TEAM MEMBER PERCEPTIONS WHEN IMPLEMENTING A PRIMARY SERVICE PROVIDER APPROACH TO TEAMING

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A thesis submitted to the faculty of
The University of North Carolina at Charlotte
in partial fulfillment of the requirements
for the degree of Master of Education in
Child and Family Studies

Charlotte

2018

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ABSTRACT

SHEENA DAWN JENNINGS. Team Member Perceptions When Implementing a Primary Provide Approach to Teaming (Under the direction of DR. JANEDIANE SMITH)

A critical component of early intervention is teaming. Teaming is necessary to combine the expertise of multiple disciplines and to provide family-centered services for young children and their families. Teaming in which one provider serves as the primary liaison between the family and other team members is supported as best and recommended practices in early intervention. The primary service provider (PSP) approach to teaming has known benefits for families such as reduced stress and confusion. They develop one key relationship, and there is less repetition of the same information to different service providers and fewer professionals vising the home. Many programs in the United States and Australia are implementing this teaming approach. However, there are concerns and challenges with implementing a primary provider approach to teaming due to practitioner apprehension regarding professional identity, misperceptions about the teaming approach, and lack of preservice training. Limited research exists regarding professional perceptions of teaming in early intervention and none is specific to perceptions after participating with a team that has implemented the primary service provider approach to teaming. The purpose of this research was to examine team member perceptions associated with implementing a PSP approach to teaming**.** The following research questions were answered: 1) What are professional perceptions when implementing a primary service provider approach to teaming? 2) What is the relationship between team member perceptions and their length of time on a

PSP team? 3) What is the relationship between perceptions and team member disciplines? The research design was non-experimental, descriptive, and quantitative using survey research. There were 351 responses to the survey from professionals currently participating on a PSP team. Responses include 295 PSP team members from the United States and 56 PSP team members from Australia. Australia PSP team members identify as Key Workers. Results suggested that overall early intervention professionals in the United States and Australia agree that PSP is an effective teaming approach for infants and toddlers with disabilities and their families. Statistically significant differences were found with perceptions between those that had been on a PSP team for 6 to 10 years and those who were on a team for two years or less. Statistically significant differences were also noted between perceptions of team members from the early childhood special education/early intervention discipline and the physical therapy discipline. Few studies have been conducted on professional perceptions of teaming and minimal research exists related to perceptions in the field of early intervention. Understanding the perceptions of team members is an important step for improving implementation of recommended teaming practices.

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CHAPTER 1: INTRODUCTION

Teamwork involving multiple disciplines is an approach frequently used in industries such as health, education and business and is widely used across U.S. organizations (Bell, 2007; Choi & Pak, 2006). Teamwork is also a foundation of the work in early intervention (DEC, 2014; IDEA, 2004; Workgroup on Principles and Practices in Natural Environments, 2008). A critical component of early intervention is teaming. Teaming is necessary to combine the expertise of multiple disciplines and to provide family-centered services for young children and their families (Bruder, 2010). There are positive perceptions of teaming in general in early childhood intervention (Campbell & Halbert, 2002; Malone & Gallagher, 2010; Malone & Gallager, 2017; Malone & Mcpherson, 2004). However, there are concerns and challenges with implementing certain teaming approaches due to practitioner apprehension regarding professional identity, misperceptions about the teaming approach, and lack of preservice training in teaming approaches (Bruder & Dunst, 2005; King et al., 2009). This apprehension can influence team member perceptions and attitudes about teaming which can impact team effectiveness (Choi & Pak, 2006). Limited research exists regarding professional perceptions of teaming in early intervention and none is specific to perceptions after participating with a team that has implemented the primary service provider approach to teaming. The purpose of this research was to examine team member perceptions of teaming associated with implementing a primary service provider approach to teaming**.**

The Individuals with Disabilities Education Act (IDEA) is a federal law that administrates a grant program assisting states in operating comprehensive statewide programs of services for individuals with disabilities. Part C of the law is specific to services for infants and toddlers with disabilities, ages birth through 2 years, and their families. Provisions for infants and toddlers with disabilities first appeared in legislation in 1986 and are therefore relatively new having only been in existence for 30 years. The term "early intervention" is often used to describe services for children birth to age 5. For the purposes of this paper, the term "early intervention" refers specifically to services for infant and toddlers with disabilities and their families. Three of the key recommended practices (DEC, 2014; Workgroup on Principles and Practices in Natural Environments, 2008) for service delivery in early intervention that are addressed in federal legislation, research, and the professional literature are: a) services provided in natural environments, b) using a capacity-building (or coaching) approach with parents and other caregivers, and c) implementing family-centered practices. IDEA requires early intervention services be implemented in natural environments which are defined as settings that are natural or typical for a same-aged infant or toddler without a disability and may include the home or community settings (§303.126). This requirement is not limited the location of services. The focus is also on supporting families within the context of natural routines and activities, using interest-based child learning and enhancing parent responsiveness to promote child learning. Natural learning environment practices support families in understanding the important role of being responsive in everyday activities and supporting child interests as the foundation for child learning (Dunst, Bruder, Trivette, Raab, & McClean, 2001).

An effective way for early intervention practitioners to provide natural learning environment practices is to use a capacity-building approach with families (Rush & Shelden, 2011). A capacity-building approach, or coaching style of interaction, supports parents' competence and confidence in promoting child learning within the context of natural learning opportunities. The Division for Early Childhood (DEC) of the Council for Exceptional Children (CEC) recommended practices document (2014) guides practitioners to work with families in ways that develop existing parenting knowledge and skills and promote the development of new parenting abilities that will enhance parent confidence and competence. In addition, the *Mission and Key Principles for Providing Early Intervention Services in Natural Environments* (Workgroup on Principles and Practices in Natural Environments, 2008) takes a strong stance on the importance of early intervention professionals supporting caregivers. This workgroup put forth that infants and toddlers learn best through everyday experiences, with familiar people, and in familiar routines and activities. Additionally, they support the idea that the primary role of early intervention professionals is to support the parents and caregivers in a child's life. Therefore, services provided with a capacity-building approach that incorporates natural learning environment practices while also using family-centered practices is vital when implementing early intervention services. Dunst (2002) characterized family-centered practices as beliefs and practices that treat families with dignity and respect, are individualized, flexible, and responsive. Dunst also concludes that being family-centered provides the supports and resources necessary for families to care for their children in ways that produce optimal outcomes for the child, parent, and family.

1.1 Statement of the Problem

Because of the diverse needs of infants and toddlers with disabilities, and their families, early intervention involves a wide variety of disciplines and fields of study such as early childhood education, health, psychology, social work, and special education. These disciplines have contributed to the design of early intervention over the years (Bruder, 2010). However, this has also contributed to challenges with implementing natural learning environment practices, coaching as an interaction style, family-centered practices, and teaming practices. Prior to the 1986 legislative provisions for infants and toddlers, early intervention programs did exist. Most of the existing programs, however, were center-based. During the late 1980's and early 1990's the change in practice that occurred was primarily to shift from center or clinic-based services to services in natural environments for infants and toddlers. The focus, however, was primarily on the change in the location of services and did not include a change for how services were delivered to enhance the capacity of parents and caregivers (Branson, 2015). Instead of parents watching therapy in a clinic room, the therapist loaded up his/her toys and therapy equipment, traveled to the family's home, and the family then watched the same type of intervention being provided on the living room floor. With this approach, early intervention professionals determined a child's delay in development and then worked to improve a developmental skill through practitioner-child interventions (Shelden & Rush, 2013). This child-focused, deficit-based approach to early intervention needed to be transformed into a strengths-based, family-focused early intervention and family support program (Dunst, 2000; Dunst & Trivette, 2009).

One primary reason for a child-focused approach to early intervention then (and it continues today) was practitioners' inadequate preservice preparation and their lack of meaningful professional development related to services for infants and toddlers and supporting the adults in a child's life (Bruder, 2010; Mogro-Wilson, Stayton, & Dietrich, 2009). Each core discipline (i.e., occupational therapy, physical therapy, speech-language pathology, and early childhood special education) has its own unique preservice training programs, licensing or certification requirements, and professional organizations that often encompass the needs of individuals across the lifespan and are not, therefore, specific to the needs of infants and toddlers with disabilities and their families (Bruder, 2010). To improve the effectiveness of these practitioners providing early intervention, researchers suggest that services be delivered through an integrated team approach (Hanson & Bruder, 2001). Part C of IDEA (2004) requires a team of multiple disciplines working together because no one discipline has all the necessary expertise required to adequately serve children with disabilities and their families (Shelden & Rush, 2001). The specific requirements for teaming are addressed in §303.12(b): The general role of service providers is to (a) participate in the multidisciplinary individualized family service plan (IFSP) team's ongoing assessment of child and family needs in the development of integrated goals and outcomes for the IFSP, (b) provide services in accordance with the IFSP, and (c) consult with and train parents and others regarding the provision of the early intervention services described in the IFSP.

The three primary types of teaming models in early intervention are multidisciplinary, interdisciplinary, and transdisciplinary (Woodruff & McGonigel, 1988). The transdisciplinary model has been identified as the most efficient for use in

early intervention (King et al., 2009). The transdisciplinary model is also referred to as the primary provider model to denote one service provider's responsibilities to the other members of the team (Bruder, 2010). In *The Early Intervention Teaming Handbook*, Shelden and Rush (2013) outline the characteristics of a primary service provider (PSP) approach to teaming for early intervention. They also describe that PSP is most commonly associated with a transdisciplinary model of teaming.

With multidisciplinary teams, professionals primarily work independently for assessment, planning, and treatment. Interaction with other team members is minimal, but practitioners do share information with other team members regarding their intervention plans (Boyer & Thompson, 2014; Shelden & Rush, 2013). Shelden and Rush describe (as referenced from Orelove & Sobsey, 1996) that when services are provided in a multidisciplinary approach, team members view children from their own discipline's perspective, and children receive separate discipline-specific interventions that may result in overlaps and gaps in services. Interdisciplinary team members have more ongoing interaction. They remain independent with assessment and treatment, but team members do meet to develop an intervention plan. The primary purpose of ongoing team meetings in an interdisciplinary approach is for each discipline to report on child status (Boyer & Thompson, 2013). In both the multidisciplinary and interdisciplinary models, families may have multiple service providers scheduling with them independently to make regular home visits with little or no communication and collaboration among team members.

With the transdisciplinary teaming model, professionals share the responsibilities for assessment, planning, and implementing services. Families are central members of the team, and professionals value the families' involvement during all steps in the

intervention process (Shelden & Rush, 2013). Intervention is delivered primarily by one service provider who receives consultation from other team members (Bruder, 2010). As previously described, PSP is most closely associated with a transdisciplinary model of teaming. Although closely aligned, Shelden and Rush began using the term *primary service provider approach to teaming* because common definitions of the transdisciplinary model did not include elements that focused on supporting parents in ways to promote self-efficacy in using everyday learning activities to enhance child learning and development; and to distinguish the use of role assistance for teaming instead of role release (Shelden & Rush).

Regarding professional recommendations for the primary servicer provider approach to teaming, the DEC recommended practices document (2014) highlights the PSP approach in the teaming section of the recommendations: "Practitioners and families may collaborate with each other to identify one practitioner from the team who serves as the primary liaison between the family and other team members based on child and family priorities and needs" (p. 15). Also, the Workgroup on Principles and Practices in Natural Learning Environments (2008), of the National Early Childhood Technical Assistance Center (NECTAC), set forth a document, *Agreed Upon Mission and Key Principles for Providing Early Intervention Services in Natural Environments.* Key Principle 6 states, "The family's priorities, needs and interests are addressed most appropriately by a primary provider who represents and receives team and community support" (p. 2). All the allied health professional organizations for occupational therapy, physical therapy, and speech-language pathology provide statements, guidance, or information for their practitioners supporting the use of primary service providers in early

intervention (American Occupational Therapy Association [AOTA], 2010; American Speech-Language-Hearing Association [ASHA], 2008; Section on Pediatrics of the American Physical Therapy Association [APTA], 2010). Although the organizations use varying terminology such as primary interventionist, primary service provider, collaborative intervention services, transdisciplinary teaming, and consultation; all the organizations support this approach to teaming.

The implementation of a primary service provider approach supports professionals in moving from a child-focused and deficit-based approach to a strengths-based, family-focused, and family supported intervention; and allows for the implementation of recommended practices for infants and toddlers and their families. Using a PSP approach to teaming does not equate to only one practitioner supporting a child and family. With this approach to teaming, the child and family have access to all team members, from multiple disciplines, as needed, via joint visits with the PSP and team meetings (Shelden & Rush, 2013). This approach offers increased opportunities for early intervention professionals to receive ongoing support as well as the potential for expanded understanding of family support and child development that they may not otherwise have had the opportunity for with other models of teaming.

Despite recommendations for teaming in early intervention to use a primary service provider approach, a gap exists between research, recommendation, and practice (Bruder, 2010, Bruder & Dunst, 2005; Shelden & Rush, 2001). Some of the challenges associated with implementing a PSP approach to teaming include professional beliefs and attitudes about the teaming model and lack of preservice training on teaming models across disciplines. Concerns expressed by early intervention professionals prior to

implementation are that intervention providers may be required to practice beyond the scope of their profession, that children and families will receive less services, and that family options will be limited (Shelden & Rush, 2001). Because the PSP approach to teaming is closely associated with the transdisciplinary model, professionals do have concerns about the concept of role release, although this is not a component of the PSP approach (Shelden & Rush, 2013). Role release is referred to as accepting that other team members can do what the professional was specifically trained to do by his or her discipline-specific education and training (Holmesland, Seikkula, Nilsen, Hopfenbeck, & Arkil, 2010; Woodruff & McGonigel, 1988). This concept can spark the fear of losing professional identity and a concern for liability due to practicing outside of professional boundaries (King et al., 2009).

1.2 Research Questions

The focus of this research was to gain insight into early intervention providers' perceptions regarding a primary service provider approach to teaming by answering the following questions: 1) What are professional perceptions when implementing a primary service provider approach to teaming? 2) What is the relationship between team member perceptions and their length of time on a PSP team? 3) What is the relationship between perceptions and team member disciplines? Few studies have been conducted on professional perceptions of teaming and minimal research exists related to perceptions in the field of early intervention. Team member perceptions can influence team effectiveness (Choi & Pak, 2006). Understanding the perceptions of team members is an important step for improving implementation of recommended teaming practices. Citing Chaplin (1985), Malone and Gallagher (2017) define perceptions as "specific beliefs

about teamwork influenced by an understanding of the activities and events experienced by the team being served and attitudes are defined as a relatively stable and enduring predisposition to behave or react in a certain way within the team context" (p. 6). For the purposes of this research the terms perceptions and attitudes will be used interchangeably.

The hypothesis is that professionals implementing a primary service provider approach to teaming, as outlined by Shelden & Rush (2013), will have positive perceptions of teaming. These perceptions are expected to be due to enhanced benefits for an increased amount of teaming and collaboration, improved relationships and trust among team members, more opportunities for role assistance, increased knowledge across domains and specialties, increased knowledge of child learning and family systems, and an improved ability to implement natural learning environment, coaching, and family-centered practices.

CHAPTER 2: LITERATURE REVIEW

To identify relevant literature on teaming and recommended practices in early intervention, the following EBSCOhost research databases were searched: ERIC, JSTOR and PSYCInfo. The terms early intervention, early childhood intervention, teaming, teaming models, family-centered practices, natural learning environments, natural learning environment practices, primary provider, primary service provider, multidisciplinary teaming, interdisciplinary teaming, transdisciplinary teaming, effective teams, perceptions of teamwork, consultation teams, practitioner perceptions, practitioner perspectives, Bronfenbrenner, child development theory, ecological theory, Bandura theory, social learning theory, efficacy, professional identity, professional attitudes, professional beliefs, and professional perceptions were used in the electronic search. Reference articles were also used to conduct an ancestral review of the literature. In addition, the academic search engine Google Scholar was explored to locate further resources for the literature review.

2.1 Theoretical Framework

Individual team member attitudes and perceptions impact team performance. The purpose of this research is to study the perceptions of team members implementing a primary service provider model of teaming. Research questions are influenced by Bandura's (1977) social cognitive theory related to self-efficacy. Self-efficacy is people's judgments of their own capabilities. According to this theory, unless people believe that their actions can produce the outcomes they desire, they have little incentive to act or to prevail in the face of difficulties. High self-efficacy is necessary for successful functioning regardless of whether it is achieved individually or by group members

working together (Bandura, 2000). Early intervention practitioners' ability to implement recommended practices in early intervention, including a primary provider approach to teaming are impacted by their perceptions and attitudes. Team member perceptions of teaming are influenced by concerns related to professional identity and lack of preservice training across disciplines.

An additional theoretical influence for this research is Bronfenbrenner's ecological theory of human development (Bronfenbrenner, 1979). Bronfenbrenner (1992) concludes that early learning and development are influenced by the interaction of the environments experienced by a child and the characteristics of the people within these environments. A child's development is affected by everything in his or her surroundings. Bronfenbrenner divided the child's environment into five different levels: the microsystem, the mesosystem, the exosystem, the macrosystem, and the chronosystem. The two levels most relevant to this this research are the microsystem and the mesosystem. The microsystem is the closest to the child and therefore the most influential. Examples of a microsystem would be home and childcare as well as family, caregivers, and peers. The next level in the ecological system theory is the mesosystem. The mesosystem is the point at which microsystems merge. For an infant and toddler with disabilities, the team providing early intervention supports would be considered part of the mesosystem and interact with the family and other primary caregivers. Since the microsystem of the family is the most influential for the child, an effective early intervention team is an essential support to the family as part of the mesosystem for the child.

2.2 Effectiveness of Teams

Team performance is defined by Devine and Phillips (2001) as the degree to which a team accomplished its goal or mission. Having a positive view of a team experience increases a practitioner's likelihood of investing more effort in the team processes and of having a positive influence within a group (Malone & Gallagher, 2010; Rush & Shelden, 1996). There are some positive perceptions of teaming in general in early childhood intervention research (Campbell & Halbert, 2002; Malone & Gallagher, 2010; Malone & Gallager, 2017; Malone & Mcpherson, 2004). Malone and McPherson (2004) surveyed a total of 60 community-based and hospital-based early intervention practitioners to determine their attitudes and perceptions about teamwork. Both groups of the team members surveyed had positive perceptions of the team process and a positive view of the performance of the teams on which they served.

Campbell and Halbert (2002) surveyed 241 multiple-discipline, early intervention practitioners following their participation in a professional development activity. Participants were asked to describe their three wishes for changes in early intervention. Responses were grouped into six themes, with one being teaming. For the respondents who commented on teaming, all the statements reflected a desire to have established lines of communication among the professionals in the various disciplines who were working with a child and family. The practitioners also placed importance on both group team meetings and situations where professionals could have joint visits in a home with a family and child.

Although an individual's perceptions of teaming can certainly be influenced prior to implementation, certain components of teaming, which, when present, can improve

attitudes about teaming and the effectiveness of the team. According to Rush and Shelden (1996), effective teams require a process for conflict resolution, which promotes shared information, good communication, and trust that are crucial for meeting team performance objectives. A study by Ulloa and Adams (2004) examined the relationship between individual attitudes toward teaming and the elements needed for an effective team. Findings from the study suggest that when elements such as mature communication, accountable interdependence, trust and respect, common purpose, role clarity, and clear goals are present during the process of teaming, the experience will have a positive effect on individuals' attitudes toward teamwork. Perceptions and attitudes toward teaming impact the effectiveness of the early intervention team.

2.3 Early Intervention Practices

Part C of IDEA focuses on partnering with families in the delivery of early intervention services (IDEA, 2004). Family-centered practices were introduced into early intervention literature over 20 years ago as an important approach to working with children and families (Dunst, Trivette, & Deal, 1994; Shelton & Stepanek, 1994). When practitioners work with family members in ways that respect their values and choices and include supports necessary to strengthen family functioning, family-centered practices are being implemented (Dunst, Trivette, & Hamby, 2007). These practices continue to be researched and discussed in the literature as recommended practices. Findings from research syntheses indicate that the more family-centered parents judge their practitioners' practices to be, child and family outcomes are improved (Dunst et al., 2007). A key element of family-centered practices is acknowledging the influence of the family system on the child. This is grounded in Bronfenbrenner's (1979) theory on the

ecology of human development. Based on this theory, coaching is as a style of interaction used in early intervention to builds parents' capacity to support their child's learning and development within the context of everyday activity settings.

In the ten years between 2000 to 2010, research focused on how implementing coaching as a style of interaction supported family-centered practices. A synthesis of eight research articles published between 2011 and 2013 was conducted by Kemp and Turnbull (2014) regarding the use of coaching. Results indicated that parental outcomes associated with coaching included: a) increased awareness of their child's abilities, b) increased awareness about their own abilities and self-efficacy, c) less parent stress, and d) a stronger alliance between the parent and coach. Capacity-building for families within natural routines and activities is essential, as we know that infants and toddlers are developing and learning in the context of their families. Research shows that when a child is involved with familiar objects and familiar people they are more interested and motivated to be engaged longer, resulting in positive benefits for child learning (Dunst et al., 2001). Therefore, early intervention services must support the family as well as the child for optimal outcomes (Dunst, 2000). The intent of the PSP approach to teaming is to "promote positive child and family outcomes and minimize any negative consequences of having multiple and or changing practitioners involved in the family's life" (Shelden & Rush, 2013, p. 17).

2.4 Teaming in Early Intervention

As young children grow and develop, convergence among the various developmental milestones occurs across domains (e.g., cognitive, communication). Achievement in one area results in growth in another developmental domain. Due to the

interplay between areas of development and the complex needs of infants and toddlers with disabilities, early intervention practitioners represent various disciplines (e.g., psychology, social work, health, early childhood education and special education). The core disciplines and services in early intervention typically involve education, physical therapy, occupational therapy, and speech-language pathology. Knowledge and expertise of all disciplines are needed to meet the needs of infants and toddlers with disabilities and their families. It is important that discipline-specific professionals have knowledge and expertise across all the traditional developmental domains (Bruder, 2010; Shelden & Rush, 2013). To improve the effectiveness of those providing early intervention, researchers suggest that services be delivered through an integrated team approach (Hanson & Bruder, 2001).

Teaming practices also support practitioners across disciplines with improving knowledge about, and implementation of the recommended practices in early intervention such as natural learning environment practices, coaching as an interaction style, and family-centered practices. Shelden and Rush (2013) outline another crucial component of the PSP approach to teaming, which is role expectation. Role expectation encompasses PSP team members being evidence-based practitioners, demonstrating competence in providing parenting support, and using adult learning methods to promote parent and caregiver abilities to enhance child learning and development. Early interventionists serve many functions and a need exists for close collaboration, sharing, and transferring of information among professionals (Hanson & Bruder, 2001).

The three primary types of teaming models in early intervention are multidisciplinary, interdisciplinary, and transdisciplinary (Woodruff & McGonigel,

1988). There is a mix of teaming models applied across the nation in early intervention. A study conducted by Lamorey and Ryan (1998) examined the teaming practices of early intervention providers across the country who were serving children birth to age 5 with disabilities. Respondents were members of all three teaming types, and overall, results of the study did not reveal a consistent set of descriptions or practices that could be categorized as multidisciplinary, interdisciplinary, or transdisciplinary. Interpretations of the data concluded that the elements of the models were blended in implementation. The transdisciplinary model has been identified as the most efficient and preferred model of team interaction in early intervention (King et al., 2009; Shelden & Rush, 2001; Woodruff & McGoniel, 1988). A review of the literature on the transdisciplinary approach to early intervention services (King et al., 2009) defined transdisciplinary (as referenced from Davies, 2007; Johnson et al. 1994) as the sharing of roles across disciplinary boundaries so team members can maximize communication, interaction, and cooperation. The benefits of a transdisciplinary or primary provider approach to teaming are a) less intrusion on the family, b) less confusion for the parents, c) more coherent intervention plans and holistic service delivery, and d) the facilitation of professional development that enhances therapists' knowledge and skills (King et al., 2009; Shelden & Rush, 2001).

2.5 Primary Service Provider Approach to Teaming

The primary service provider approach to teaming, which is the focus of this study, is most closely aligned with the transdisciplinary model (Shelden & Rush, 2013). Two of the three primary features of the transdisciplinary model are associated with the primary service provider approach to teaming. First, as with PSP, in the transdisciplinary

model, one member of the team is chosen as the primary service provider to work directly with the child and family (Woodruff & McGonigel, 1988). This is considered an important benefit for the family (King et al., 2009) as they develop one key relationship, and there is less repetition of the same information to different service providers and fewer professionals vising the home. A second, distinguishing feature of the transdisciplinary model is that team members commit to working and learning across disciplinary boundaries to meet the needs of children and families (Woodruff & McGonigel, 1988).

The third primary feature of the transdisciplinary model, role release, does not align with the PSP approach to teaming (Shelden & Rush, 2013). This is where the transdisciplinary model and the primary servicer provider approach depart in characteristics. Role release occurs when team members surrender some of their discipline-specific, direct services to a primary provider (Boyer & Thompson, 2014). Role release is not a feature of PSP. Instead, team members provide role assistance. As explained by Shelden and Rush (2013), role assistance is support provided by the team or a specific team member and is an important part of the PSP approach. Role assistance is provided through regular team meetings, joint visits with families by the PSP and another team member, peer-to-peer conversations, and other professional development activities. Collaboration, learning, and role assistance occur most often during scheduled and formal team meetings. A consistent team meeting is a condition for successful implementation of the primary service provider approach to teaming and is grounded in the literature for effective teams (Bell, 2007; Choi & Pak, 2006; Choi & Pak 2007). Another way the PSP approach to teaming differs from transdisciplinary and other teaming models is that it is

intended to be used in conjunction with the other recommended early intervention practices such as family-centered practices, natural learning environment practices, and coaching as an interaction style (Shelden & Rush, 2013). Practitioners, with consistent role assistance from a team of multiple disciplines, become an "expert on a family's and child's activity setting, routines, and interests in order to promote parent mediation of child participation in everyday activities" (Shelden & Rush, 2013, pp. 7-8).

The characteristics of a primary service provider approach to teaming as outlined by Shelden and Rush (2013, p. 33) include: (a) a geographically based team of practitioners from multiple disciplines with competence in child development, family support, and coaching as an interaction style, assigned to each family in a program, (b) one team member who serves as the PSP to the child, family and other caregivers, and (c) a PSP who receives coaching (role assistance) from other team members through ongoing formal and informal interactions. All of these characteristics must be adhered to by all team members for a team to be considered as having implemented a primary service provider approach to teaming.

In addition to these three characteristics, there are five conditions that Shelden and Rush consider essential for effective implementation (pp. 33-34). These conditions are: 1) all the practitioners on the team must be available to serve as a PSP, 2) all team members must attend regular team meetings for the purpose of peer-to-peer coaching (role assistance), 3) the team uses a formal process to select a PSP based on the following four factors: parent/family, child, environment, and practitioner, 4) joint visits, with the family, between the PSP and secondary supports are required to allow team members the opportunity to support each other (role assistance) and the child's caregivers in a timely

and effective manner, and 5) the PSP for a family should change as infrequently as possible.

Shelden and Rush (2013) discuss research that demonstrates the benefits for families and children with a primary service provider. Three of those studies are reviewed here. The first study they describe is a longitudinal investigation of 190 infants and their families by Shonkoff, Hauser-Cram, Kraus, and Upshur (1992). Findings from the study reveal families that received one year of early intervention services from a primary provider reported less parenting stress compared with families receiving services from multiple providers. Services provided by a primary provider also resulted in better outcomes for children. A second study discussed by Shelden and Rush was conducted by Dunst, Hamby, and Brookfield (2007). The researchers examined the level of family-centered practices received by families and related benefits. There were 250 family respondents for this survey. Results indicated a negative correlation between the number of services received and family and child outcomes. The higher the number of services that were received, families were less satisfied. Also with a higher number of services, they rated the program as less family centered and there was a negative effect on family well-being. Finally, in a review of literature (Sloper & Turner, 1992) experiences with multiple providers were associated with increased parental stress, unmet needs, and confusion. Despite the evidence base for the characteristics of the primary service provider approach to teaming and the evidence of benefits for families and children, a gap exists between research and practice due to challenges with implementation.

2.6 Challenges with Implementation

Implementing a primary service provider approach to teaming (most closely aligned with transdisciplinary) elicits concerns from practitioners from specialized disciplines and is viewed with caution (Rapport, McWilliam, & Smith, 2004). Prior to implementation, perceptions of teaming for individual members are influenced by their discipline-specific training (Bruder & Dunst, 2005) and concerns for perceived aspects of the PSP approach to teaming such as role release (Rapport et al., 2004), which is not a component of PSP. Common misperceptions for implementing the PSP approach (Shelden & Rush, 2013) include notions of limiting services for families and a view that early intervention team members will serve as generalist or act outside their scope of practice. These notions are not true. Families have access to a full team and access to these services and supports are not denied. The PSP team is comprised of multiple disciplines and areas of expertise. This ensures that families receive the specialized knowledge and skills need to achieve IFSP outcomes. Perceptions of practitioners regarding role release during a pilot study by Ryan-Vincek, Tuesday-Heathfiled, and Lamorey (1995) are referenced in a literature review on transdisciplinary teaming in early intervention by King et al. (2009). The pilot study found that team members were concerned about the loss of professional identity in a transdisciplinary teaming model. Lamorey and Ryan (1998) also concluded that the "resolution of roles and turf was identified as a major factor in effectiveness across team models" (p.329).

A study with interesting findings, but not specifically involving early intervention professionals, was conducted related to professional identify and transdisciplinary collaboration among health care professionals and professionals from the social and

educational sectors (Holmesland et al., 2010). Some participants in the study found role release not feasible and preferred traditional discipline-specific roles with clients. Participants also reported feelings of insecurity and lack of acceptance of other professionals, impacting their professional identity. Study findings demonstrate the importance for the professionals' sense of security in the teaming model as well as the impact of mutual reliance among team members. These feelings of insecurity and lack of acceptance can create a challenge for developing a team culture with a PSP team. Forming a team culture takes time and teams go through normal developmental stages (Tuckman, 1965). In addition to bringing different preservice training influences, most team members have worked in a variety of setting such as hospitals, clinics, and private practice, often working independently (Shelden & Rush, 2013). Some programs also have contracted team members who may work in other settings in addition to being on a PSP team. The individuals often identify to the environment in which they spend the most amount of time. This can be a challenge when developing team culture. Team composition can have a strong influence on team performance (Bell, 2007). Based on a meta-analysis of predictors of team performance, Bell (2007) concluded that teams should be comprised of conscientious and agreeable individuals and team members high in openness to the experiences. Bell (2007) also concluded that for effective teaming, teams should be comprised of members who have a preference for teamwork.

Challenges related to effectively implementing a transdisciplinary or primary provider approach to team teaming are also influenced by limited preservice training about team processes across disciplines (Bruder & Dunst, 2005; Lamorey & Ryan, 1998). While the varied disciplines involved in early intervention bring different professional

perspectives that are important in meeting child and family needs, they also often bring different philosophical models of service delivery (Bruder, 2010), which may not match with early intervention recommended practices, including teaming practices. Bruder and Dunst (2005) surveyed higher education faculty across the United States to determine the degree to which early intervention practices, including teaming, were a part of the personal preparation for graduate and undergraduate students preparing to work with infants and toddlers. Programs for early childhood special education, physical therapy, occupational therapy, speech-language pathology, and multidisciplinary programs were included. Findings revealed that content areas specific to early intervention service delivery are not fully embedded across personal preparation programs for all fields of study. Regarding teaming, the early childhood special education and multidisciplinary programs report including teaming components more often (i.e., 72% and 64% respectively). Occupational therapy preparation programs included teaming components only 49% of the time with speech-language pathology at 46%. Physical therapy programs report the inclusion of content specific to teaming at 33% having the lowest level of training in all recommended practice areas.

2.7 Summary

A critical component of early intervention is teaming. Teaming is necessary to combine the expertise of multiple disciplines and to provide family-centered services for young children and their families (Bruder, 2010). Early interventionists serve many functions and a need exists for close collaboration, sharing, and transferring of information among professionals (Hanson & Bruder, 2001). The implementation of a primary service provider approach supports professionals in moving from a child-focused

and deficit-based approach to a strengths-based, family-focused, and family supported intervention, and allows for the implementation of recommended practices for infants and toddlers and their families. Despite the evidence base for the characteristics of the primary service provider approach to teaming and the evidence of benefits for families and children, a gap exists between research and practice due to challenges with implementation. While the varied disciplines involved in early intervention bring different professional perspectives that are important in meeting child and family needs, they also often bring different philosophical models of service delivery (Bruder, 2010), which may not match with early intervention recommended practices, including teaming practices. Some of the challenges associated with implementing a PSP approach to teaming include professional beliefs and attitudes about the teaming model, misperceptions about the teaming approach, and lack of preservice training on teaming models across disciplines. Professionals' perceptions and attitudes toward teaming impact the ability to develop a productive team culture and the effectiveness of the early intervention team. Understanding the perceptions of team members is an important step for improving implementation of recommended teaming practices in early intervention.

CHAPTER 3: METHOD

3.1 Participants and Setting

Participants for this research included early intervention professionals who were serving on a team implementing a primary service provider (PSP) approach to teaming in the United States and Australia. This study was specific to the perceptions of professionals working in Part C of early intervention serving infants and toddlers and their families. Therefore, the surveys were purposefully distributed to members of teams serving that population and implementing a PSP approach (Shelden & Rush, 2013). Based on personal communication with M'Lisa Shelden (April 10, 2017), there were 23 states in the U.S. known to be implementing the primary service provider approach to teaming. For some, the entire state was implementing and for other states only one city, region, or program was implementing the PSP approach. In addition, two programs in Australia were identified. Based on responses from programs and letters of consents received, surveys were distributed to 1,094 PSP team members in 10 U.S. States and to team members in 1 program in Australia (Refer to Table 1).

TABLE 1

Program Demographics

State / Program	Region	Implementation Area	Survey Distribution	Sample Size
State 1	West / Mountain	1 city	5 teams	100
State 2	West / Pacific	entire state	8 teams	64
State 3	West / Mountain	entire state	35 teams	200
State 4	Midwest	1 city	4 teams	41
State 5	Northeast	entire state	9 + teams	100
State 6	Midwest	2 regions	6 teams	40
State 7	Midwest	entire state	3 teams	24
State 8	South	1 district	20 teams	200
State 9	Midwest	entire state	# unknown	185
State 10	Southeast	1 program	1 team	10
Australia	Southeast	1 state	18 teams	130
Total				1,094

Teams were serving urban, suburban and rural areas**.** The teams operated as part of local, regional or state early intervention programs. There was a mixture of program employees and contracted service providers across teams. For some teams, service coordinators served in a dedicated role and for other teams, the PSP fulfilled the role of the service coordinator. Participants represented a sample of convenience based on the number of responses received across team members surveyed. The final sample consisted of 351 early intervention professionals who were members of primary service provider teams.

The sample include participants from the U.S. (*n* = 295) and Australia (*n* = 56). More than half of the participants had a master's degree (*n* = 185), 43% reported having a bachelor's degree (n = 151), a small percentage had a PhD (*n* = 15). Across both countries, the sample included those that identified with various disciplines including early childhood special education/early intervention (ECSE/EI) (*n* = 76), speech-language pathology (SLP) (*n*=91), physical therapy (PT) (*n* = 40), occupational therapy (OT) (*n* = 55), social work (SW) (*n* = 35), and other (*n* = 30). The other discipline group included psychology, counseling, nursing, nutrition, dietetics, child and family development, and deaf and vision education. For the survey, participants identified all the roles they provided for the PSP team. On some teams, participants served more than one role such as service coordinator and PSP or service coordinator and team facilitator. Roles included service coordinators (*n* = 111), primary service providers (*n* = 255), team facilitators (*n* = 63), and other (*n* = 15). The other role group included program directors, team support staff, interpreter and dietician. Participants had served on PSP teams for varying lengths of time; 0-2 years (*n* = 134), 3-5 year (*n* = 100), 6-10 years (*n* = 78), 11-15 years (*n* = 15), and 16+ years (*n* = 25).

3.2 Procedures

The survey was disseminated using Qualtrics survey software (Qualtrics, 2017). Program administrators and directors for Part C programs in the U.S. and programs in Australia were contacted by email and phone to explain the purpose of the study and to obtain letters of support for program and staff participation (See Appendix A). To determine team and participant eligibility, program administrators confirmed via a letter of support that teams, and therefore team members, met the inclusion criteria for research participation. Letters of support were received from ten states and one program in Australia. The inclusion criteria included, as outlined by Shelden and Rush (2013), (a) geographically based team of practitioners from multiple disciplines having competence in child development, family support, and coaching as an interaction style, is assigned to each family in a program, (b) one team member serves as the PSP to the child, family and other caregivers, (c) the PSP receives coaching (role assistance) from other team members through ongoing formal and informal interactions.

For this research, a team's fidelity to all PSP practices was not considered for inclusion. Team members had the opportunity to respond to the survey if the team on which they serve met these three characteristics required for a team to be considered as implementing a primary service provider approach to teaming. Once determined to be implementing a primary service provider approach to teaming, per the inclusion criteria, 1,094 PSP team members were emailed a survey link along with written information about the research and instruction for completing the survey (See Appendix B). Some emails were sent by program directors to PSP team members and some emails were sent by the researcher, depending on the program's preference. All participants received the

same written information and instruction regardless of the sender. The survey was open for approximately 6 weeks and one reminder email about taking the survey was sent to participants. Again, this reminder was sent either by the researcher or by the program directors depending on program preferences.

3.3 Instrument

The researcher obtained permission from Malone (1993) to use and adapt two of his surveys, the *Team Process Perception Survey* (TPPS) and the *Attitude About Teamwork Scale* (AATS). Elements from the two instruments were combined and adapted for use as the survey for this research and named the *Teaming Perception Survey* (See Appendix C). For the TPPS specifically, the self-identification of team type (i.e., multidisciplinary, interdisciplinary, transdisciplinary) was removed as the survey was only distributed to participants of PSP teams. The four open-ended questions at the end of the survey were adapted and resulted in three questions. Additional adaptions to both instruments were changes in terminology to better reflect the early intervention field. In addition, five questions were added related to essential elements of the PSP approach to determine perceptions specific to PSP teaming characteristics. Three questions were deleted that did not relate to the purpose of this study. The *Teaming Perceptions Survey* contained 28 questions. Nineteen questions use a 5-point Likert scale (e.g., strongly disagree/strongly agree, little value/great value, and low/high). One question was a forced response question regarding influences of the team environment. There were three open-ended narrative questions in which participants could share any additional perceptions about the PSP teaming approach. The survey rated perceptions specific to the value of the

individual's and team's work, perceptions of the effectiveness of teaming PSP approach, and perceived benefits of the teaming approach.

The newly created *Teaming Perceptions Survey* instrument was piloted prior to beginning the research to provide content and social validity for the instrument. The pilot study participants included five supervisors, two program directors, two service coordinators, and an education coordinator, all from programs providing Part C services. Pilot study participants did not take part in the study when data were collected. All were knowledgeable about the PSP approach to teaming, with three serving on a PSP team, and the others working in a program with a PSP team. The pilot study participants completed the survey and provided feedback. Participation in the pilot study was voluntary; their responses were not confidential because the researcher gathered feedback on the content of the questionnaire. The pilot study participants stated the questionnaire was an appropriate length, easy to navigate, and the questions were clear. Based on a suggestion from one of the pilot study participants an introductory paragraph was added to inform participants about the study, the voluntary nature of the study, and the confidentiality of their responses. In addition, based on a recommendation from the same pilot participant, a statement was added, at the bottom of the electronic survey, reminding participants that once they click off the page, they would not be able to go back to access the survey. Other than typographical error changes, no changes were made to survey questions based on the pilot survey responses. One pilot study participant commented on the forced response questions related to the influences of the team environment. The participant reflected that the extent to which the team is practicing with fidelity could

impact the response for that question. This comment was considered. It was decided to leave the question as written since it was a question from one of the original surveys.

Through personal email communication with D. Michael Malone (March 26, 2017), a description of the instrument and validity information was received for the AATA in a document named *Teamwork Instruments*. For the AATA both content and construct validity and internal consistency reliability have been established for the survey (Natvig, 1993). More specifically, a Content Validity Index (Lynn, 1986) was calculated based on item ratings provided by a national panel of experts on team process [CVI of 1.0 on 12 items and CVI of .83 on one item]. A factor analysis was conducted on the original survey development data (n = 208; Natvig, 1993) was used to assess construct validity. The factor comprising the items used in the survey had an eigenvalue of 2.8 which accounted for 21.5% of the inter-item variance. Internal consistency reliability was assessed using Cronbach's Alpha (.76).

3.4 Design and Data Analysis

The research design was non-experimental and quantitative using survey research and provided summary data to address research questions using IBM SPSS Statistics 25 (IBM, 2017). The research was also descriptive. Descriptive summaries using frequencies and percentages were completed for participants' experiences (i.e., country of residence, education, role on the team, discipline, and length of time on a PSP team). Additional descriptive summaries were provided for their perceptions of implementing a primary service provider approach to teaming using means and standard deviations. For the three open-ended questions, the researcher conducted a thematic analysis with two members of the M.Ed. thesis committee. Team members reviewed the open-ended responses

independently and then came together to agree on themes from the responses. Descriptive summaries are provided with examples of comments based on the themes identified.

A one-way analysis of variance (ANOVA) was used to determine whether there were statistically significant differences between perceptions of team members based on different demography of the participants. The team member's perception was the dependent variable, and the team members length of time on the team and discipline were independent variables. A mean difference was determined to be statistically significant at the 0.05 level. To obtain an overall perception of effectiveness score, three survey ratings were combined: 1)PSP is an effective teaming approach for infants and toddlers with disabilities and their families, 2)The PSP approach results in better program planning then when each discipline works independently, and 3)Family members are more informed and involved as team members than when each discipline worked independently. To obtain an overall perception of PSP characteristics that support effectiveness score, three survey ratings were combined:1)Primary coaching opportunities in team meeting and joint visits allow primary service providers to obtain the necessary support (role assistance) form different disciplines and from those with other areas of expertise, 2)Role assistance from team members supports primary service providers to address family priorities and support achievement of IFSP outcomes, and 3)Both formal (team meeting) and informal communication is essential to effective team functioning. To obtain an overall perception of improved understanding and implementation of other recommended early intervention practices, three survey ratings were combined: 1)The PSP approach to teaming supports my understanding and implementation of coaching as an interaction style, 2)The PSP teaming approach supports

my understanding and implementation of natural learning environment practices, and 3)I have an increased knowledge of child development, family systems, and how to provide parenting support as a result of being on a PSP team.

CHAPTER 4: RESULTS

The researcher gained insight into professional perceptions of the PSP approach to teaming and answered the following research questions: 1) What are professional perceptions when implementing a primary service provider approach to teaming? 2) What is the relationship between perceptions and the length of time on a PSP team? 3) What is the relationship between perceptions and team member disciplines? The results are presented by research question.

4.1 Research Question 1

Descriptive summaries for perceptions of team members are provided in three categories: 1) Perceptions of the PSP teaming approach effectiveness, 2) Perceptions of PSP teaming characteristics to support effectiveness, and 3) Perceptions for improved understanding and other implementation of recommended practices.

Perceptions of the PSP teaming approach effectiveness. Overall, PSP team members agreed that PSP is an effective approach (Refer to Table 2). For the two Likert scale items related to teaming effectiveness, considering all participants (n=351), the mean scores were 4.45 and 4.52 with standard deviations below 1.00. For the question related to families being more informed and involved with the PSP approach than with other approaches, there was overall agreement when looking at all participants, however, the mean was slightly lower at 4.03 and the standard deviation was 1.19. Considering Australia participants, the mean score for all questions was slightly higher, and the standard deviation lower, than those participants from the United States.

TABLE 2

Perceptions of effectiveness

	All (*n*=351)		U.S. (*n*=295)		Australia (*n*=56)	
Survey question	M	SD	M	SD	M	SD
PSP is an effective teaming approach for infants and toddlers with disabilities and their families.	4.52	0.80	4.45	0.85	4.88	0.33
The PSP team approach results in better program planning the when each discipline works independently.	4.45	0.96	4.40	1.00	4.71	0.68
Family members are more informed and involved as team members than when each discipline worked independently	4.03	1.19	3.99	1.19	4.25	1.12

In addition to these perceptions of effectiveness, team members agreed they had the ability to work within the team environment to effect positive outcomes for children and families (M = 4.35, SD = 0.77); and they had high value for the work/efforts of the team on which they served (M = 4.78, SD = 5.2). The open-ended narrative responses provided rich additional information regarding participants perceptions of the PSP teaming approach. The final narrative question on the survey provided participants an opportunity to share any additional perceptions. Of those participants that provided a comment for this question, over half of these responses included clearly positive perceptions of the PSP approach to teaming. Some examples of these comments were: “We love it! I could never go back to functioning independent of each other. It doesn’t make any sense!”, “My perception is that for families that have good coaching support and understand the PSP approach, they are more competent, confident, and satisfied with the outcomes for their child/children”, and

> LOVE this approach. When a team is all in or all committed it works beautifully for families. We’ve heard them tell the stories. As a provider it is great to know you are

> not all out there on your own. You have someone to back you up, to brainstorm with at all time.

Narrative Themes

A theme of 'buy-in' for the PSP teaming approach emerged in the three open-ended questions when considering team members perceptions of effectiveness. Comments related to buy-in were grouped in two ways, internal and external buy-in.

Internal Buy-In. In relation to internal buy-in, several participants commented that understanding of the PSP approach and agreement by all team members to abide by the characteristics of the approach was important for effectiveness. An example of this type of comment was:

> Buy in from every team member on the team and fidelity to practices. If one team member does not believe in them or is not using them, it greatly reduces the overall functioning and success of the team.

Also related to internal buy-in, there were comments questioning the effectiveness of the approach for children with multiple disabilities and or for medically involved children. Examples of this type of comment were: "With the medically fragile kids that are needing more of that 'medical' model and needing more of the different disciplines at once rather than just having one provider.", and "I think there are some children that would benefit from increased intervention and being seen by more (or all) team members."

External Buy-In. External buy-in was also noted as a challenge for team effectiveness and implementation. Several team members commented that understanding of the PSP team approach by the medical community and other community stakeholders was limited. This was noted to create challenges for implementation when working with

and explaining the teaming approach to families. Examples of comments included: “Helping families and other service providers understand the value when they are told that they need many services by doctors or other professionals.”, and “Changing the clinical mindset of some therapists and medical providers, misconceptions that more is better.”

Perceptions of PSP teaming characteristics to support effectiveness. A key characteristic of the PSP teaming approach is role assistance. Role assistance is support provided by the team or a specific team member to a PSP and is an important part of the teaming approach. Role assistance occurs through primary coaching opportunities in regular team meetings, joint visits with families by the PSP and another team member, peer-to-peer conversations, and other professional development activities. PSP team members agreed that role assistance supports the effectiveness of the teaming approach. There was also a high level of agreement that formal (team meetings) and informal communication, which are both needed for role assistance, is essential for effective teaming (Refer to Table 3). For all three questions related to role assistance and communication, the mean score for Australia participants are slightly higher than for the participants from the United States. The question related to communication being essential for effective team function had the highest level of agreement compared to all other Likert-scale questions ($M = 4.85$, $SD = 0.56$).

TABLE 3

Perceptions of teaming characteristics for effectiveness

	All (*n*=351)		U.S. (*n*=295)		Australia (*n*=56)	
Survey question	M	SD	M	SD	M	SD
Primary coaching opportunities in team meetings and joint visits allow primary service providers to obtain the necessary support (role assistance) form different disciplines and from those with other areas of expertise.	4.44	0.90	4.41	0.94	4.63	0.59
Role assistance from team members support primary service providers to address family priorities and support achievement of IFSP outcomes.	4.50	0.79	4.46	0.82	4.75	0.48
Both formal (team meeting) and informal communication is essential to effective team functioning.	4.85	0.56	4.83	0.60	4.94	.23

Narrative Themes

Communication, Role Assistance, Trust and Respect. A theme regarding communication emerged from review of the open-ended questions that supported these descriptive results. More than one third of participants specifically used the term communication as an important factor needed to ensure a successful PSP team. Related to effective communication, there were several connected themes including time for teaming and role assistance, scheduling, and a team culture of trust and respect. For there to be effective communication and role assistance, team members shared that they needed time for regular team meetings and time to spend together as a team sharing knowledge and scheduling joint visits with families. Examples of these comments were, “Carving out time for the meetings and having EVERYONE there each time.”, and “Sometimes it is difficult to find the time to meet to joint plan effectively and do the visit together.”

In addition to the time that teams need for role assistance, comments were made that team members needed to have a willingness to provide and accept role assistance from other team members. More than one third of team members made comments about

the need for the team members to have established trust and respect for each other for the team to be effective. Examples of these types of comments were "I think trust is key to successful teaming. You have to be able to trust in the reliability of team members and they in you."; and "Respect and relationships. Being respectful of everyone on the team. Building a positive relationship with everyone on our team and becoming aware of the expertise each person can contribute to the team".

Perceptions for improved understanding and implementation of recommended practices. PSP differs from other teaming approaches in that it is intended to be used in conjunction with other recommended early intervention practices. Table 4 shows that team members had overall agreement that the PSP approach to teaming supports their understanding and implementation of coaching as an interaction style (M = 4.31, SD = 0.94), natural learning environment practices (M = 4.48, SD = 0.88), and how to provide parenting support (M = 4.34, SD = 0.97). As with other perceptions in this study, the mean for Australia participants is slightly higher than for the U.S. participants and the standard deviation lower across all questions.

TABLE 4

Perceptions of Implementing Recommended Practices.

	All (n=351)		U.S. (n=295)		Australia (n=56)	
Survey question	M	SD	M	SD	M	SD
The PSP approach to teaming supports my understanding and implementation of coaching as an interaction style.	4.31	0.94	4.27	0.98	4.54	0.60
The PSP approach to teaming supports my understanding and implementation of natural learning environment practices.	4.48	0.88	4.46	0.92	4.62	0.59
I have increased knowledge of child development, family systems, and how to provide parenting support as a result of being on a PSP team.	4.34	0.97	4.33	0.99	4.39	0.80

There were no themes that emerged from the open-ended questions regarding implementation of other early intervention recommended practices.

4.2 Research Questions 2 and 3

Relationship between perceptions and team member demographics. Overall perception scores were calculated for three areas to look at the relationship between perceptions and the length of time on a team and team member discipline. The three areas include: 1) Perception of effectiveness, 2) Perception of characteristics that support effectiveness, and 3) Perception of improved understanding and implementation of other recommended early intervention practices. To obtain an overall perception of effectiveness score, three survey ratings were combined: 1) PSP is an effective teaming approach for infants and toddlers with disabilities and their families, 2) The PSP approach results in better program planning than when each discipline works independently, and 3) Family members are more informed and involved as team members than when each discipline worked independently. To obtain an overall perception of PSP characteristics that support effectiveness score, three survey ratings were combined:1) Primary coaching opportunities in team meeting and joint visits allow primary service providers to obtain the necessary support (role assistance) from different disciplines and from those with other areas of expertise, 2) Role assistance from team members supports primary service providers to address family priorities and support achievement of IFSP outcomes, and 3) Both formal (team meeting) and informal communication is essential to effective team functioning. To obtain an overall perception of improved understanding and implementation of other recommended early intervention practices, three survey ratings were combined: 1) The PSP approach to teaming supports

my understanding and implementation of coaching as an interaction style, 2) The PSP teaming approach supports my understanding and implementation of natural learning environment practices, and 3) I have an increased knowledge of child development, family systems, and how to provide parenting support as a result of being on a PSP team. A one-way ANOVA (Analysis of Variance) was computed comparing team member perceptions with the length of time on a team and team member discipline.

Relationship between team member perceptions and length of time on team. The perceptions of effectiveness were highest among team members who were on a team for 6 to 10 years. A statistically significant difference was found among the perceptions of groups with a length of time on a team of 6-10 years and 0-2 in all three areas; perceptions of the teaming approach effectiveness ($F(4, 346) = 5.88$, $p < .05$), perceptions of teaming characteristics to support effectiveness ($F(4, 346) = 2.98$, $p < .05$), and perceptions of a better understanding and implementation of early intervention recommended practices ($F(4, 346) = 3.31$, $p < .05$). Tukey's post hoc was used to determine the nature of the difference between team members based on their length of time on a team. This analysis revealed team members who were on a team for 6 to 10 years had overall higher perceptions of effectiveness, perceptions of characteristic that support effectiveness, and a perception of understanding and implementation of other recommended early intervention practices (Refer to Table 5). There was no statistically significant difference between the other group's perceptions.

TABLE 5

Perceptions / Length of Time on Team

Perceptions	0-2 years (*n* = 134)		3-5 years (*n* = 100)		6-10 years (*n* = 78)		11-15 years (*n* = 14)		16+ years (*n* = 25)	
	M	SD	M	SD	M	SD	M	SD	M	SD
Effectiveness of PSP Teaming Approach	4.13	0.80	4.40	0.79	4.63	0.52	4.38	0.90	4.17	0.96
Teaming Characteristics to Support Effectiveness	4.51	0.65	4.56	0.71	4.80	0.36	4.57	0.62	4.61	0.59
Understanding and Implementing Recommend Practices	4.21	0.89	4.43	0.83	4.62	0.49	4.31	0.93	4.36	1.08

Relationship between team member perceptions and discipline. The perceptions of effectiveness were highest for team members from the ECSE/EI discipline. There was a statistically significant difference among the perceptions of the ECSE/EI discipline and physical therapy discipline related to the perception of the teaming approach effectiveness (F (6, 344) = 2.10, $p < .05$). Tukey's post hoc was used to determine the nature of the difference between team members based on their discipline. This analysis revealed team members from the ECSE/EI discipline had overall higher perceptions of the teaming approach effectiveness than those from a physical therapy discipline (Refer to Table 6). There was no statistically significant difference between the other group's perceptions.

TABLE 6

Perceptions/Discipline

Perceptions	ECSE/EI (n = 76)		SLP (n = 91)		PT (n = 40)		OT (n = 55)		SW (n = 25)		Early Childhood (n = 24)		Other (n = 30)	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Effectiveness of PSP Teaming Approach	4.53	.62	4.38	.73	4.08	1.01	4.28	.80	4.29	.73	4.39	.65	4.13	.65
Teaming Characteristics to Support Effectiveness	4.79	.40	4.58	.66	4.42	.74	4.55	.69	4.53	.53	4.71	.46	4.34	.72
Understanding and Implementing Recommend Practices	4.60	.60	4.42	.77	4.32	.98	4.27	.94	4.31	.75	4.36	.80	4.09	1.04

CHAPTER 5: DISCUSSION

This research was designed to determine team member perceptions when implementing a primary service provider approach to teaming in a Part C early intervention program. The hypothesis was that team members would have positive perceptions of teaming. Overall, team members shared a positive perception and a perception that PSP is an effective teaming approach. Team members agreed they had the ability to work within the team environment to effect positive outcomes for families and children. In addition, team members had high value for the work and efforts of the team on which they served. There was also agreement that open communication and role assistance are important to support the effectiveness of successful teams. Regarding the perception of implementing other recommended early intervention practices, team members agreed that because of being on a PSP team, they have better understanding and implementation of coaching as an interaction style, natural learning environment practices, and providing general parenting support.

A strong theme around the need for communication emerged in the research. Consistent with findings from the literature review about effectiveness of team (Shelden & Rush, 1996; Ulloa & Adams, 2004), this research revealed that PSP team members believe that good communication is essential for an effective team. Connections related to open communication and PSP teaming approach effectiveness were dominant in the research. Communication through regular team meetings and other informal communication, being essential to effective communication, was the perception with the highest level of agreement among team members. Also, more than one third of

participants made a statement using the exact word of ‘communication’ as a factor for ensuring a successful team.

Connected with the theme of communication, three additional themes emerged in the research related to implementing a successful PSP approach to teaming. These themes were: 1) having time for teaming and role assistance, 2) having a team culture of trust and respect, and 3) having internal and external buy-in. A participant comment that encompasses several of the themes put forth that for success, a team needs “communication, and the ability of team members to form a ‘team culture’ which does not happen overnight. Everyone must buy into this approach for it to work well”. First, for teams to have open and effective communication, team members asserted that they need time for both formal (team meetings) and informal communication. The PSP approach to teaming is designed for one team member to work directly with the child and family and receive role assistance from other team members through joint visits, secondary supports and primary coaching opportunities in regular team meetings. This is considered an important benefit for the family (King et al., 2009) as they develop one key relationship, and there is less repetition of the same information from different service providers and fewer professionals visiting the home. Role Assistance is important to this teaming approach so that the primary provider has the necessary support to meet the needs and priorities of families. For role assistance to occur, teams need time for regular team meetings to share primary coaching opportunities and time in team members schedules to plan and execute joint visits when a family may need secondary in-home supports from other team members. A participant wrote that for a successful team you

need “the opportunity to have time for team meetings and collaboration, the ability to flexibly schedule with other team members”.

Second, participants also perceived a need for teams to develop a culture of trust and respect, to be a successful team. Team members can develop trust and respect with time for communication through team meetings and other informal communication among team members to receive role assistance. One participant shared “team meetings need to be a safe space where team members feel heard and do not feel judged. This is hard work we do, we need to support one another for the best outcomes”. Another participant shared that for a successful team you need “consistent meetings and participation of all team members; trust and respect between team members”. The composition of teams can also impact team culture and effectiveness (Bell, 2007; Shelden & Rush, 2013). Examples of these challenges are noted on participant comments such as: “We have some team members who want to serve families with a medical model and are not connecting with the team on progress”, and

> It is extremely hard if most staff are from school (early intervention) and perhaps the OT and PT are employed by the local hospital but are hired a day a week to do ‘school’ (early intervention). In these cases, 99% of the time the OT and PT are medically based, and medically minded, so are not providing education based services.

Regarding the third additional theme, internal and external buy-in emerged as related to participants perceptions with challenges for successful implementation. This was not unexpected as Shelden and Rush (2013) explain that a common challenge faced by programs is getting team members, families, referral sources, and other community

agencies to accept the PSP approach to teaming. A team culture of trust and respect may be challenging to develop if there is not buy-in from all team members and no time to develop as a team. Participants provided several narrative comments regarding the buy-in of PSP team members. Comments about internal buy-in related to the need for all team members to agree with and adhere to the PSP teaming characteristics. There were also several comments questioning the effectiveness of the approach for children who are medically fragile or who have multiple disabilities. Regarding external buy-in, several comments reflected on the challenge of educating medical providers and other community stakeholders about the teaming approach.

Based on some components of participant's comments in relation to implementation challenges, there is evidence to suggest a lack of implementation fidelity for some teams that participated in the research. A team's implementation fidelity was not measured or considered in order for team members to participate in the research. There are five conditions that Shelden and Rush (2013) consider essential for effective implementation (pp. 33-34). These conditions are: 1) all the practitioners on the team must be available to serve as a PSP, 2) all team members must attend regular team meetings for the purpose of peer-to-peer coaching (role assistance), 3) the team uses a formal process to select a PSP based on the following four factors: parent/family, child, environment, and practitioner, 4) joint visits, with the family, between the PSP and secondary supports are required to allow team members the opportunity to support each other (role assistance) and the child's caregivers in a timely and effective manner, and 5) the PSP for a family should change as infrequently as possible. Through role assistance provided in regular team meetings, primary coaching opportunities, joint visits, and secondary supports, the family

has access to a full multidisciplinary team of professionals with a variety of knowledge and expertise, not just one provider. For teams to have fidelity to implementation and families to have the benefit of all team members, teams must meet on a regular basis and all team member must be present so that role assistance can be provided. The following comments reveal some teams may not have implementation fidelity: “Lack of therapists. All the therapists we have, we contract with. They do not have enough hours in their schedules to be PSPs for children”, “I am a PRN PT so I do not attend weekly meetings so I do not have direct contact with others weekly”, “Children/families with very complex needs that are beyond the capacity of a single provider.”, and “There are children who need more than 1 person providing primary service”. A common misperception of the PSP teaming approach is that families receive only one service or that less services are being provided (Shelden & Rush, 2013). If teams are not implementing the approach to fidelity due to insufficient staffing, lack of time for role assistance via regular team meeting and joint visits with families, or lack of understanding of the teaming approach, there may be impact on perceptions of challenges with the teaming approach. Juxtaposed with these comments, other participants’ comments revealed success with adherence to the PSP teaming approach characteristics. “I love it! I feel much more supported then I ever did working on my own”, and “I feel strongly that this model provides a strong, well experiences, skilled, support to families, while not overwhelming them with numerous visits/appointments”,

> This is absolutely the way to provide services to families. We are already seeing how well children and families are meeting outcomes using this model. The

collaboration among providers and the learning happening in the meeting is amazing, and

Implementing this approach has, I feel, enabled us to provide richer, more effective services for the families we serve, as families are not overwhelmed by an array of therapy visits, and strategies focus on routines. This approach also allows a deeper relationship to develop between caregivers and the primary coach.

This study showed a difference in perceptions among groups based on length of time on a team and discipline. Although all groups agreed that PSP is an effective teaming approach, members on a team for 6 to 10 years had statistically higher perceptions of effectiveness than members on team for two or less years. A possible explanation for this is that the longer a member is part of a PSP team, the more time they have had to develop a team culture of trust and respect among team members that supports implementation of role assistance and open communication. Tuckman (1965) proposed four stages of small-group development and added a fifth stage in 1977. The stages are forming, storming, norming, performing, and adjourning. The first four stages are important to consider when thinking about PSP teams and the difference is perceptions for newly formed teams and longer established teams. The forming stage is like an orientation period. At the start, most are excited to start something new and to get to know the other team members. Group members have a desire for acceptance by the group and a need to know that the group is safe. Storming is the second stage of team development. The group starts to sort itself out and gain each other's trust. Members begin to voice their opinions when conflicts arise and members begin to learn what it's like to work together as a team. To move to the next stage, team members must have a problem-solving mentality instead of

a “test and prove” approach. During the norming stage, members start to notice and appreciate their team members’ strengths. All members are contributing, working as a cohesive unit, and feel good about being part of an effective group. The fourth stage is performing. With this stage there is group unity, morale is high, and group loyalty is intense. Team function becomes genuine problem solving and everyone is on the same page. The stages of development can take time and a team that has been working together longer would likely be in the performing stage with higher perceptions of team effectiveness.

Furthermore, this data showed a difference in perceptions among groups based on disciplines. The perceptions of effectiveness were highest for team members with the ECSE/EI discipline. There was a statistically significant difference between the perceptions of the ECSE/EI discipline and the physical therapy discipline. A possible explanation for this is based upon preservice training for physical therapist. Based on Bruder and Dunst (2005) research of curriculum of higher education facilities, content areas specific to early intervention service delivery are not fully embedded across personal preparation programs for all fields of study. Regarding teaming, the early childhood special education and multidisciplinary programs report including teaming components more often (i.e., 72% and 64% respectively). Whereas physical therapy programs report the inclusion of content specific to teaming at 33% having the lowest level of training in all recommended practice areas. Early intervention professionals may have concerns and challenges with implementing certain teaming approaches due to practitioner apprehension regarding professional identity and lack of preservice training in teaming approaches (Bruder & Dunst, 2005; King et al., 2009). This apprehension can

influence team member perceptions and attitudes about teaming, which can impact team effectiveness (Choi & Pak, 2006).

5.1 Limitations

A limitation for the study was that a team's fidelity for implementing the PSP approach to teaming was not considered as inclusion criteria for team member participation in the study. As included in the discussion, a team's fidelity to implementation can impact a team member's perception of effectiveness. A second limitation was that the instrument used for the study, the *Teaming Perceptions Survey*, was adapted from two other instruments (Malone, 1993), the *Team Process Perception Survey* (TPPS) and the *Attitude About Teamwork Scale* (AATS). For the AATS, both content and construct validity and internal consistency reliability have been established. The adapted survey does not have the same validity as the original surveys. However, the *Teaming Perceptions Survey* was piloted prior to beginning the research to establish content and social validity.

5.2 Implications and Recommendations

Implications for Research. There are implications from this current study to guide further research. Future research should be conducted on perceptions of team members with a team's fidelity to implementation considered for inclusion criteria. With fidelity to implementation considered, perceived challenges with implementation could be analyzed with more clarity. In addition, perceptions of how the approach is working for children with multiple disabilities may be more insightful when a team's fidelity to implementation is known. Further research should be conducted on the optimal composition of the PSP team considering known factors to impact team performance

(Bell, 2007) such as agreeableness and conscientiousness of team members and team members with a preference for teamwork. Further research should also be conducted on length of time and efforts a new PSP teams needs to put forth in order to reach the performing stage of development considering the Tuckman's (1965) stages of small-group development. Finally, further research should be conducted specific to the PSP (Key Worker) approach to teaming in Australia. Perceptions about the teaming approach were higher for all aspects than perceptions of U.S. team members. Research could compare the implementation of the PSP approach in both countries that may provide insight to the higher perceptions of effectiveness in Australia.

Recommendations for the Early Intervention Field. There are positive perceptions of teaming in general in early childhood intervention (Campbell & Halbert, 2002; Malone & Gallagher, 2010; Malone & Gallager, 2017; Malone & Mcpherson, 2004). However, there are concerns and challenges with implementing certain teaming approaches due to practitioner apprehension regarding professional identity, misperceptions about the teaming approach, and lack of preservice training in teaming approaches (Bruder & Dunst, 2005; King et al., 2009). For Part C programs wanting to implement or continue implementing a PSP approach to teaming, this research demonstrates that team members who are implementing the PSP teaming approach do perceive it to be an effective approach. In addition, for early intervention professionals apprehensive about the approach, this research demonstrates that peers, across multiple disciplines, perceive the teaming approach to be effective. They also agree that the PSP teaming approach gives them the ability to work within the team environment to effect positive outcomes for children and families. Program directors and team members should

consider the factors for success and challenges, when forming and implementing teams: 1) Develop an atmosphere of and logistics for open communication among team members; 2) Allow time for regular team meetings, other informal communication, and scheduling joint visits for secondary support. This time allows role assistance to occur which is an essential characteristic for the PSP teaming approach to be effective; 3). Consider how staffing impacts teaming effectiveness and functioning. If teams consist of part time or PRN staff who cannot attend regular meetings, and are not available for role assistance and scheduling joint visits, this will impact implementation fidelity and effectiveness. Also, team members who work in other settings, in addition to early intervention, are acculturated by the setting in which they spend the greatest amount of time. More time and attention may need to be spent on acculturation to the team for these team members (Shelden & Rush, 2013); 4) Develop a culture of trust and respect among team members. This take times to develop and there are normal developmental stages of group development to considers, as outlined by Tuckman (1965). Many factors may be influence development of team culture such as a team member's preservice training and previous work experience, team member's understanding of and misperceptions about the teaming approach, and the agreeability and conscientiousness of the team members (Bell, 2007); 5) Plan strategically and carefully for PSP teaming implementation to ensure fidelity to implementation. Fidelity to implementation can increase effectiveness of the team and may increase the likelihood for team member buy-in and buy-in from the medical community and other stakeholders. *The Early Intervention Teaming Handbook* (Shelden & Rush, 2013) included a Checklist for Implementing a Primary Service Provider Approach to Teaming (p.62 – 65). The checklist can also be located at The

Family, Infant and Preschool Program website www.FIPP.org. The tool includes four checklists: a) Preparing for a team-based approach, b) Using a primary service provider, c) Coordinating joint visits, and d) Conducting team meeting.

A teaming approach with a primary provider has been identified as the most efficient for use in early intervention (King et al., 2009). A PSP approach to teaming is a model defined by Shelden and Rush (2013) that builds on the work of Woodruff and McGonigel (1988). PSP teaming redefines transdisciplinary teaming for use in early intervention and includes the implementation of other recommended practices. This teaming approach is recommended practice for early intervention (DEC, 2014; Workgroup on Principles and Practices in Natural Environments, 2008), and is supported by professional organizations (American Occupational Therapy Association [AOTA], 2010; American Speech-Language-Hearing Association [ASHA], 2008; Section on Pediatrics of the American Physical Therapy Association [APTA], 2010). According to information retrieved from the Early Childhood Technical Assistance Center Website (ECTA), in November 2014, Part C coordinators self-reported that the PSP teaming approach was being implemented statewide in 13 states and in some areas of the state in 15 states. Part C program leaders and early interventionist continue to have questions about the effectiveness of the approach. This research shows that for teams implementing a PSP approach to teaming, there is an overall perception of effectiveness. This research also provides insight into the implementation conditions that the are necessary to support effectiveness of the teaming approach and those conditions that also create challenges for implementation fidelity and effectiveness.

REFERENCES

American Occupational Therapy Association. (2010). *AOTA practice advisory on occupational therapy in early intervention.* Retrieved from http://www.aota.org/~/media/Corporate/Files/Practice/Children/AOTA-Advisory-on Primary-Provider-in-EI.pdf

American Speech-Language-Hearing Association. (2008). *Roles and responsibilities of speech-language pathologists in early intervention*: [Technical Report]. Retrieved from http://www.asha.org/policy/TR2008-00290.htm

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 64,* 191-215.

Bandura, A. (2000). Exercise of human agency through collective efficacy. *Current Directions in Psychological Science, 9*(3), 75-78.

Bell, S. T. (2007). Deep-level composition variables as predictors of team performance: A meta-analysis. *Journal of Applied Psychology,* 92, 595-615.

Boyer, V. E. & Thompson, S. D., (2014). Transdisciplinary model and early intervention: Building collaborative relationships. *Young Exceptional Children 17*(19), 19-32. doi: 10.1177/1096250613493446

Branson, D. (2015). A case for family coaching in early intervention. *Young Exceptional Children, 18(1),* 44-47. doi: 10.1177/1096250615569903

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design.* Cambridge, MA: Harvard University Press.

Bronfenbrenner, U. (1992). Ecological systems theory. In R. Vasta (Ed.), *Six theories of child development: Revised formulations and current issues* (pp.187–249). Philadelphia, PA: Kingsley.

Bruder, M. B. (2010). Early childhood intervention: A promise to children and families for their future. *Exceptional Children, 76*(3), 339-355.

Bruder, M. B., & Dunst, C. J. (2005). Personnel preparation in recommended early intervention practices: Degree of emphasis across disciplines. *Topics in Early Childhood Special Education, 25*(1), 25-33.

Bruder, M. B., Mogro-Wilson, C., Stayton, V. D., & Dietrich, S. L. (2009). The national status of in-service professional development systems for early intervention and early childhood special education practitioners. *Infants & Young Children, 22*(1), 13–20.

Choi, B., & Pak, A. (2006). Multidisciplinarity, interdisciplinarity and transdisciplinarity in health research, services, education and policy: 1: Definitions, objectives and evidence of effectiveness. *Clinical and Investigative Medicine, 29(6),* 351-364.

Choi, B., & Pak, A. (2007). Multidisciplinarity, interdisciplinarity, and transdisciplinarity in health research, services, education and policy: 2. Promoters, barriers, and strategies of enhancement. *Clinical and Investigative Medicine, 30(6),* E224-E232.

Davies, S. (Ed.). (2007). *Team around the child: Working together in early childhood education*. Wagga Wagga, New South Wales, Australia: Kurrajong Early Intervention Service.

Division for Early Childhood (DEC) (2014). DEC recommended practices in early intervention/early childhood special education 2014. Retrieved from https://divisionearlychildhood.egnyte.com/dl/tgv6GUXhVo

Dunst, C. J., Trivette, C. M. & Deal, A. J. (1994). *Supporting & Strengthening Families. Cambridge*, MA: Brookline Books.

Dunst, C.J. (2000). Revisiting "Rethinking Early Intervention". *Topics in Early Childhood Special Education, 20*(2). 95-104.

Dunst, C. J. (2002). Family-centered practices: Birth through high school. *The Journal of Special Education, 36(3),* 141–149.

Dunst, C., Hamby, D., & Brookfield, J. (2007). Modeling the effects of early childhood intervention variables on parent and family well-being. *Journal of Applied Quantitative Methods, 2*(3), 268-288.

Dunst, C. J., Bruder, M. B., Trivette, C.M., Raab, M., & McClean, M. (2001). Natural learning opportunities for infant, toddler, and preschoolers. *Young Exceptional Children, 4(3),* 18-25

Dunst, C. J., Trivette, C. M., Hamby, D. W., (2007). Meta-analysis of family-centered helping practice research. *Mental Retardation and Developmental Disabilities Research Reviews, 13,* 370-378.

Hanson, M. J., & Bruder, M. B. (2001). Early intervention: Promises to keep. *Infants and Young Children, 13*(3), 47–58.

Holmesland, A., Seikkula. J., Nilsen, O. Hopfenbeck, M., Arkil, T. E. (2010). Open dialogues in social networks: Professional identity and transdisciplinary collaboration. *International Journal of Integrated Care, 10*(16), *1-14.*

IBM Corp. (2013). IBM SPSS Statistics for Windows, Version 22.0. Armonk, NY: IBM Corp.

Individuals with Disabilities Education Improvement Act of 2004, Pub. L. No. 108-446 § 118 Stat. 2647 (2004).

Johnson, L.J., & LaMontagne, M.J. (1993). Research methods: Using content analysis to examine the verbal or written communication of stakeholders within early intervention. *Journal of Early Intervention,* 17, 73-79.

Kemp, P., & Turnbull, A.P. (2014). Coaching with parents in early intervention. A interdisciplinary research synthesis. *Infants and Young Children, 27(4),* 305-324. doi:10.1097/IYC.0000000000000018

King, G., Strachan, D., Tucker, M., Duwyn, B., Desserud, S., & Shillington, M. (2009). The application of a transdisciplinary model for early intervention services. *Infants and Young Children, 22*, 211-223.

Lamorey, S., Ryan, S. (1998). From contention to Implementation: A comparison of team practices and recommended practices across service delivery models. *Infant-Toddler Intervention 8*(4), 309-331.

Lynn, M.R. (1986). Determination and quantification of content validity. *Nursing Research, 35*, 382-385.

Malone, D.M. (1993). *Team process perception survey*. (Available from D.M. Malone, Early Childhood Education and Human Development Program, University of Cincinnati, Cincinnati, OH 45221-0105).

Malone, D.M. (1993). *Attitude about teamwork survey*. (Available from D.M. Malone, Early Childhood Education and Human Development Program, University of Cincinnati, Cincinnati, OH 45221-0105).

Malone, D. M., & Mcpherson, J. R. (2004). Community-based and hospital-based early intervention team members' attitudes and perceptions of teamwork. *International Journal of Disability, Development and Education, 51*(1), 99-116, doi: 10.1080/1034912042000182229

Malone, D. M., & Gallagher (2010). Special education teachers' Attitudes and perceptions of teamwork. *Remedial and Special Education, 31(5),* 330-342, doi: 10.1177/0741932509338362

Malone, D. M., & Gallagher (2017). *A cross-disciplinary analysis of perceptions and attitudes regarding teamwork supporting children with developmental concerns.* Unpublished manuscript, The University of Cincinnati, Georgia State University.

Natvig, D. A., & Malone, D. M. (1992). *Attitudes about teamwork scale*. (Available from D.M. Malone, Early Childhood Education Program, University of Cincinnati, Cincinnati, Ohio, 45221-1015).

Natvig, D. A. (1993). *The interdisciplinary approach to decision-making about the use of psychotropic medication for individuals with mental retardation*. Unpublished dissertation, Medical College of Georgia, Augusta.

Orelove, F. P., & Sobsey, R. (1996). *Educating children with multiple disabilities: A transdisciplinary approach.* Baltimore, MD: Paul H. Brookes Publishing Co.

Peck, C. A., Carlson, P., & Helmstetter, E. (1992). Parent and teacher perceptions of outcomes for typically developing children enrolled in integrated early childhood programs: A statewide survey. *Journal of Early Intervention, 16*(1), 53-63.

Qualtrics (2017). Provo, Utah, USA. Available From: http://www.qualtrics.com

Rapport, M. J., McWilliam, R. A., & Smith, B. (2004). Practices across disciplines in early intervention, the research base. *Infants and Young Children, 17(1),* 32-44.

Ryan-Vincek, S., Tuesday-Heathfield, L., & Lamorey, S. (1995). From theory to practice: A pilot study of team members' perspectives on transdisciplinary service delivery. *Infant-Toddler Intervention, 5*(2), 154–175.

Rush, D., Shelden, M. (1996). On becoming a team: A view from the field. *Seminars in Speech and Language, 17*(2), 131-142.

Shelden, M. L., & Rush, D. D. (2001). 10 myths about providing early intervention services in natural environments. *Infants and Young Children, 14(1),* 1-13.

Shelden, M. L., & Rush, D. D. (2013); *The early intervention teaming handbook, The primary service provider approach*. Baltimore, Maryland: Paul H. Brookes Co.

Rush. D. D. & Shelden, M. L. (2011); *The early childhood coaching handbook*. Baltimore, Maryland: Paul H. Brookes Co.

Section on Pediatrics of the American Physical Therapy Association. (2010). *Team-based service delivery approached in pediatric practice.* Retrieved from https://pediatricapta.org/includes/fact-sheets/pdfs/Service%20Delivery.pdf

Shelton, T. L., & Stepanek, J. S. (1994). *Family-centered care for children needing Specialized health and health and developmental services. 3rd ed.* Bethesda, MD: Association for the Care of Children's Health

Shonkoff, J. P., Hauser-Cram, P., Kraus, M. W., & Upshur, C. C. (1992). Development of infants with disabilities and their families: Implications for theory and service delivery. *Monographs of the Society for Research and Child Development, 57(6),* 1-163.

Sloper, P., & Turner, S. (1992). Service needs of families of children with severe physical Disability. *Child: Care, Health and Development*, 18(5), 259-282.

Tuckman, B. (1965) Developmental Sequence in Small Groups. Psychological Bulletin, 63, 384-399.

Tuckman, B. & Jensen, M. (1977) Stages of Small Group Development. Group and Organizational Studies, 2, 419-427.

Ulloa, B. C. R., & Adams, S. G. (2004). Attitude toward teamwork and effective teaming. *Team Performance Management: An International Journal*, *10*(7/8), 145-151

Woodruff, G., & McGonigel, M. (1988). Early intervention team approaches: The transdisciplinary model. In L.J. Johnson et al. (Eds.), *Early childhood special education: Birth to three* (pp. 1630181). Reston, VA: Council for Exceptional Children

Workgroup on Principles and Practices in Natural Environments, OSEPTA Community of Practice: Part C Settings. (2008, March). *Agreed Upon Mission and Key Principles for Providing Early Intervention Services in Natural Environment.* Retrieved from http://ectacenter.org/~pdfs/topics/families/Finalmissionandprinciples3_11_08.pdf

APPENDIX A: LETTER TO ADMINISTRATORS

Department of Special Education and Child Development
9201 University City Blvd, Charlotte, NC 28223-0001
t/ 704.687.8772 f/ 704.687.2916 www.uncc.edu

To whom it may concern,

My name is Sheena Jennings, and I am currently working toward a Master's of Education, Child and Family Studies, from the University of North Carolina at Charlotte. I am beginning the final phase of my program, and I need your support completing my research. Teamwork is a foundation of the work in early intervention. Limited research exists regarding professional perceptions of teaming in early intervention and none specific to perceptions after participating with a team that has implemented the primary service provider approach to teaming. The purpose of this research is to examine team member perceptions of teaming associated with implementing a primary service provider approach to teaming. M'Lisa Shelden has connected me with your program as your state, region or team is implementing a primary service provider approach to teaming.

The inclusion criteria for teams, and therefore team member participation, is based on the criteria outlined in *The Early Intervention Teaming Handbook* (Shelden & Rush, 2013): (a) a geographically based team of practitioners from multiple disciplines having competence in child development, family support, and coaching as an interaction style, is assigned to each family in a program, (b) one team member serves as the PSP to the child, family and other caregivers, (c) the PSP receives coaching (role assistance) from other team members through ongoing formal and informal interactions. After I obtain support from your program confirming the inclusion criteria and permission for participation of team members, I will email a link to a questionnaire to all participants. The questionnaire should take less than 15 minutes to complete. All data gathered will be anonymous, confidential, and team members' participation is voluntary. Therefore, there would be no adverse effects associated with their participation. Thank you in advance for your cooperation and participation. Please feel free to contact me or Dr. JaneDiane Smith, my committee chair, if you have any questions.

Sincerely,
Sheena Jennings
Candidate for Masters of Education Child & Family Studies, UNC-Charlotte
704-699-3230, sjennin4@uncc.edu

Dr. JaneDiane Smith
Ph.D. Special Education & Child Development
Associate Professor, UNC-Charlotte
704-687-8850, jdianesm@uncc.edu

APPENDIX B: EMAIL TO PARTICIPANTS

Subject Line: The Teaming Perception Survey

To whom it may concern,

My name is Sheena Jennings, and I am currently working toward a Master's in Child and Family Studies from the University of North Carolina at Charlotte. I am beginning the final phase of my program, and I need your support completing my research. Teamwork is a foundation of the work in early intervention. Limited research exists regarding professional perceptions of teaming in early intervention and none specific to perceptions after participating with a team that has implemented the primary service provider approach to teaming. The purpose of this research is to examine team member perceptions of teaming associated with implementing a primary service provider approach to teaming. The inclusion criteria for teams, and therefore team member participation, is based on the criteria outlined in *The Early Intervention Teaming Handbook* (Shelden & Rush, 2013): (a) a geographically based team of practitioners from multiple disciplines having competence in child development, family support, and coaching as an interaction style, is assigned to each family in a program, (b) one team member serves as the PSP to the child, family and other caregivers, (c) the PSP receives coaching (role assistance) from other team members through ongoing formal and informal interactions. Your program director has confirmed that your team meets the inclusion criteria and support this research.

Your participation in the survey is voluntary. Responses are anonymous and not linked directly to any person or PSP team. In addition, your decision to participate (or not participate) is confidential from your employer and will not impact employment. The survey should take less than 15 minutes to complete and is mobile friendly. Your impressions are important! Thank you in advance for you time and participation! Please contact me or Dr. JaneDiane Smith, my committee chair, if you have any questions or concerns or you may contact the UNC-Charlotte Compliance Office, 704-687-1871 or uncc-irb@uncc.edu. Please click on the link below to complete the questionnaire.

Sincerely,

Sheena Jennings
Candidate for Masters of Education Child & Family Studies, UNC-Charlotte
704-699-3230, sjennin4@uncc.edu

Dr. JaneDiane Smith
Ph.D. Special Education & Child Development
Associate Professor, UNC-Charlotte
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APPENDIX C: INSTRUMENT

Teaming Perception Survey

Teamwork is a foundation of the work in early intervention. Limited research exists regarding professional perceptions of teaming in early intervention and none specific to perceptions after participating with a team that has implemented the primary service provider approach to teaming. The purpose of this research is to examine team member perceptions of teaming associated with implementing a primary service provider approach to teaming. Your participation in the survey is voluntary. Responses are anonymous and not linked directly to any person or PSP team. In addition, your decision to participate (or not participate) is confidential from your employer and will not impact employment. The survey should take less than 15 minutes to complete and is mobile friendly. Your impressions are important! Thank you in advance for you time and participation!

---

1 What is your country of residence?

- United States
- Australia

---

2 What is your highest level of education?

- Bachelors
- Masters
- PhD

---

3 With which professional discipline do you identify? (choose one)

- early childhood education
- early childhood special education
- speech-language pathology
- physical therapy
- occupational therapy
- social work
- nursing
- other (specify) _____

---

4 What is your role on the team? (choose all that apply)

- ☐ facilitator/team leader
- ☐ service coordinator
- ☐ special instruction / educator
- ☐ speech-language pathologist
- ☐ physical-therapist
- ☐ occupational therapist
- ☐ psychologist
- ☐ social worker
- ☐ nurse
- ☐ other (specify) _____

---

5 How long have you been part of a PSP team? (choose one)

- ☐ 0-2 years
- ☐ 3-5 years
- ☐ 6-10 years
- ☐ 11-15 years
- ☐ 16+ years

---

6 Please rate your level of disagreement or agreement with each statement.

	Strongly disagree (1)	Mildly disagree (2)	Neither agree nor disagree (3)	Mildly agree (4)	Strongly agree (5)
PSP is an effective teaming approach for infants and toddlers with disabilities and their families. (1)					
The PSP team approach results in better program planning than when each discipline works independently. (2)					
Each team member should have as much decision-making power as any other team member. (3)					
Both formal (team meeting) and informal communication is essential to effective team functioning. (4)					
Each team member needs to spend time and energy to make the team work. (5)					
Information obtained from the child and family assessment process guides the intervention and supports provided by the PSP. (6)					
Family members are more informed and involved as team members than when each discipline worked independently. (7)					

Primary coaching opportunities in team meeting and joint visits allow primary service providers to obtain the necessary support (role assistance) from different disciplines and from those with other areas of expertise. (8)

Role assistance from team members supports primary service providers to address family priorities and support achievement of IFSP outcomes. (9)

The PSP approach to teaming supports my understanding and implementation of coaching as an interaction style. (10)

The PSP teaming approach supports my understanding and implementation of natural learning environment practices (i.e., child-interest based learning, using naturally occurring family activities as context for intervention, and supporting parent/caregiver responsiveness to invite, engage and teach child). (11)

If conflict occurs among team members, it should be ignored so that the team meeting can run smoothly. (12)

Follow-up of a child's and family's progress is the entire team's responsibility. (13)

I have more opportunities for teaming and collaboration with other professionals as a result of being on an PSP team. (14)	
I have an increased knowledge of child development, family systems, and how to provide parenting support as a result of being on a PSP team. (15)	

7 Assign value to the following questions.

	Little Value (1)	(2)	(3)	(4)	Great Value (5)
To what extent do you value the work/efforts of the team on which you serve?					
To what extent do you value your individual work/efforts that contribute to the team on which you serve?					

8 Rate the following question.

	Never (1)	Occasionally (2)	About Half the Time (3)	Frequently (4)	Always (5)
To what extent are your individual efforts reinforced through teamwork?					

9 Assign a level for the question below.

	Low (1)	(2)	(3)	(4)	High (5)
What is your perceived level of ability to work within the team environment to effect positive outcomes for children and families?					

10 Which of the following most clearly represents the direction of influence within the team on which you serve?

The team environment is most influenced by my individual philosophy and contributions

The influence of the team environment on me and my influence on the team environment are

equal

My individual philosophy and contributions are most influenced by the team environment

11 What is the most important factor for ensuring a successful team when using a primary service provider approach to teaming?

12 What is the biggest challenge for implementing a primary service provider approach to teaming?

13 What else would you like to share regarding your perception of a primary service provider approach to teaming?

This concludes the survey. When you exit this page, you will no longer be able to access the survey. Please confirm your responses before exiting. Thank You!

Survey adapted from Team Process Perception Survey (TPPS) and the Attitude About Teamwork Scale (AATS). Available from D.M. Malone, Early Childhood Education and Human Development Program, University of Cincinnati, Cincinnati, OH 45221-0105