicate (often the case for children with substantial delays) and withdrawn or challenging behaviors. Thirty-two percent of parents with a child participating in EI reported that they had a difficult time figuring out what to do about their child’s behavior (Hebbeler et. al., 2007). This lack of social-emotional
competency in children can be stressful for families and can have a negative effect on parent-child relationships.

Social-emotional skills also are important when considering the future of the child. Mainstreaming of children into general education classrooms in preschool and kindergarten is often dependent on the child's ability to self-regulate and get along with others. Undoubtedly, maladaptive behaviors prevent children from being educated in what would otherwise be considered their least restrictive environment. Segregation from other children further perpetuates the child's social deficits.

Given parent reports regarding their struggle with managing their child's behaviors, it is surprising that so few outcomes are written targeting social-emotional skills. In considering the well-being of the family as a well as future success of the child, it advisable that social emotional skills be targeted more frequently for children with developmental delays. Past studies of early intervention have speculated whether EI as a field has an adequate number of professionals with the expertise needed to address social-emotional deficits in young children. Results from the present study add to this speculation and suggest a need for service providers who are able to help families in effectively addressing these challenges through team-developed outcome statements.

*Developmental themes and domain-specific functioning*

The results reveal that regardless of the child's identified level of functioning with respect to adaptive behavior and communication, communication-related
outcomes continue to be targeted the most. Even for children whose assessments indicated no delay in receptive and expressive communication, over half continued to have outcomes that were communication-related. As with previous findings, this strengthens the assertion that communication is a highly-valued priority for most families receiving services, and that communication is needed for child participation in family activities.

The resulting data also reveal an inverse relationship among the identified level of adaptive functioning and the percentage of children with outcomes related to the adaptive domain of development. That is, 30.8% of children with substantial delays in adaptive functioning have adaptive-related outcomes, 26.7% of children with a mild delay in adaptive functioning have adaptive-related outcomes, and only 15.6% of children with no delay in adaptive functioning have adaptive-related outcomes. This inverse relationship was also found with regards to outcomes targeting the motor domain: the lower the child’s identified level of adaptive behavior, the more frequently motor outcomes were developed for the child. This may suggest that motor skills are needed to perform a variety of self-help tasks considered important to families and that functional outcomes can be written that integrate skills to simultaneously target these two domains.

With respect to adaptive behavior, it is interesting to note that less than one third of participants with substantial delays in adaptive functioning have adaptive-related outcomes on their IFSP. In one respect, this finding is encouraging, as it provides evidence that outcomes are, in fact, being written based on family
preference rather than assessment results. However, this finding can also be slightly troublesome because it raises the possibility that children are not receiving intervention for their unique adaptive behavior impairments.

Similarly, it was found that less than two thirds of children with low levels of receptive communication had outcomes that were communication-related, and just over three quarters of children with low levels of expressive communication had outcomes that were communication-related. While communication may not be a priority for all families, the negative consequences of not providing intervention for the notable number of children identified with communication delays need to be considered.

Deficits in communication restrict a child's ability to effectively participate in a range of activities. For example, a child's inability to understand what family members communicate (both verbally and nonverbally) causes frustration and makes it difficult for the child to form a positive social relationship with caregivers. A child's inability to expressively communicate their thoughts and needs also causes frustration, and the child then may resort to alternative, maladaptive behaviors.

In considering the three global child outcomes that are reported for accountability purposes (attainment of positive social relationships, acquisition of new skills, ability to use appropriate behaviors to meet their needs) it becomes clear how important communication is. The fact that nearly a quarter of children with substantial delays in expressive communication did not have communication-related outcomes on their IFSP should therefore be taken seriously. While
outcomes are to be developed based on family priority, service coordinators should also take responsibility in educating families on the importance of communication interventions and the negative effects that may result if these deficits are not addressed.

*Outcome statements and developmental domains*

Analysis of the data reveals that the majority of outcome statements (82.4%) targeted child functioning within a single domain only. It is recommended practice that identified outcomes bring together skills from multiple developmental domains that lead to increased participation for the child. Often times, domain-specific interventions are limited in their application and lack generalization. Thus, this finding prompts speculation as to the functionality of outcomes that are written for children.

Outcomes related to the social-emotional domain were most often concurrently targeted with other domains. Specifically, social-emotional outcomes were most often targeted along with the communication (n = 6) and adaptive domains (n = 5). This finding may suggest that IFSP teams find it most feasible to embed learning opportunities into social situations, using social interaction as the context.

Collectively, these outcomes indicate that IFSP teams struggle to develop outcome statements that cross developmental domains. It is established that the integration of developmental skills spanning the domains allows the child to get the most out of each learning opportunity and reduces the number of fragmented
services that are provided. Such outcomes can be best developed through collaborative teamwork, following the transdisciplinary approach to early intervention. With TD, skills that target multiple treatment goals can be targeted within a single activity. Based on the results of this study, it is suggested that training on this model of service delivery be provided to EI personnel.

Domains targeted across outcomes for each participant

Whereas no more than two developmental domains were targeted within a single outcome statement, up to four developmental outcomes were targeted per participant (across all of their identified outcomes). This finding further supports the notion that services and intervention continue to be fragmented, with different activities used to target different developmental domains.

Despite the fact that up to four domains were targeted, results indicated that collectively across all outcome statements, the majority of participants had outcomes that targeted only one of the five developmental domains. This is surprising given that 84.9% of participants in this study were identified as having either multiple mild or substantial delays. Over one third of the participants in this study had outcomes that solely targeted the communication domain. Because communication is embedded in a variety of routines that children engage in through the day (spanning multiple domains), this may be contrary to what might be expected.

Furthermore, it has found that embedding interventions into preferred activities and routines increases both motivation and engagement for the child
while promoting the development of new skills (Jennings et. al., 2012). This type of play-based learning can be used to effectively promote communication while simultaneously strengthening a child’s existing skills within another domain (i.e. motor, social-emotional). The presence of isolated, communication-specific targets suggest that this may not be occurring.

**Limitations**

Several limitations to this study existed and need to be considered when drawing conclusions for the research findings. First, only eighteen of Ohio’s eighty-eight counties provided IFSP outcomes for coding and analysis. Service coordinators vary in their background, experience, and “style” regarding how IFSP outcomes are written. Because the IFSPs coded in the study were developed by select service coordinators of participating counties, it is likely that the IFSPs were not fully representative of the outcomes that are developed by all service coordinators across the state of Ohio.

Other limitations to the study are inherent in the types of IFSPs requested for the larger project. Because only six-month reviews were requested from participating counties, no outcomes were available to code for children just entering EI programs. While this may have excluded a number of toddlers from the study, it more likely excluded a large number of infants from the study (no child under the age of six months had the possibility of participating). Children with diagnosed conditions are typically the ones who begin EI services in the first six months of life, and therefore it is probable that a considerable number of children with diagnosed
conditions were excluded due to their age. The IFSPs outcomes for these children could have potentially had an effect on the resulting data, thus yielding different results. By excluding this age demographic, this study is not representative of outcomes developed for all children in EI, but rather outcomes developed for children six months to three years of age.

The strict criteria for inclusion into the study further reduced both the number and diversity of participants included in the study. One requirement for child participation was the availability of reported developmental assessment scores. Because children with diagnosed physical and mental conditions qualify for EI services regardless of their developmental status, many infants and toddlers with diagnosed conditions did not have reported scores, and were therefore excluded. Only three of twenty-five children with diagnosed conditions were represented in the study. Therefore, patterns of outcome statements discussed in the study may be more representative of children with developmental delays than it is for EI participants as a whole.

A final limitation is a result of not having access to study data at the time of analysis. Due to a delay of data receipt from study staff of the larger project, not all outcome data for each participant was reported in this study. For example, a child may have had three outcomes included on their IFSP, but only two may have been coded and analyzed. This limitation needs to be considered when drawing conclusions regarding the breadth of developmental themes targeted across all outcome statements for each individual participant. Although the outcomes were
coded and input into the database in random order, it is likely that an incomplete picture is represented by the data included.

**Implications**

Results from the present study both supports the need for and questions the current use of the transdisciplinary (TD) model of service delivery in Early Intervention. This model, which has been identified as the most efficient approach, is “collaboration in the form of integrated assessment, intervention plan, and implementation” (Boyer & Thompson, 2013). Multiple findings from this study support the need for more consistent and valid implementation of TD.

Because a primary service provider is typically the professional who works directly with the child and family, it is important that they are well equipped to work with the child across all areas of development. With results indicating that over two thirds of children in EI have outcomes targeting communication, it is critical that the primary service provider (while not necessarily an SLP) is confident in the interventions and strategies outlined on the IFSP. Enrichment and Support are both key elements of TD that assist in accomplishing this. Enrichment refers to team members learning about other disciplines through discussions of assessment and intervention procedures. To support members of the team, each member provides consult regularly to monitor implementation of interventions (Boyer & Thompson, 2013).

This study found that less than one quarter of children with substantial developmental delays had outcomes targeting social-emotional skills, despite the
established link between developmental delays and social deficits. This may be a result of the lack of knowledge surrounding infant mental health in the field of EI. It has been suggested that all EI personnel would benefit from basic, introductory training so that they are better equipped to address social-emotional difficulties in children served (Hebbeler et. al., 2007). Currently, there are a limited number of practitioners in the field who specialize in social-emotional difficulties in young children. However, through the Enrichment and Support that is provided in the TD model, primary service providers of varying disciplines could better support families in helping their children with social-emotional deficits. Without appropriate intervention, social-emotional deficits can have negative effects on both parent-child relationships and future outcomes for the child.

Despite recommendations for practice, results of this study further indicated that the breadth of skills targeted within outcome statements and across participants is limited. It is established that the integration of developmental skills spanning the domains allows the child to get the most out of each learning opportunity and reduces the number of fragmented services that are provided. Such outcomes can be best developed through collaborative teamwork. Using the TD approach, EI teams could more effectively plan and implement interventions for children and families.

**Future Research**

To address the limitations discussed in the present study, future research should analyze outcomes in terms of developmental themes for a more complete
sample of the population. Participants in this replication study would include infants 0-6 months of age as well as all children with diagnosed conditions.

The present study coded and analyzed IFSP outcomes that were written by multiple service coordinators across the state of Ohio. However, each county and service coordinator may have a developed a "style" in which they compose IFSP outcome statements. Future research should compare characteristics of IFSP outcome statements with respect to their home counties and authoring service coordinators. By identifying discrepancies in outcome development among service coordinators and counties, recommendations could be made so that IFSP outcomes are developed with higher quality.

Finally, future studies should investigate the benefits that consistent use of a TD model has on outcomes that are developed. Specifically, the study should analyze the frequency with which collaborative, domain-integrated, outcomes were developed following TD. By measuring gains made by families using the TD approach, the effectiveness of such an approach could be verified.

Conclusion

While past studies have investigated the types of services received by EI participants, this study sought to investigate the types of outcomes that are developed for eligible children based on developmental themes. IFSPs were coded and data was analyzed to determine the frequency with which developmental themes were targeted within IFSP outcomes with respect to child characteristics. The frequency with which developmental domains were concurrently targeted was
also analyzed.

Result from the study revealed that outcomes statements written for EI participants are most often related to the developmental domain of communication. Data also revealed that despite child characteristics known to be associated with maladaptive behavior (overall substantial delay, substantial delay in communication), outcomes do not consistently address these specific areas of deficit. Despite recommendations to integrate skills across the domains within outcome statements, it was found that the vast majority of outcomes addressed participation in a single domain only. A more coordinated, transdisciplinary approach to outcome development and service implementation is suggested to address these findings.
References


Jung, L. (January 01, 2010). Can Embedding Prompts in the IFSP Form Improve the Quality of IFSPs Developed?. *Journal of Early Intervention, 32*, 3, 200-213.


National Early Childhood Technical Assistance Center.


Appendix A: Tables

<table>
<thead>
<tr>
<th>Diagnosed Condition</th>
<th>Mild Delay</th>
<th>Multiple Mild Delays</th>
<th>Substantial Delay</th>
<th>Informed Clinical Opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1%</td>
<td>9.6%</td>
<td>2.7%</td>
<td>82.2%</td>
<td>1.4%</td>
</tr>
<tr>
<td>(n = 3)</td>
<td>(n = 7)</td>
<td>(n = 2)</td>
<td>(n = 60)</td>
<td>(n = 1)</td>
</tr>
</tbody>
</table>

Table 1: Reason for participant eligibility
<table>
<thead>
<tr>
<th></th>
<th>No Delay</th>
<th>Mild Delay (1.5-1.99 SD)</th>
<th>Substantial Delay (2.0+ SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adaptive Behavior</td>
<td>61.6% (n = 45)</td>
<td>20.5% (n = 15)</td>
<td>17.8% (n = 13)</td>
</tr>
<tr>
<td>Receptive Communication</td>
<td>54.8% (n = 40)</td>
<td>9.6% (n = 7)</td>
<td>21.9% (n = 16)</td>
</tr>
<tr>
<td>Expressive Communication</td>
<td>37.0% (n = 27)</td>
<td>13.7% (n = 10)</td>
<td>49.3% (n = 36)</td>
</tr>
</tbody>
</table>

Table 2: Developmental results per assessed domain
<table>
<thead>
<tr>
<th>6 months – 1 year</th>
<th>1-2 years</th>
<th>2-3 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.8% (n = 5)</td>
<td>38.4 %</td>
<td>54.8%</td>
</tr>
<tr>
<td></td>
<td>n = 28</td>
<td>n = 40</td>
</tr>
</tbody>
</table>

Table 3: Ages of study participants
<table>
<thead>
<tr>
<th>One Outcome Statement</th>
<th>Two Outcome Statements</th>
<th>Three Outcome Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>67.1% (n = 46)</td>
<td>31.5% (n = 23)</td>
<td>5.5% (n = 4)</td>
</tr>
</tbody>
</table>

Table 4: Number of outcomes written for study participants
<table>
<thead>
<tr>
<th>Cognitive</th>
<th>Motor</th>
<th>Adaptive</th>
<th>Social-emotional</th>
<th>Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>90.70%</td>
<td>88.90%</td>
<td>92.60%</td>
<td>83.30%</td>
<td>92.60%</td>
</tr>
</tbody>
</table>

Table 5: Agreement among raters for developmental themes present within outcomes statements
<table>
<thead>
<tr>
<th></th>
<th>Mild Delay(s) n = 11</th>
<th>Substantial Delay n = 61</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>0% (n = 0)</td>
<td>8.2% (n = 5)</td>
</tr>
<tr>
<td>Motor</td>
<td>18.2% (n = 2)</td>
<td>27.9% (n = 17)</td>
</tr>
<tr>
<td>Adaptive</td>
<td>27.3% (n = 3)</td>
<td>19.7% (n = 12)</td>
</tr>
<tr>
<td>Social-emotional</td>
<td>54.5% (n = 6)</td>
<td>24.6% (n = 15)</td>
</tr>
<tr>
<td>Communication</td>
<td>63.6% (n = 7)</td>
<td>65.6% (n = 40)</td>
</tr>
</tbody>
</table>

Table 6: Developmental domains targeted per child based on overall level of developmental delay
<table>
<thead>
<tr>
<th>Adaptive behavior</th>
<th>Cognitive</th>
<th>Motor</th>
<th>Adaptive</th>
<th>Social-Emotional</th>
<th>Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>No delay (n = 45)</td>
<td>6.7%</td>
<td>22.2%</td>
<td>15.6%</td>
<td>33.3%</td>
<td>73.3%</td>
</tr>
<tr>
<td>Mild Delay (n = 15)</td>
<td>6.7%</td>
<td>26.7%</td>
<td>26.7%</td>
<td>40.0%</td>
<td>53.3%</td>
</tr>
<tr>
<td>Substantial Delay (n = 13)</td>
<td>7.7%</td>
<td>38.5%</td>
<td>30.8%</td>
<td>15.4%</td>
<td>61.5%</td>
</tr>
<tr>
<td>Receptive communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Delay (n = 40)</td>
<td>0%</td>
<td>32.5%</td>
<td>17.5%</td>
<td>27.5%</td>
<td>62.5%</td>
</tr>
<tr>
<td>Mild Delay (n = 7)</td>
<td>0%</td>
<td>28.6%</td>
<td>14.3%</td>
<td>42.9%</td>
<td>100%</td>
</tr>
<tr>
<td>Substantial Delay (n = 26)</td>
<td>19.2%</td>
<td>15.4%</td>
<td>26.9%</td>
<td>34.6%</td>
<td>61.5%</td>
</tr>
<tr>
<td>Expressive communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Delay (n = 27)</td>
<td>3.7%</td>
<td>40.1%</td>
<td>25.9%</td>
<td>29.6%</td>
<td>51.9%</td>
</tr>
<tr>
<td>Mild Delay (n = 10)</td>
<td>10%</td>
<td>20%</td>
<td>10%</td>
<td>30%</td>
<td>70%</td>
</tr>
<tr>
<td>Substantial Delay (n = 36)</td>
<td>8.3%</td>
<td>16.7%</td>
<td>19.4%</td>
<td>33.3%</td>
<td>77.8%</td>
</tr>
</tbody>
</table>

Table 7: Frequency of developmental themes targeted per child with respect to developmental assessment scores
<table>
<thead>
<tr>
<th>Domain</th>
<th>One domain targeted</th>
<th>Two domains targeted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>82.4% (n = 84)</td>
<td>16.7% (n = 17)</td>
</tr>
<tr>
<td>Cognitive</td>
<td>2.0% (n = 2)</td>
<td>2.9% (n = 3)</td>
</tr>
<tr>
<td>Motor</td>
<td>18.6% (n = 19)</td>
<td>2.9% (n = 3)</td>
</tr>
<tr>
<td>Adaptive</td>
<td>7.8% (n = 8)</td>
<td>7.8% (n = 8)</td>
</tr>
<tr>
<td>Social-Emotional</td>
<td>11.8% (n = 12)</td>
<td>11.8% (n = 12)</td>
</tr>
<tr>
<td>Communication</td>
<td>42.2% (n = 43)</td>
<td>7.8% (n = 8)</td>
</tr>
</tbody>
</table>

Table 8: number of developmental domains targeted per outcome statement
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>35.3% n = 6</td>
<td>11.8% n = 2</td>
<td>29.4% n = 5</td>
<td>17.6% n = 3</td>
<td>5.9% n = 1</td>
</tr>
</tbody>
</table>

Table 9: Developmental domains concurrently targeted within single outcome statements.
<table>
<thead>
<tr>
<th>One domain targeted</th>
<th>Two domains targeted</th>
<th>Three domains targeted</th>
<th>Four domains targeted</th>
</tr>
</thead>
<tbody>
<tr>
<td>60.3%</td>
<td>31.5%</td>
<td>6.8%</td>
<td>1.4%</td>
</tr>
<tr>
<td>(n = 44)</td>
<td>(n = 23)</td>
<td>(n = 5)</td>
<td>(n = 1)</td>
</tr>
</tbody>
</table>

Table 10: Number of domains targeted across all outcomes for a single participant
<table>
<thead>
<tr>
<th>Targeted domain</th>
<th>Plus one additional domain</th>
<th>Plus two additional domains</th>
<th>Plus three additional domains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Motor</td>
<td>8</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Adaptive</td>
<td>2</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Social</td>
<td>6</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>Communication</td>
<td>25</td>
<td>19</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 11: Developmental domains targeted across all outcomes per participant
Appendix B: Figures

Figure 1: Consort for IFSP inclusion
Figure 2: Frequency with which participants have outcomes targeting each developmental domain
Figure 3: Developmental themes targeted per participant based on reported level of delay in adaptive behavior
Figure 4: Developmental themes targeted per participant based on level of delay in receptive communication
Figure 5: Developmental themes targeted per participant based on reported level of delay in expressive communication
Appendix C: IFSP Summary Page

Nisonger Outcome Assessment Tool

<table>
<thead>
<tr>
<th>Child's ID Number:</th>
<th>Child's age (months):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rater ID:</td>
<td>Date of coding:</td>
</tr>
<tr>
<td>Start Time:</td>
<td>Stop Time:</td>
</tr>
</tbody>
</table>

Please fill in the following information from the IFSP:

1. What do we want to happen in the next 6 months?

2. What's happening now?

4. What supports and resources do I/we have available to achieve this outcome?

3. Who will help us and what strategy will they use so we can achieve our outcome?

Which functional federal outcome would this fall under? (check all that apply)
- □ 1) Positive social-emotional skills
- □ 2) Knowledge and Skills
- □ 3) Appropriate behavior to meet needs

Which developmental theme does the IFSP outcome fall under? (check all that apply)
- □ Cognitive development
- □ Motor/Physical development
- □ Adaptive development
- □ Social development
- □ Communication development (expressive or receptive)

How much experience have you had using the Nisonger Outcome Assessment tool?
Check one of the options below.
- □ Less than 1 week
- □ 1-4 weeks
- □ 1-3 months
- □ 3-6 months
- □ 6-9 months
- □ 9-12 months