

**Team collaboration in early childhood intervention
services in South Africa: Comparing professional and
caregiver perspectives**

by

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“At times our own light goes out and is rekindled by a spark from another person. Each of us has cause to think with deep gratitude of those who have lighted the flame within us.”

-Albert Schweitzer

With SAI all things are possible! *Om sai ram*

To my father...I feel your presence especially when I need the strength

To my mother...Thank you for just being you, and for always believing in me

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Abstract

Collaboration is a sophisticated activity requiring knowledge, technical competencies, and interpersonal skills. Many professionals lack experience in collaboration and therefore face challenges in forming and sustaining early childhood intervention (ECI) teams. These challenges are further compounded when professionals lack skills in collaborating with caregivers who are integral members of the ECI team. There has been limited research on collaboration within ECI teams, particularly in healthcare settings in resource-limited countries with linguistic and cultural diversity and a historical legacy like South Africa. The purpose of this study was to compare professional and caregiver perspectives on collaboration in ECI teams in South Africa, using a descriptive comparative design. Participants included 34 professionals and 64 caregivers who completed professional or caregiver measures respectively. The results showed that a) there are differences in professional and caregiver perceptions about collaboration in services for young children, b) compared to caregivers, professionals have an enhanced understanding of collaboration in ECI teams, c) collaboration in relation to family-centered practices appear to be undervalued by caregivers in comparison to professionals, and d) mutual respect, communication, commitment, resources, linguistic, cultural, and historical considerations are essential for collaboration in ECI teams. These results highlight the importance of context and gaining professional as well as caregiver perspectives on collaboration in ECI teams.

Keywords: Collaboration, early childhood intervention, early childhood intervention teams, family-centered practices, teams.

Opsomming

Samewerking is 'n gesofistikeerde aktiwiteit wat kennis, tegniese vaardighede en interpersoonlike vaardighede vereis. Baie professionele persone het nie voldoende ervaring in samewerking nie en staan daarom uitdaginge in die gesig soos om vroeë kinder intervensie (VKI) spanne te vorm en in stand te hou. Hierdie uitdaginge word verder vererger wanneer professionele persone nie die nodige vaardighede het om met versorgers, wat integrale lede van die VKI span is, saam te werk nie. Beperkte navorsing is gedoen rondom die samewerking binne-in VKI spanne, spesifiek rondom gesondheidsorg-instellings in beperkte hulpbronne lande soos Suid-Afrika met taalkundige en kulturele diversiteit asook 'n historiese erfenis. Die doel van hierdie studie was om professionele persone en versorgers se perspektiewe rondom die samewerking in VKI spanne in Suid-Afrika te vergelyk deur die gebruik van 'n beskrywende, vergelykende ontwerp. Deelnemers het 34 professionele persone en 64 versorgers ingesluit, wat onderskeidelik die professionele persone of versorgers metingsinstrument voltooi het. Die resultate het getoon dat a) daar verskille tussen die perspektiewe van professionele persone en versorgers was rondom die samewerking in dienste vir jong kinders, b) in vergelyking met versorgers, het professionele persone 'n beter begrip rondom die samewerking in VKI spanne gehad, c) samewerking in verband met gesinsgesentreerde praktyke blyk onderwaardeer te word deur versorgers in vergelyking met professionele persone, en d) wedersydse respek, kommunikasie, toewyding, hulpbronne, taalkundige, kulturele en historiese oorwegings is noodsaaklik vir samewerking in VKI spanne. Hierdie resultate beklemtoon die belangrikheid van konteks asook die verkryging van professionele persone sowel as versorgers se perspektiewe oor die samewerking binne VKI spanne.

Sleutelwoorde: Gesinsgesentreerde praktyke, samewerking, spanne, vroeë kinder intervensie, vroeë kinder intervensie spanne.

CHAPTER 1

PROBLEM STATEMENT AND RATIONALE

1.1. Introduction

This chapter serves as an orientation to this study. It provides the problem statement and rationale for the study. Furthermore, frequently used terms are defined and abbreviations are explained. Subsequently, an outline of each chapter is provided.

1.2. Problem statement and rationale

The importance of a team approach is widely acknowledged in the field of early childhood intervention (ECI) and is essential for addressing the complexity of challenges faced by young children with developmental concerns and their families (Meijer, Soriano, & Watkins, 2003; Paul & Roth, 2011). However, most professionals lack experience in forming, sustaining, and effectively monitoring teams (Briggs, 1997). This is not surprising, since developing and maintaining a team are sophisticated activities, requiring knowledge, technical competencies, and interpersonal skills (Sargeant, Loney, & Murphy, 2008). These requirements can be considered as the fundamentals of collaboration, as they are necessary for facilitating team functioning (D'Amour, Ferrada-Videla, San Martin Rodriguez, & Beaulieu, 2005).

Collaboration in ECI involves professionals from multiple disciplines and the family member working together towards a mutual goal in the delivery of services for young children (Bedwell, Wildman, DiazGranados, Salazar, Kramer, & Salas, 2012; Harbin, McWilliam, & Gallagher, 2000; Yang, Hossain, & Sitharthan, 2013). Professionals working in ECI teams may comprise nurses, physiotherapists, social workers, doctors, speech-language therapists, and occupational therapists (Eldar, 2005; Xyrichis & Ream, 2008). Collaboration between the professionals and the family member is fundamental (Briggs, 1997; McWilliam, Snyder, Harbin, Porter, & Munn, 2000), as the family member is considered an expert on the child, is constant in the child's life, and has insight into the type and manner of services that should be delivered (Espe-Sherwindt, 2008; Foster, Whitehead, & Maybee, 2010).

Family-centered practices requires professionals to have appropriate interpersonal skills when collaborating with families in order to address their needs and priorities (Dyke, Buttigieg,

Blackmore, & Ghose, 2006; Paul & Roth, 2011). Such processes include having a non-judgemental approach (Blu-Banning, Summers, Frankland, Nelson, & Beegle, 2004), willingness to share information (O'Neil, Ideishi, Nixon-Cave, & Kohrt, 2008), and supporting (Malone & McPherson, 2004) family members. Researchers argue that through collaboration, interpersonal relationships between professionals and the family member will evolve and develop over time (Bedwell et al., 2012; Willard & Luker, 2007).

Collaboration in teams does not develop in a vacuum but is influenced by and influences the various systems in which the team is embedded (Bierema, 2003; Kefalas, 2011). Thus, processes of collaboration will vary in different ECI contexts and will depend on political contexts, societal commitment, the nature of problems exhibited by the child and its family (Guralnick, 2008), resources available (Guralnick, 2008; Popich, Louw, & Eloff, 2006), as well as professionals' competency in working with caregivers from diverse backgrounds (Kathard & Pillay, 2013). Specifically in South Africa, poverty (Corr, Santos, & Fowler, 2016); the cultural context (Guralnick, 2008; Mpofo, Ntinda, & Oakland, 2012); diversity of languages (Rowe & Moodley, 2013), particularly the congruency in language between professionals and caregivers (Bornman, Sevcik, Ronski, & Pae, 2010; Penn, 2007; Pillay, Kathard, & Samuel, 1997), may be coupled with a historically-disadvantaged context (Coovadia, Jewkes, Barron, Sanders, & McIntyre, 2009). These factors have the potential to significantly influence the collaboration between professionals and caregivers in ECI teams (Saloojee, Rosenbaum, Westaway, & Stewart, 2009). And thus, the fit between the team and a setting is determined partly by how teams collaborate within a setting (Klein & Gilkerson, 2000; Thurman, 1997).

Internationally, a number of studies have been conducted on how teams collaborate within the field of healthcare, involving processes such as sharing of expertise and information, developing mutual goals, and pooling resources (Buljac-Samardzic, Van Wijngaarden, Van Wijk, & Van Exel, 2011; Leggat, 2007; Suddick & De Souza, 2007). However, researchers argue that there still remains a gap in our understanding on how teams collaborate (Clarke, 2010; Zwarenstein, Goldman, & Reeves, 2009), with limited information on how teams collaborate within ECI services (Yang et al., 2013). Importantly, team members' perceptions of family-centered practices, as well as their perceptions on the factors influencing collaboration, are essential. This is reflected in the limited number of studies focussing on the perspectives of

professionals and families (Ziviani, Darlington, Feeney, Roger, & Watter, 2013) in the context of healthcare settings in resource-limited countries (Yeboah-Antwi et al., 2013) with linguistic and cultural diversity coupled with historical disadvantages of oppression and inequality. Therefore, the purpose of the current study is to describe and compare professionals' and caregivers' perceptions of collaboration in teams providing services to young children between 0-6 years in South Africa. A literature review has revealed that a study of this nature has not yet been conducted in South Africa.

1.3. Terminology

The following terms are used frequently in this study and are therefore defined below.

Caregiver

In South Africa, many children do not live with their biological parents due to various circumstances such as death of one or both parents often due to the AIDS epidemic (Govender, Reardon, Quinlan, & George, 2014). In these situations, children are cared for by their aunts, grandmothers, and other family members (Govender et al., 2014). For the purpose of this study, the caregiver may refer to the biological parents, extended family members or the person primarily responsible for caring for the child receiving ECI services.

Collaboration

Collaboration is a process involving interpersonal relationships between team members such as professionals and family members/caregivers in an ECI team (Harbin et al., 2000; Klein & Gilkerson, 2000) who are engaging to achieve a mutual goal (Bedwell et al., 2012). Collaborative interpersonal relationships evolve and develop over time (Bedwell et al., 2012). They may include skills such as being non-judgemental (Blu-Banning et al., 2004), willingness to share information (O'Neil et al., 2008), understanding of different cultures (Peck, Furze, Black, Flecky, & Nebel, 2010), displaying respect (Briggs, 1997), and supporting (Malone & McPherson, 2004) team members. The nature of inter-professional and family-professional collaboration in ECI teams varies in the three models of collaboration commonly practiced in ECI; these are the multidisciplinary, interdisciplinary and transdisciplinary models (Allen, Wilczynski, & Evans, 1997; Bell, Corfield, Davies, & Richardson, 2009; Choi & Pak, 2007).

Early Childhood Development (ECD)

In South Africa, ECD programmes are directed at all young children from zero to the school going age of six years free of charge, with the purpose of addressing their education needs, including physical, cognitive, and emotional development (Department of Basic Education, 2011).

ECI

ECI signifies multi-professional services directed at young children (between the ages of zero to six years) with a disability or who are at a risk for developing disabilities, and their families. These services are implemented to reduce developmental delays, prevent functional deterioration, and promote children's health and family functioning (Bruder, 2010; Diken et al., 2012; Pinto et al., 2012; Shonkoff & Meisels, 2000). A child with a disability may present with a physical, behavioural, sensory, or cognitive impairment. This study refers to ECI provided within public healthcare settings such as hospitals and clinics. Contrary to the international definition of ECI, in South Africa, ECI services are provided to children with disabilities, excluding children "at risk" for developing disabilities since these children are not effectively monitored in healthcare services (Samuels, Slemming, & Balton, 2012). Furthermore, in South Africa, ECI for children with disabilities are typically provided in public healthcare settings, since all children, birth to six years of age are eligible for free healthcare (National Health Act, 2003).

ECI team

ECI teams comprises various professionals such as nurses, physiotherapists, social workers, doctors, speech-language therapists, occupational therapists (Eldar, 2005; Xyrichis & Ream, 2008) and the family member/ caregiver of children receiving ECI services (Harbin et al., 2000; Stepan, Thompson, & Buchanan, 2002).

Early Intervention

Early intervention broadly refers to initiatives by various role players to get involved or take action at an early stage of a disease or social process (WHO, 2004). In the field of ECI, the term 'early intervention' is used to imply mediation at an early stage in a child's life in order to minimize the impact and progression of a medical condition or disability (Shonkoff & Meisels, 2000).

Family-centered

The term ‘family-centered’ refers to a particular set of beliefs, principles, values, and practices that aim at supporting and strengthening a family’s capacity to enhance and promote child development and learning. Family-centered practices are concerned with the degree to which families are actively involved in the decision-making, planning, and process of ECI (Bailey, Raspa, & Fox, 2012; Moeller, Carr, Seaver, Stredler-Brown, & Holzinger, 2013).

Young children

In this study, ‘young children’ refers to children from birth to six years of age. In South Africa, ECD programmes (Department of Basic Education, 2011) and free health care (National Health Act, 2003) are provided to children up to the age of six years, which is congruent with international trends where ECI services are also provided to children in this age bracket (Diken et al., 2012; Pinto et al., 2012).

1.4. Abbreviations

AIDS	:	Acquired Immunodeficiency Syndrome
ASD	:	Autism spectrum disorder
CECI-C	:	Collaborative Practice in Early Childhood Intervention - Parent/ Caregiver (Yang, 2010)
CECI-P	:	Collaborative Practice in Early Childhood Intervention - Service Provider (Yang et al., 2013)
CECI-C(R)	:	Collaboration in Early Childhood Intervention - Caregiver (Revised)
CECI-P(R)	:	Collaboration in Early Childhood Intervention - Professional (Revised)
CI	:	Confidence Interval
CVI	:	Content Validity Index
ECD	:	Early Childhood Development
ECE	:	Early Childhood Education
ECI	:	Early Childhood Intervention
HPCSA	:	Health Professions Council of South Africa
IDEA	:	Individuals with Disabilities Education Act

IP	:	Intervention plan
HIV	:	Human Immunodeficiency Virus
IT	:	Information Technology
OT	:	Occupational Therapy
UN	:	United Nations
WHO	:	World Health Organization

1.5. Outline of chapters

This study is presented in seven chapters. Chapter 1 presents the problem statement and rationale for the study. Frequently used terms are defined, abbreviations explained, and an outline of the chapters is provided.

Chapter 2 provides the conceptual framework for the study. The chapter offers a critical review of the literature on team collaboration in ECI services. First, collaboration in ECI is contextualized within South Africa, followed by a historical perspective of ECI. Thereafter, collaboration is defined and the models of collaboration relevant to ECI are discussed, highlighting the particular models that are practised in South Africa. Subsequently, the factors influencing collaboration in ECI teams, in relation to family- centered, interpersonal, and organizational variables, are described. The chapter concludes with a discussion of the importance of evaluating collaboration in ECI services from professional and family perspectives.

Chapter 3 describes the methodology of the study. The research aims, design, and phases are presented. A systematic search to identify a measure for collaboration in ECI is described. The identification and selection of the Collaborative Practice in ECI questionnaires for service providers (CECI-P) (Yang et al., 2013) and parents/caregivers (CECI-C) (Yang, 2010) as a basis for measures for this study is then justified. The adaptation of these questionnaires for this study is described in Chapter 4. Subsequently, the participant selection criteria, recruitment and sampling, as well as a description of the participants are presented. This is followed by a description of the materials, equipment, and personnel involved in the study. The pilot study is subsequently presented in terms of its aims, results and recommendations. Lastly, the main study

is described in terms of general procedures, data collection and data analysis procedures, including procedural and data reliability measures.

Chapter 4 describes the process of developing and adapting materials for this study which were identified and selected in Chapter 3. In this chapter, the adaptation of the CECI-P (Yang et al., 2013) and CECI-C (Yang, 2010) for the South African context is described in detail using Malmgreen's (2005) five-step procedure. Thereafter, the development of the Biographical Information questionnaire and Service Information questionnaire for professionals and caregivers is described. Subsequently, the blind-back procedure (Peña, 2007) for translation of the caregiver materials into Setswana is described. The chapter concludes with a description of the training provided to the research assistant in data collection.

The results of the study are presented in Chapter 5. First, the results of the instrument reliability are presented. This is followed by the descriptive results of the professionals' and caregivers' perceptions of collaboration as per the sub-aims of this study. Results on the correlation among domains in the professional and caregiver measures as well as between biographical data and domains are presented. Finally, the results on the comparison between professional and caregiver perceptions on collaboration are presented.

In Chapter 6, the results of the study are discussed. The main aim of this study was to compare professional and caregiver perceptions on collaboration in ECI services with respect to the following components: understanding, advantages, difficulties, factors influencing collaboration, and the outcomes of collaboration. Thus, in relation to these components, significant findings, concerning the similarities and differences between professionals and caregivers, are discussed, with particular reference to family-centered practices, the interpersonal skills of team members, and organizational variables.

Finally, Chapter 7 provides a short summary of the study, highlighting significant findings. This is followed by the clinical implications of the study. The study is then evaluated in terms of its strengths and limitations, and the chapter concludes with recommendations for future research.

1.6. Summary

This chapter presented the problem statement and purpose of the study by emphasizing the importance of teams and specifically collaboration between professionals and family members/ caregivers in teams providing services for young children. Collaboration is presented as a sophisticated activity involving processes in which many professionals lack skills and expertise. Furthermore, the influence of context on collaboration is acknowledged, highlighting the lack of studies on collaboration in ECI services in countries with linguistic and cultural diversity, limited resources as well as historical disadvantages. Definitions of frequently used terms were provided and abbreviations explained. The chapter concluded with an outline of the seven chapters contained in this thesis.

CHAPTER 2

LITERATURE REVIEW

COLLABORATION IN EARLY CHILDHOOD INTERVENTION

2.1. Introduction

This chapter offers a critical review of the literature on team collaboration in ECI services. First, collaboration in ECI is contextualized within South Africa followed by a historical perspective of ECI. Thereafter, collaboration is defined and the models of collaboration relevant to ECI are discussed, highlighting the particular models practised in South Africa. Furthermore, the factors influencing collaboration in ECI teams, in relation to family-centered, interpersonal, and organizational variables, are discussed. The chapter concludes with the importance of evaluating professional and caregiver perceptions of collaboration in ECI services.

2.2. Collaboration in ECI

2.2.1. *The need for collaboration in ECI in South Africa*

Collaboration is central to the success of ECI teams, particularly when addressing the diverse needs of children with disabilities or those at risk for developmental delay and their families (Dinnebeil, Hale, & Rule, 1996; Edelman, 2004; Moeller et al., 2013). When providing services to children with disabilities or those at risk for developmental delay, collaboration between professionals and their families is essential (Briggs, 1997; Shonkoff & Meisels, 2000). This is particularly so in South Africa, where it is estimated that 2.1 million children (11.2% of the total child population) have a disability, of which 28% are between 0-4 years and 10% are between 5-9 years (UNICEF, 2012). Furthermore, 11.9 million children (64% of all children) and their families are living in poverty (UNICEF, 2012). There are no official statistics on HIV/AIDS prevalence for people with disabilities. However, 340 000 children between 0-14 years are living with HIV/AIDS (UNAIDS, 2010).

When children and families exist within these challenging contexts, poverty and living with HIV/AIDS (Govender et al., 2014; Saloojee, Phohole, Saloojee, & Ijsselmuiden, 2006), their circumstances have the potential to negatively affect child development (Grantham-McGregor et al., 2007). This in turn, leads to increasing numbers of children requiring ECI services (Jacobs, Shung-King, & Smith, 2005). Furthermore, these challenges also have the potential to influence

family interactions (Richter, 2010), the quality of the parent-child relationships (Bray & Brandt, 2007), as well as the nature of family-professional collaboration in ECI teams.

ECI teams require collaboration between various professionals, such as nurses, physiotherapists, occupational therapists, social workers, doctors, and speech-language therapists (Eldar, 2005; Xyrichis & Ream, 2008), as well as the collaboration of a family member (Harbin et al., 2000; Stepans et al., 2002). The particular services required will depend on the needs of the child and family. Thus, the family member often a parent, or the primary caregiver, is regarded as a pivotal member and decision-maker in the team (Klein & Gilkerson, 2000; WHO, 2009; Rowe & Moodley, 2013).

In South Africa, the “parent” collaborating with professionals could be a grandparent, relative, sibling, or an unrelated person. This is because approximately 18.7% of children are not living with either of their biological parents (Statistics South Africa, 2013). This trend is similar in ECI services internationally (Osher & Osher, 2002). Caregivers in South Africa often encounter difficulties with attending ECI services due to the concomitant challenges of finance, time, and support (Saloojee et al., 2006). Thus, ECI services offered to children and families should be congruent with the social model approach which considers the historical, cultural, and social factors influencing the child and family (Khoury, 2015; UNICEF, 2012).

Whilst many families experience challenges related to social support and finances, most parents/caregivers are still determined to attend ECI services, as they believe that the services and their collaboration with professionals benefits the child and the family. Such determination and commitment is especially evident, with some parents walking long distances with their child to attend ECI services (Saloojee et al., 2006). When there is collaboration in ECI services, families are able to save time, because services are not fragmented (Edelman, 2004). Additionally, there is a reduced turnover of staff, better quality and more comprehensive services, less duplication of services, and more efficient administrative procedures (Eva, 2002; Patel, Pratt, & Patel, 2008; Moore, 2008; Xyrichis & Ream, 2008). Families and professionals are also less stressed and more satisfied (Edelman, 2004), leading to greater success in family-professional partnerships (Doyle, 2008; O’Neil et al., 2008).

Thus, developing successful family-professional partnerships is critical to delivering services for young children and their families (Blu-Banning et al., 2004). However, establishing successful family-professional partnerships has been difficult for many families, but even so for professionals, because their training generally follows the medical model approach (Rowe & Moodley, 2013; Samuels et al., 2012). This is reflected in the history of family-professional collaboration in South Africa.

2.2.2. *A historical perspective on collaboration in ECI*

Collaboration in ECI teams can be traced back to the end of the 1960's when professionals recognized the need to work together to serve children and families better (Johnson, Ruiz, LaMontagne, & George, 1998; Rainforth, York, & Macdonald, 1992). Professionals believed that poor communication, limited resources, and duplication of services could be addressed by working collaboratively. This resulted in the multidisciplinary collaboration model which became prominent in the 1970's (Snell & Janney, 2005). This refers to a model of collaboration in which professionals work independently with separate goals and intervention plans (Allen et al., 1997).

Concurrent to multidisciplinary collaboration, some professionals began to focus on consultation, rather than collaboration. These professionals were seen as consultants, providing expert advice on improving services for children. Services rendered through this approach became the expert model of consultation (Johnson et al., 1998), better known as the medical model approach. In the medical model approach, the professional is triumphed as the expert, knowing what is best for the child and family. This approach to healthcare has continued to dominate South African health services for many decades (Rowe & Moodley, 2013).

In contrast, as early as the 1980's, the medical model approach was criticised internationally for failing to acknowledge the needs of children and families. Increasingly, professionals recognized that families were a valuable resource of information and expertise that were being excluded from the decision-making for their child, in ECI services (Johnson et al., 1998; Rainforth et al., 1992). Professionals then rallied to collaborate with families, and this formed the basis for the prominent approach to ECI services internationally during the 1990's (Osher & Osher, 2002). This can be seen as a landmark change in history, where the field of ECI

progressively transcended the narrow focus of a child-oriented model to a more holistic family-centered approach.

However, in South Africa, the move towards including families in teams can be traced to 1994, with the advent of democracy. The equality of all citizens and the value of diverse voices were recognized and served as instruments for change. As a result, family voices in healthcare services were recognized to be essential. Family autonomy and their role in decision-making in healthcare services was further advocated for through the advent of the Consumer Protection Act in 2008 (Rowe & Moodley, 2013).

Despite the move towards families as autonomous decision-makers and equal partners in healthcare services, many professionals still experience difficulties with collaborating with families. This is due to a lack of training in working collaboratively or with a family focus. Collaboration, as a concept, is itself a difficult construct to define (Croker, Trede, & Higgs, 2012), and many professionals have a limited understanding of what it entails and how to facilitate it. In addition, a vast majority of professionals working with families have limited experience in working across cultural and language divides.

2.2.3. *Defining collaboration*

Collaboration is often broadly defined as a dynamic process which involves the ability of team members to work together or interact with each other towards a common goal (Bedwell et al., 2012; Bourgeault & Mulvale, 2006; D'Amour et al., 2005). In an attempt to describe the specific components of collaboration in the field of healthcare, D'Amour et al. (2005) conducted a review of the literature from 1990 to 2003, using the databases Medline, CINAHL, Sociological Abstracts, PsycINFO and Proquest (the search terms were: inter, multi, professional, disciplinary, team, occupation, and agencies in health field). Seventeen papers were included in the review, from which the authors identified the four most common concepts that defined collaboration. These concepts were sharing, partnership, interdependency, and power.

The sharing of decision-making, values, planning, intervention, and perspectives by team members was highlighted in the review. Subsequent literature identified the sharing of responsibilities, healthcare philosophies (Nijhuis et al., 2007), resources (Kennedy & Stewart,

2011), information and goals (Kennedy & Stewart, 2011; Nijhuis et al., 2007) as integral to successful professional and family partnerships. Successful family-professional partnerships effectively rely on shared meaning between the family and professional, a characteristic which evolves and develops over time, emanating from shared experiences during collaboration (Briggs, 1997). Shared experiences involve team members learning about the cultural traditions, values and diversity of different families and team members (Capone, Hull, & DiVenere, 1997).

The literature suggests that successful family-professional partnerships are central to delivering family- centred care (King, Rosenbaum, & King, 1996). These partnerships can be facilitated by open and honest communication, respect, and mutual trust (Briggs, 1997; D'Amour et al., 2005; Yeboah-Antwi et al., 2013). For successful partnerships, members should trust the competencies and abilities of team members to assume responsibility. This involves acknowledging the value of contributions and perspectives of all team members, including the family member (D'Amour, Goulet, Labadie, Martin-Rodriguez, & Pineault, 2008). The literature shows that much has been learnt from the reflections and experiences of families collaborating in ECI teams, particularly in terms of the goals that are important to them (Capone et al., 1997).

Establishing a common goal between professionals and families is central to a partnership relationship (D'Amour et al., 2005; Yeboah-Antwi et al., 2013). When the professional and family goals differ, collaboration is negatively affected, ultimately affecting the quality of services provided to the child and family (D'Amour et al., 2008; King et al., 2009). Overcoming these disparate goals requires mutual adjustments from all team members and a realignment of goals. Failure to realign goals increases the risk of private interests overwhelming benefits to the child, opportunistic behaviour and a concomitant loss of focus on collaboration (D'Amour et al., 2008). Professionals and families must therefore be interdependent in establishing common goals.

Interdependency is crucial, as the increasingly complex health problems of young children demand the expertise, contributions, and participation of a variety of team members (Wong, Sumsion, & Press, 2012). Whilst team members recognize the need to rely on each other for expertise, mutual dependency is strengthened when members are able to observe other team members fulfilling their commitments, being willing to assist team members, following through on tasks in a timely manner, and meeting deadlines (Briggs, 1997). Hence, how members perform in

the team has the potential to influence the extent of mutual dependency between team members. Mutual dependency between team members, including the family member, should be encouraged, as it increases synergy in the team. Increased synergy contributes to collective action, where team members learn from each other and there is better feedback and information exchange (D'Amour et al., 2005). Furthermore, services for families are also more satisfying as family members feel that they are integral and equal members in the team.

In collaborative teams, the symmetry of power in relationships is shared between team members, and there is mutual agreement on the actions to be taken (D'Amour et al., 2008). Hence, leadership in teams is shared; all team members are able to have their opinions heard, participate in the decision-making, and simultaneously empower each other (Briggs, 1997). Thus, in true partnership, simultaneous empowerment emanates from maintaining symmetry in power relationships.

The difficulties faced in establishing true partnerships between professionals and family members in South Africa must be contextualised. Firstly, the vast majority of professionals in South Africa come from white middle-class backgrounds, and generally provide services to historically disadvantaged Black South Africans (Pillay & Kathard, 2015). Despite this, many professionals have limited exposure or experience in working cross-linguistically or cross-culturally. Secondly, the legacy of apartheid has led to Black South Africans being systematically disadvantaged, oppressed, disempowered, and stripped of their autonomy (Coovadia et al., 2009; Rowe & Moodley, 2013). Therefore, these individuals or families often struggle to perceive themselves as equal partners and decision-makers regarding their health and healthcare services.

Hence, for ECI teams in South Africa to succeed, simultaneous empowerment of both professionals and families is required, through the sharing of knowledge and experience. When knowledge and experience between professionals and families is shared, a collaborative relationship can be established (D'Amour et al., 2005). The nature of these relationships between team members are described in the various models of collaboration identified in the literature.

2.2.4. *Models of collaboration for ECI*

Models of collaboration for ECI provide a framework for supporting the complex needs of children and families (Anderson-Butcher & Ashton, 2004). In the literature, various models on collaboration have been proposed (Allen et al., 1997; Anderson-Butcher & Ashton, 2004; Mellin & Winton, 2003). A systematic search of the literature to identify available models describing collaboration in ECI was conducted. The Academic Search Complete electronic database and search engine Ebscohost were used. The keywords and Boolean operators included, collab* or team* or interprof* or parent-prof* and early childhood intervention or early childhood or families and models or paradigms and health. The inclusion criteria were peer-reviewed papers, published in English between January 1990 and December 2013 (because this was when most models on collaboration for ECI were reported), with a focus on models of collaboration in the field of ECI and a discussion on these models. The review was based on the structure provided by the PRISMA Systematic Review process (Moher, Liberati, Tetzlaff, & Altman, 2009), outlined in Appendix A.

The literature search identified 979 papers, to which were added two papers that were hand searched. After duplicates were removed, 795 papers remained. The titles of the papers were screened, and 747 papers that were not related to models of collaboration in the field of ECI were excluded. The abstracts of the remaining 48 papers were screened. Thirty-two papers were excluded, since they did not contain any discussion on the models of collaboration. The remaining 16 papers were read in full. No articles were excluded. All 16 papers met the search criteria and are presented in Appendix B. A summary of the models identified in these papers are presented in Table 2.1, followed by a description of these models.

Table 2.1
Summary of the models of collaboration in ECI

Models of collaboration in ECI	Description	Author
Relationship-based	Effective ECI is dependent on the relationships of key stakeholders in the collaboration process. These relationships influence and are influenced by the various systems in which ECI is embedded; thus depicting a sense of interdependency. Examples of relationships are parent-child, parent-professional, inter-professional, professional-child, and family-community. Of importance to the current study are parent-professional and inter-professional relationships.	e.g. Atkins-Burnett & Allen-Meares (2000); McAllister & Thomas (2007)

Models of collaboration in ECI	Description	Author
Intra-organizational collaboration	Parallel relationships between stakeholders (e.g. management, health professionals, support staff) within an organization. Separate services and job responsibilities.	e.g. Anderson-Butcher & Ashton (2004); Parrish, Harris, & Pritzker (2013)
Interagency collaboration/ Inter-organizational collaboration	Two or more independent organizations, usually with different missions, develop formal agreements for working together toward a common purpose or goal.	
Inter-professional collaboration	Two or more people from different professions working together to help the child and his or her family.	
Family-centered collaboration	Families, especially parents are considered full-time partners with professionals in deciding what kind of services and supports the child and family need.	
Community collaboration	Involves all community stakeholders (e.g. parents, community leaders, schools, health providers) that are committed to improving child development.	
Multidisciplinary	Team members work independently with separate treatment plans.	e.g. Allen et al. (1997);
Interdisciplinary	Team members work independently within their profession-specific roles, but have joint treatment plans.	Batorowicz & Shepherd (2008);
Transdisciplinary	Team members share and integrate expertise, collaborating from the beginning to produce a single intervention plan.	Bell et al. (2009)

Inter-agency collaboration, as described in Table 2.1 (e.g. Anderson-Butcher & Ashton, 2004) is common practice in the United States of America where it is acknowledged in Part C of Individuals with Disabilities Education Act (IDEA) (Allen, Foster-Fishman, & Salem, 2002). Similarly, in Australia, inter-agency collaboration is also practiced in the field of ECI, such as in services related to children with intellectual disabilities (Yang et al., 2013). In South Africa, inter-organizational collaboration (a term recognized in South Africa as denoting collaboration between public, private, non-governmental organizations, health, education, and social development), intra-organizational and community collaboration are practiced; however, the inter-professional and parent-professional models are commonly practised in the health field (Richter, 2010; Sibiya & Gwele, 2013) and are the focus of the current study.

In ECI, the nature of inter-professional and parent-professional collaboration (Allen et al., 1997; Bell et al., 2009) varies. There are three models that are commonly practiced and described in the literature, namely, multidisciplinary, interdisciplinary, and transdisciplinary (Allen et al., 1997; Anderson-Butcher & Ashton; 2004). Frequently practiced in the field of ECI is the interdisciplinary model, and research suggests that this model is beneficial for teams, families and children (Bell et al., 2009). Similar to transdisciplinary models, team cohesion, cooperation (Mullins, Balderson, Saunders, Chaney, & Whatley, 1997), team participation and communication

(Lisa, Sheldon, & Rush, 2001) are better facilitated, particularly when compared with multidisciplinary teams. Importantly, the transdisciplinary model facilitates holistic intervention; thus enhancing the effectiveness of services. Of the three models, it is considered the preferred model for facilitating ECI (Batorowicz & Shepherd, 2008; Bell et al., 2009).

Bell et al. (2009) conducted a study which evaluated the transdisciplinary model of collaboration for zero to two-and-a-half year old children in a community paediatric service setting between the years 2004 and 2007. Results of the study indicated a reduction in waiting-times from 114 to 35.6 days from first contact to placement in an appropriate intervention. In addition, attendance at therapy sessions increased significantly from 49% in 2005 to 56% in 2006 and to 75% in 2007. This was despite an increase in caseload from 29 in 2004 to 64 in 2008. These results were achieved through efficient use of time and resources.

The findings of the Bell et al. (2009) study provide evidence in support of the transdisciplinary approach as a superior model for the socio-economically challenged South African context (Samuels et al., 2012). In South Africa, many poor children requiring ECI services may live as far as 30km away from ECI services. Transport costs for one return trip alone can consume about 5% of the family's budget, making it difficult for parents to attend multiple visits (Saloojee et al., 2006). In these circumstances, the transdisciplinary approach, which enables better use of personnel and resources, can contribute toward improved sustainability of interventions in South Africa (Bornman & Uys, 2005; Samuels et al., 2012; Swanepoel, Louw, & Hugo, 2007) while facilitating collaboration between professionals and parents.

Parent-professional relationships are essential in supporting child development (Anderson-Butcher & Ashton, 2004; Dunst & Dempsey, 2007; Edelman, 2004; Zwarenstein et al., 2009) and are consistent with family-centered practices (Harbin et al., 2000; Smith-Bird & Turnbull, 2005; Turnbull, Turbiville, & Turnbull, 2006). Professionals should establish relationships with parents in order to assist parents in the development of their child, enhance the families' capacity to meet the needs of their child (Edelman, 2004; Moeller et al., 2013; McNab, 2010), and to develop an intervention plan according to the agreed needs of the child and family (Bell et al., 2009; Pridham et al., 2006; Warner, 2001). Establishing a partnership with parents is logical, as children grow and develop in the context of their relationship with their parents and families (Dunst & Dempsey,

2007; McNab, 2010). Moreover, supported by the literature, parent-professional relationships are considered to be a potential predictor of the success of intervention (Dunst & Dempsey, 2007; McNab, 2010).

Whilst parent-professional relationships are important, the field of early childhood also recognizes the fundamental importance of inter-professional relationships (Atkins-Burnett & Allen-Meares, 2000; Anderson-Butcher & Ashton, 2004; Edelman, 2004; Ziviani et al., 2013). Essentially, without collaboration between professionals, there is a greater risk of fragmentation or duplication of services, as well as unmet family needs (Doyle, 2008; Edelman, 2004). However, researchers have argued that collaboration between professionals is dependent on contextual factors surrounding the ECI service (Guralnick, 2011; Nicholson, Artz, Armitage, & Fagan, 2000; Serpell & Marfo, 2014).

Studies have shown that the scarcity of professional collaboration has been associated with a lack of human and financial resources and support from the organization (Doyle, 2008; Moran, Jacobs, Bunn, & Bifulco, 2007). Contextual factors affecting professional collaboration also have the potential to influence parent-professional collaboration. Moderating contextual influences on parent-professional collaboration requires the building of relationships between various stakeholders within an ECI service. Building relationships is central to the Relationship-based Model, and similar to Ecological Systems Theory (Bronfenbrenner, 1979), requiring some form of interdependency between systems, including organization, professionals, families, and the community surrounding the ECI service.

Dinnebeil, Hale, & Rule (1999) argues that if establishing a collaborative relationship with families is important, then identifying the factors that influence collaboration between the professional and families would be valuable. Factors influencing collaboration can include characteristics, skills, or behaviours that an individual brings to the collaborative relationship (Blu-Banning et al., 2004; Dinnebeil et al., 1999). Identifying these factors will assist in clarifying what constitute quality ECI experiences for families, hiring competent team members, and providing a foundation for training ECI personnel (Blu-Banning et al., 2004; Dinnebeil et al., 1999).

In the systematic search on the models of collaboration, outlined in Appendix B, various factors influencing collaboration were identified. Factors included: maintaining good communication (e.g. Peck et al., 2010; Pridham et al., 2006; Silverman, Hong, & Trepanier-Street, 2010), training (e.g. Stepans et al., 2002), developing trust, maintaining commitment, having time for collaboration (e.g. Atkins-Burnette & Allen-Meares, 2000; Van Eyk & Baum, 2002), fostering equality in teamwork, securing resources, having mutual goals (e.g. Van Eyk & Baum, 2002), establishing support, developing expertise (McAllister & Thomas, 2007), and understanding differences of culture (Peck et al., 2010). To gain a further understanding of the factors influencing collaboration, a systematic search of the literature was conducted.

2.3. Studies on the factors influencing collaboration in ECI teams

The Academic Search Complete electronic database and search engine Ebscohost were used. The keywords and Boolean operators included collab* or team collab* or teamwork and early intervention or early childhood or children and barriers and facilitators. The inclusion criteria were peer-reviewed papers, published in English, limited to the period between January 2004 and December 2013. Papers reporting on barriers and/or facilitators to collaboration, specifically related to the field of early childhood were selected. The review was based on the structure provided by the PRISMA Systematic Review process (Moher et al., 2009) and is illustrated in Figure 2.1.

The literature search identified 389 papers, to which two papers that were hand searched were added. After duplicates were removed, 256 papers remained. The titles of the papers were screened, and 238 papers that were not related to team collaboration were excluded. The abstracts of the remaining 18 papers were screened. Ten papers were excluded for the following reasons: six papers were not related to the field of early childhood, one paper described a measure, one paper described an intervention, one paper focussed on a specific condition, and one paper focussed on a specific strategy for team collaboration. The remaining eight papers were read in full and all eight papers met the search criteria and are presented in Table 2.2.

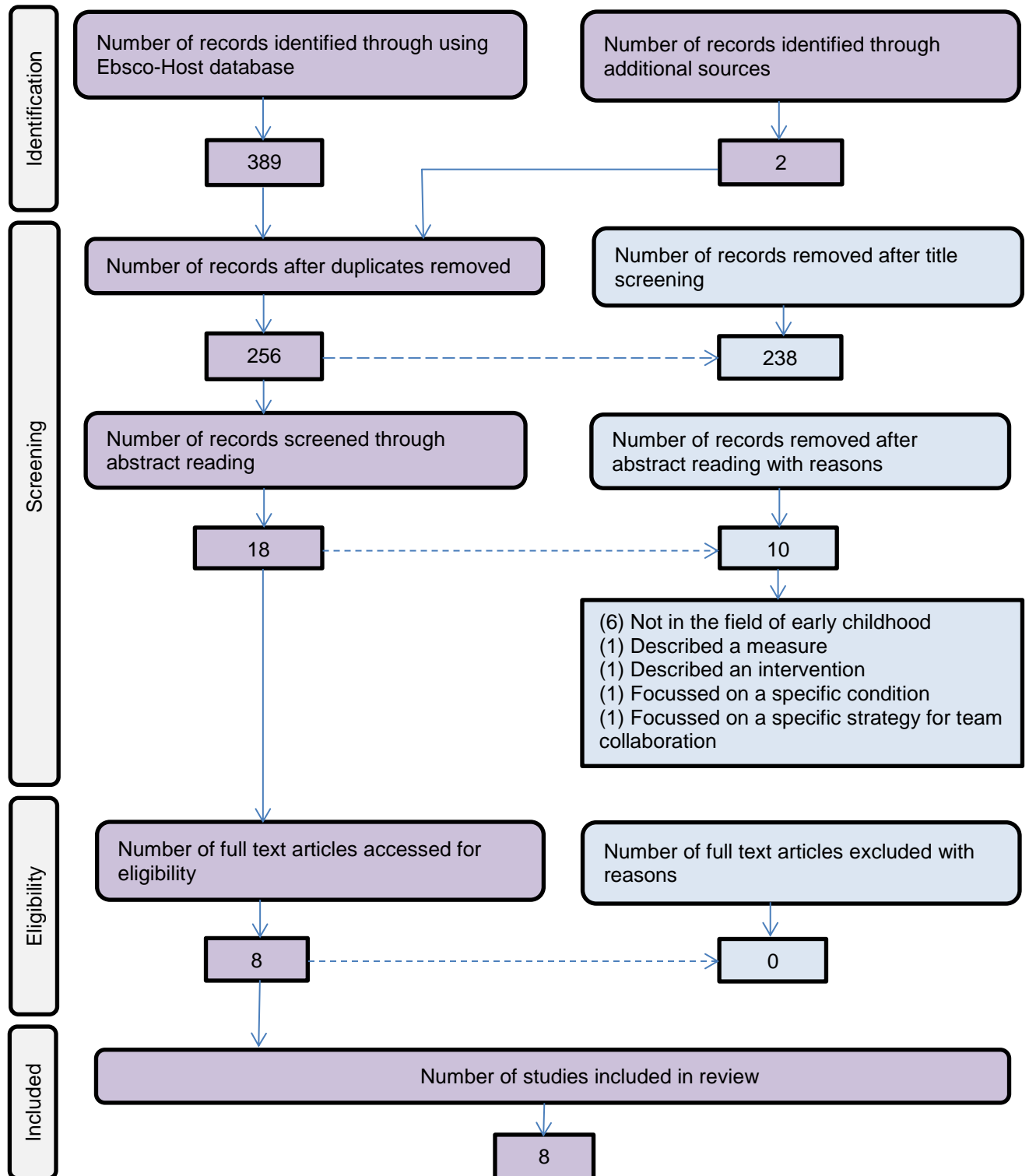


Figure 2.1 Flow diagram for factors influencing collaboration in ECI.

Table 2.2
Studies on the factors influencing collaboration in ECI

Study	Aim	Method/Procedure	Results: Barriers and facilitators to collaboration
Cumming & Wong (2012)	To explore the role and experiences of early childhood educators on transdisciplinary teams.	Qualitative study using interviews and participant observation. Purposeful sampling. Four participants (two current and two previous team members). Coding and thematic analysis of data.	Barriers: Lack of common understanding of the goals, difficulty imparting practical experience, holding onto professional identities leading to tension between team members, and marginalisation of untrained staff.
Doyle (2008)	To explore some of the barriers and facilitators to joint working with the aim of informing local practices.	Literature review. Databases: British Nursing Index (BNI), CINAHL, MEDLINE, HEBS. Period: 1995- 2008. Twenty-one articles were reviewed.	Facilitators: Dedicated time and resources, good communication, information sharing, networking, commitment, leadership, partnership with families, co-location (i.e. professionals from health, social, and education working together at the same location), training, shared records, and awareness of the roles of other professionals and benefits of joint working. Barriers: Separate documentation, poor working relationships, lack of awareness of the roles of others, limited time and resources, overlapping of roles and duplication of services, poor communication, lack of information sharing, lack of trust and confidence in the abilities of other agencies, increased workload, lack of appropriately trained staff, and constant re-organisation.
Malone & McPherson (2004)	To examine the attitudes and perceptions about teamwork held by professionals serving on community-based and hospital-based early childhood intervention teams.	Purposeful sampling. Sixty participants (thirty community-based and thirty hospital-based therapists) completed a survey questionnaire.	Facilitators: Support for child and family involvement, development of goals, organizational support of team, and individual efforts in contributing to team performance. Barriers: Limited time, lack of communication, lack of training, lack of commitment, conflict, personality differences, not valuing team members, and lack of consensus.
Moran et al. (2007)	To examine multi-agency working from the perspectives of social workers within an early intervention family support team.	Purposeful sampling. Twenty- nine professionals within the social work early intervention team and partner agencies. Five focus groups and eight interviews were conducted.	Facilitators: Good communication, respect, and quick referrals. Barriers: Agencies having different protocols, lack of opportunities for formal and informal communication, lack of financial support, and difficulty scheduling service developments.

Study	Aim	Method/Procedure	Results: Barriers and facilitators to collaboration
Nijhuis et al. (2007)	To identify the salient elements of team collaboration in paediatric rehabilitation.	Literature review. Databases: Medline, ERIC, PsycINFO. Period: January 1993 to December 2004. Twenty- eight studies were reviewed.	Facilitators: Open, regular, and structured communication, information sharing, consensus between professionals and parents, shared decision-making, effective leadership, common, clearly stated and regularly evaluated goals, team members from multiple backgrounds, inclusion of family perspective in treatment plan, participation of all team members including parent, equal partnership of all members, common framework, joint planning, roles are defined, and mutual respect. Barriers: Conflict, confusion, lack of time, organizational boundaries, poor reporting, poorly prepared team meetings, and use of discipline-specific jargon.
O'Neil et al. (2008)	To identify facilitators and barriers to care coordination between medical and early intervention providers for children with special healthcare needs and their families.	Exploratory study. Purposeful sampling. Fifty participants participated in one of six focus groups. Participants included parents/caregivers, paediatricians, hospital therapy providers, and early childhood intervention providers. Questionnaire to obtain demographic information. Guiding questions were designed for the focus group to obtain participant perceptions on facilitators and barriers to care coordination.	Facilitators: Providing information to parents when required, developing consistent approaches toward identifying child and family needs and providing appropriate care, acknowledgement and support of the family social and emotional needs, and effective parent-professional communication. Barriers: Complex medical information exchange with specific terminology and jargon, team members with different approaches towards child and family care, professionals displaying lack of emotional support due to time constraints and workload, parents experiencing difficulty in integrating information from professionals in the different settings, lack of understanding of roles, poor communication between health and early intervention settings, lack of time for communication, de-valuing parent participation, and confusion on the access to services available.
Sloper (2004)	To describe multi-agency working in children services.	Literature review focussing on systematic reviews and recent studies. Databases: Medline, Cochrane, Library, PsycINFO, ASSIA, CINAHL, CARE-DATA, ERIC, HTA. Period: Up till 1989. Nine reviews were appraised.	Facilitators: Clear and realistic goals, clearly defined roles and responsibilities, commitment, strong leadership, agreed timetable, good communication, information sharing, adequate Information Technology (IT) systems, shared and adequate resources, administrative support, sufficient time for collaboration, recruitment of staff with appropriate experience and knowledge, training, appropriate support and supervision, regular monitoring and evaluation of the service, policies and procedures being implemented, respecting and valuing the roles of others. Barriers: Many of the barriers were contrary to the facilitators, e.g. lack of clarity of roles and responsibilities, lack of consensus on goals, lack of commitment and support from senior management, poor communication and information sharing, inadequate IT systems, inadequate resources, lack of ongoing training and leadership, lack of time for collaboration, professional stereotypes and lack of trust and understanding between individuals and agencies, constant reorganization, lack of qualified staff, financial uncertainty, and different professional ideologies.

Study	Aim	Method/Procedure	Results: Barriers and facilitators to collaboration
Yang et al. (2013)	To investigate service providers' understanding of and reflection on their actual experiences of being engaged in collaborative service delivery in ECI.	Purposeful sampling of agencies. Stratified sampling of participants. Seventy-five service providers from 12 agencies participated in the study. Self- report survey with closed- and open-ended questions.	<p>Facilitators: Belief in family- centered approach, mutual understanding, respect, open communication, and commitment.</p> <p>Barriers: Lack knowledge about other services and team members, inadequate funding, insufficient time, staff shortages, and inadequate support from organization.</p>

Table 2.2 presents eight articles describing factors influencing collaboration in ECI services. Of the eight studies, three studies were literature reviews (Doyle, 2008; Nijhuis et al., 2007; Sloper, 2004). With respect to the remaining five studies, three collected data from professional participants (Cumming & Wong, 2012; Malone & McPherson, 2004; Moran et al., 2007); whilst two used both professional and parent participants (O’Neil et al., 2008; Yang et al., 2013). Additionally, two were quantitative studies using survey questionnaires (Malone & McPherson, 2004; Yang et al., 2013); whilst three were qualitative studies using interviews and focus groups (Cumming & Wong, 2012; Moran et al., 2007; O’Neil et al., 2008).

Furthermore, of the eight articles, seven identified both the facilitators and barriers; whilst the study by Cumming & Wong (2012) identified barriers to team collaboration. Common facilitators identified for collaboration were: good communication (e.g. Doyle, 2008; Nijhuis et al., 2007; Sloper, 2004) and respect (e.g. Moran et al., 2007; Nijhuis et al., 2007; Yang et al., 2013). Also highlighted as essential for collaboration were: sharing of information (e.g. Doyle, 2008; O’Neil et al., 2008) expertise, goals (Malone & McPherson, 2004; Nijhuis et al., 2007; Sloper, 2004) as well as leadership; commitment (e.g. Doyle, 2008; Sloper, 2004); and support (e.g. O’Neil et al., 2008; Sloper, 2004). Importantly, three studies identified facilitators related to family- centered care, including partnering with parents, focussing on the needs of the child and family, and beliefs in family- centered care (Nijhuis et al., 2007; O’Neil et al., 2008; Yang et al., 2013).

With respect to the barriers to collaboration, six studies highlighted poor communication, specifically the use of discipline-specific jargon as the primary deterrent to collaboration (e.g. Moran et al., 2007; O’Neil et al., 2008; Sloper, 2004). Similarly, a lack of resources, especially time (Doyle, 2008; Nijhuis et al., 2007; Sloper, 2004), followed by the lack of support (e.g. Cumming & Wong, 2012; Sloper, 2004), training (e.g. Doyle, 2008; Malone & McPherson, 2004), and poor scheduling of services (e.g. Moran et al., 2007; Nijhuis et al., 2007) were also common barriers to collaboration. De-valuing parent participation from a family-centered perspective was highlighted in the O’Neil et al. (2008) study; whilst Sloper (2004) identified the lack of Information Technology (IT), leadership, expertise, and staff shortages (Yang et al., 2013) as barriers to collaboration.

Results of the systematic search resonate with the findings of the Dinnebeil et al. (1996, 1999) studies which used a survey to identify parents’ and service coordinators’ perceptions on the factors influencing collaboration. Additionally, the authors identified personal characteristics, including friendliness, patience, and open-mindedness to be important for successful collaboration. Similarly, supporting the current scoping search, Briggs (1997), in her seminal work on team collaboration in ECI, also highlighted the critical importance of systems thinking for successful collaboration.

Figure 2.2 presents a compilation of the factors influencing collaboration, derived from the facilitators and barriers in Table 2.2. These factors, which are categorised into family-centered, interpersonal, and organizational variables (Dinnebeil et al., 1996, 1999; Yang et al., 2013), are discussed in Section 2.4.

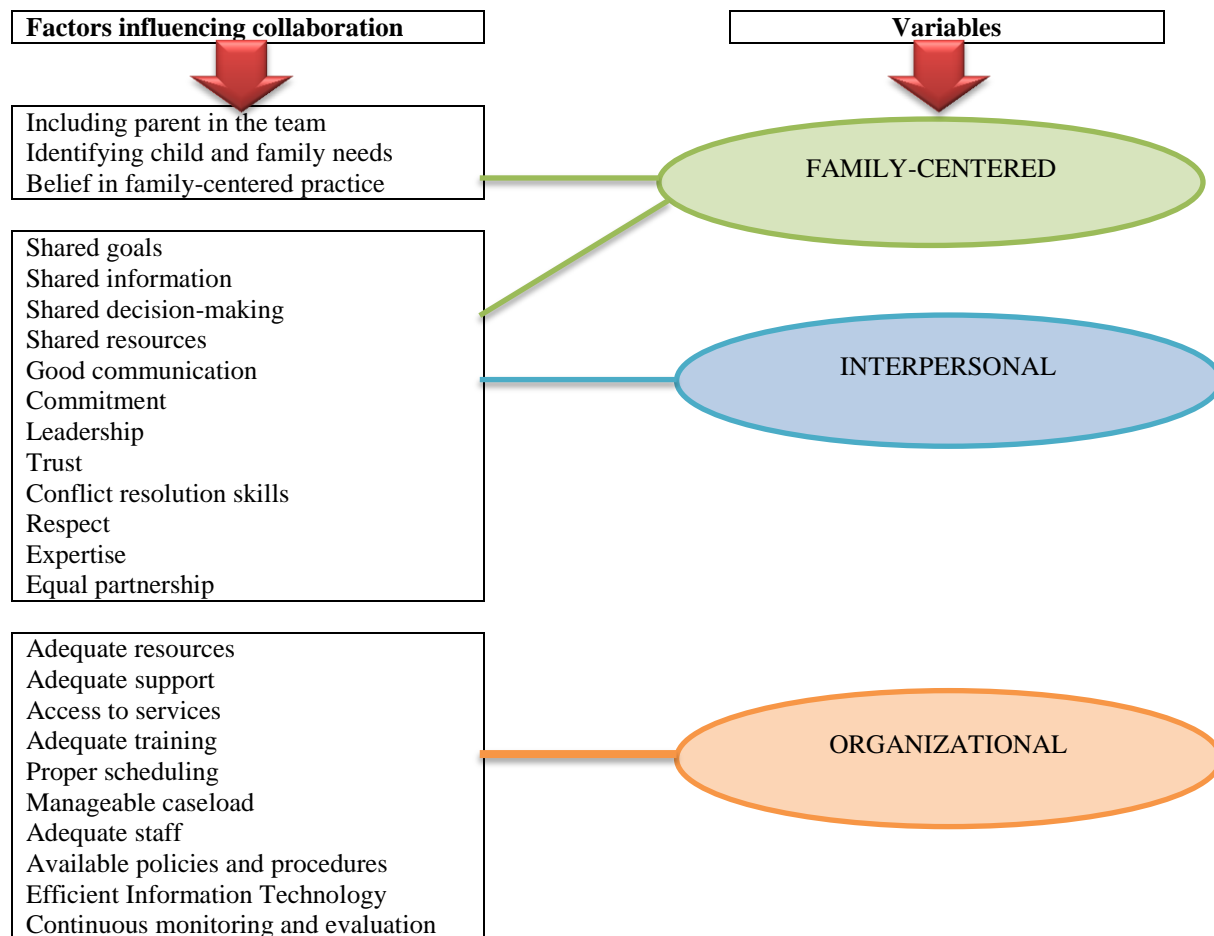


Figure 2.2 Factors and variables influencing collaboration in ECI teams.

2.4. Variables influencing collaboration in ECI teams

2.4.1. *Family- centered practices*

The field of ECI has advanced from a professional-driven to an ideal of family-centered practice (Bruder, 2000; Harry, 2008; Osher & Osher, 2002). For several years professionals were regarded as experts in the services provided to young children and their families, congruent with the medical model approach (Rowe & Moodley, 2013). With the advent of family- centered practices, families are considered experts, since they are constant in the child's life, know the child best, and have insight into what services are required for their child (Espe-Sherwindt, 2008; Foster et al., 2010).

With families recognized as experts on their children, it is logical for them to be included as fundamental members of the ECI team (Harbin, et al., 2000; Stepans et al., 2002). Families should be actively involved in the decision-making, planning, and the ECI process itself (Bailey et al., 2012; Harbin, et al., 2000; Moeller et al., 2013; Madsen, 2009; Stepans et al., 2002). If families are included in the ECI team, then collaboration between professionals and families is essential (Dinnebeil et al., 1996; Moeller et al., 2013).

Professionals are required to collaborate with families to ensure that services are based on the priorities, strengths, and resources of each family and child (Dyke et al., 2006; Paul & Roth, 2011; Smith-Bird & Turnbull, 2005; Turnbull et al., 2006). In this regard, Guralnick (2011) argues for a systems perspective where professionals take cognizance of the context in which families reside and the factors influencing family functioning, family interactions (Richter, 2010), and family-child relationships (Bray & Brandt, 2007). This is especially critical in the South African context.

In South Africa, the remnants of apartheid can still be seen with many Black children and families living below the poverty line (Hall, 2011). When these challenges of poverty are coupled with additional risks such as HIV/AIDS (Govender et al., 2014; Saloojee et al., 2006), the development of the child is often compromised (Grantham-McGregor et al., 2007). These risk factors have devastating effects on families with children with disabilities as they compound various other challenges, including finance, support, and time.

Financial pressure on the family to care for the child with a disability increases (Saloojee et al., 2006), due to the additional risk factors. Furthermore, families often lack support, making it difficult for them to prioritize the care and needs of the child with a disability (Saloojee et al., 2006). In some instances, family members have to work and, therefore, rely on informal family care for the child, similar to the international context (DeVore & Bowers, 2006). Furthermore, family members often have to miss hours of paid work (Warfield, 2001), due to the multiple medical and therapeutic services required for the child (Meijer et al., 2003; Paul & Roth, 2011). In South Africa, some families have limited knowledge of the ECI services available (Gavaza, Rascati, Oladapo, & Khoza, 2012; UNICEF, 2012), and those who can access services struggle, facing challenges of finance, time, the distant location of these services (Saloojee et al., 2006), as well as language and cultural barriers (Samuels et al., 2012).

There is a limited number of professionals who are conversant in an African language (Bornman et al., 2010); this often deters families from attending ECI services (Samuels et al., 2012; Saloojee et al., 2006). It is estimated that 14,935 rehabilitation professionals (i.e. dually qualified speech-language therapists and audiologists, speech-language therapists, audiologists, occupational therapists, and physiotherapists) are registered on the Health Professions Council of South Africa (HPCSA) website (HPCSA, 2016). Of these professionals, only 2,264 are from a Black ethnic origin, suggesting that only a small percentage (15.16%) of these professionals are conversant in an African language. Hence, Barratt, Khoza-Shangase, and Msimang (2012) concur and recommended in their study that professionals in South Africa should be trained in an African language in order to provide services in a language that is acceptable and linguistically appropriate for families.

Additionally, cultural differences related to behaviours, customs, and values (Barrera & Kramer, 1997) can also challenge the family- professional relationship. Professionals are required to provide services that are culturally sensitive to family diversity (Woods, Wilcox, Friedman, & Murch, 2011), such as integrating indigenous cultural resources into the design and delivery of services for young children and their families (Serpell & Marfo, 2014). However, professionals have expressed challenges in understanding and respecting diverse cultural values and preferences in multicultural societies (Talay-Ongan, 2001; Tomasello, Manning, & Dulmus, 2010). Hence, professionals have highlighted the need for support, such as training, to increase their cultural

competence in assisting families (Talay-Ongan, 2001; Tomasello et al., 2010; Wesley, Buysse, & Tyndall, 1997; Yang et al., 2013).

Training in cultural competence should highlight the importance of understanding the historical experiences of families for successful collaboration. For example, relevant to families in South Africa, experiences of poverty (Govender et al., 2014; Saloojee et al., 2006) and disempowerment (Rowe & Moodley, 2013) can inhibit the degree to which families freely express their cultural beliefs and behaviours (Barrera & Kramer, 1997). Team members should create an environment that empowers families to express their beliefs. However, empowering families in collaboration can be challenging, since some families do not perceive themselves to be equal partners, often regard the professionals with esteem due to their cultural beliefs on power and social positioning in society (Barrera & Kramer, 1997).

Cultural differences and beliefs have the potential to influence how families and professionals collaborate in ECI teams. For successful family-professional relationships, team members should develop cultural competence by acknowledging and displaying appropriate interpersonal skills, such as respect for the cultural beliefs of members (Espe-Sherwindt, 2008), including the family member. Such interpersonal skills are highly valued in indigenous African cultures (Mpofu et al., 2012).

2.4.2. *Interpersonal skills of team members*

Various interpersonal skills of team members have the potential to influence collaboration in ECI services (Dinnebeil et al., 1999), of these, communication skills has often been commonly highlighted in the literature (Moran et al., 2007; Nijhuis et al., 2007; O'Neil et al., 2008; Sloper, 2004). Professionals communicating with families should avoid jargon, speak plainly, and use language that is understood by the family (Blu-Banning et al., 2004; Carpenter, 1997).

Additionally, open communication between team members is essential for successful team collaboration as it encourages equal contributing from all team members (Hunt, Soto, Maier, Muller, & Goetz, 2002). When members feel equally valued, they are able to introduce topics freely, share information, and share their ideas, even if they appear to conflict with team norms (Briggs, 1997; Cohen, 2008). When diverse ideas are shared, the unique contributions of team

members can be identified (Buljac-Samardzic et al., 2011; Choi & Pak, 2007). Moreover, when open communication prevails, members are able to challenge long-held views, practices, and methods (Briggs, 1997; Cohen, 2008). In these circumstances, open communication will allow for conflict management and obtaining feedback (Briggs, 1997; Buljac-Samardzic et al., 2011; Choi & Pak, 2007; Peterander, 2003).

When there is open communication, families and professionals regard each other with esteem, and they demonstrate that esteem through actions and communication (Blu-Banning et al., 2004; Briggs, 1997). Central to these actions and communication is respect for each other. Professional respect for families is expressed through valuing the child and parent, being non-judgemental, being courteous, and exercising non-discrimination (Blu-Banning et al., 2004; Espe-Sherwindt, 2008). Importantly, when there is mutual respect, the family and professionals feel mutually valued (Carpenter, 1997; Woods et al., 2011).

Researchers agree that developing respect among team members is vital for group cohesion (Keen, 2007; Mickan & Rodger, 2005). Professionals and parents collaborating in teams should have a desire to remain on the team and should feel a sense of togetherness and belonging (Bateman, Wilson, & Bingham, 2002). In this regard, there is a sense of purpose which is shared amongst them; commitment to the team task and the maintenance of the team (Bateman et al., 2002; Doyle, 2008; Hoegl & Gemuenden, 2001; Nijhuis et al., 2007). Importantly, shared purpose implies shared goals, which should be monitored on an on-going basis (Bateman et al., 2002; Nijhuis et al., 2007). For successful team collaboration, these goals must be clearly defined and made explicit in order for team members to maximize their expertise (Briggs, 1997; Choi & Pak, 2007).

The critical importance of shared goals was highlighted in a study conducted in rural Zambia (Yeboah-Antwi et al., 2013). Shared goals were essential for successful team collaboration in this resource-limited country. In addition to shared goals, the authors contend that the success of collaboration in this setting was highly dependent on support from the organization. Researchers concur, and have recognized that organizational variables have the potential to influence team collaboration in ECI services (Dinnebeil et al., 1999; Yang et al., 2013).

2.4.3. *Organizational variables*

Organizations hiring professionals to work in ECI teams require that they have appropriate training, strong clinical skills, and experience with collaboration in order to provide quality services for children and families (Briggs, 1997; Eva, 2002; Wong et al., 2012). Researchers assert that professional expertise should include the ability to apply systems thinking (Briggs, 1997), a willingness to share information, and a willingness to subordinate personal interests and goals that may be incompatible with collaboration (Batorowicz & Shepherd, 2008). Importantly, professionals should be able to work with families, including those living in poverty (Corr, Santos, & Fowler, 2016), and appreciate the unique contributions of the family member on the team (Briggs, 1997; Eva, 2002).

The literature on personnel competencies in ECI has highlighted the need for pre-service and in-service training in collaboration (Bruder, Mogro-Wilson, Stayton, & Dietrich, 2009; Malone & Straka, 2005; Rapport, McWilliam, & Smith, 2004; Sandall, Hemmeter, Smith, & McLean, 2005). Studies have found that professional training of physiotherapists, occupational therapists and speech-language therapists inadequately prepares them to collaborate effectively on ECI teams (Bruder & Dunst, 2005; Campbell, Chiarello, Wilcox, & Milbourne, 2009; Fordham, Gibson, & Bowes, 2011). Similarly, in South Africa, the multidisciplinary model of collaboration is common practice due to professional training in the medical model approach (Uys & Samuels, 2010). Transdisciplinary teaming is thus limited due to the lack of training in the approach (Berman, Miller, Rosen, & Bicchieri, 2000). Curriculums at academic institutions have highlighted the concept of collaboration at a theoretical level for several years; however, only recently have students started gaining practical experience with interprofessional approaches (Waggie & Laatoe, 2014), including transdisciplinary collaboration.

Training in the transdisciplinary approach is especially valuable in developing countries where highly specialized professionals required for ECI are scarce (Khouzam, Chenouda, & Naguib, 2003; Rosetti, 2001). Within these contexts, team members develop a single intervention plan, and are able to share and transfer skills across disciplinary boundaries thus making better use of time and human resources (Bornman & Uys, 2005; Samuels et al., 2012; Swanepoel et al., 2007).

In addressing the lack of training in the transdisciplinary approach in South Africa, a web based two-year Master's degree in Early Childhood Intervention (MECI) course at the University of Pretoria was introduced in the year 2001 (Alant, 2002). More than 300 professionals working in the field of ECI, including speech-language therapists, audiologists, dieticians, physiotherapists, occupational therapists, social workers, educational psychologists, nurses, paediatricians and educators have thereby been trained in this approach to service delivery for children and families (Samuels et al., 2012).

Whilst the MECI course is making inroads in training professionals in a transdisciplinary approach, very few professionals are being similarly trained in South Africa, especially considering the number of professionals working in the health field. Statistics show that 14,935 professionals from, for example, three disciplines (Speech-Language Therapy and Audiology, Occupational Therapy, and Physiotherapy) are registered for 2016 (HPCSA, 2016). Since approximately 300 professionals have been trained, this remains a minute number in the greater spectrum, especially if all disciplines are to be considered. Hence, more professionals need to be trained in the transdisciplinary approach, and in this regard organizational support is required (Alant, 2002).

Research has shown that professionals require adequate support and resources to enable them to collaborate in teams (Batorowicz & Shepherd, 2008; Malone & McPherson, 2004; Nash, 2008; Penn, 2007; Ramklass, 2009). Such support from the organization is fundamental and includes access to time and opportunities for continuous professional development, as well as access to human and financial resources (Barnes et al., 2008; Bose & Hinojosa, 2008; Coovadia et al., 2009; Briggs, 1997; Mickan & Rodger, 2005). Pillay (2009) argues that this support is critical in public health institutions in South Africa where human and financial resources are gravely lacking. Financial resources enable team members to acquire equipment and materials (Briggs, 1997), as well as hire the professionals who are crucial to a team's success. Hence, many teams spend time advocating for increases in these resources (Briggs, 1997).

ECI services in South Africa are challenged with limited resources (Ebersöhn & Eloff, 2002; Popich et al., 2006). Regrettably, many children requiring services for their development are unable to access primary healthcare services. This is largely due to a lack of professionals

providing specialized care to young children and their families at this level of service delivery (Samuels et al., 2012). Additionally, children requiring specialized education needs continue to remain within the healthcare system, because their needs cannot be met by educational facilities, a situation compounded by the lack of collaboration between health and education (Samuels et al., 2012). These challenges could be partly attributed to the lack of a common framework or policy for ECI (Samuels et al., 2012; Saloojee et al., 2006).

Several countries have passed laws that support the provision of ECI services for all eligible children, e.g. USA, Portugal and Turkey (Odom & Kaul, 2003). In the United States, the IDEA, specifically Part C of IDEA, focusses on providing universal and comprehensive services for young children with disabilities (Dunst & Bruder, 2006). Through this legislation, centre-based programmes, such as Head Start were introduced, providing comprehensive services from different disciplines to young children with disabilities, between the ages of zero and three years (Shonkoff & Meisels, 2000).

Similarly, Portugal and Turkey are amongst the few European countries that have specific legislation on ECI for children between the ages of birth and six years (Diken et al., 2012; Pinto et al., 2012). Although legislation for ECI in Portugal and Turkey exists and services are provided, it has been acknowledged that there is a need to improve the current services in terms of quality, scope and standards. The need to establish a common conceptual framework for family- centered and transdisciplinary practices has also been highlighted (Diken et al., 2012; Pinto et al., 2012).

On the other hand, South Africa is one of the countries that does not have a specific ECI policy that guides the collaborative roles and responsibilities of ECI practitioners. However, since the advent of democracy, South Africa has pledged its commitment to put children first and provide more equitable services for vulnerable children. This was evident through South Africa's ratification of the UN Convention on the Rights of the Child in 1995, the African Charter on the Rights and Welfare of the Child in 2000, and the UN Convention on the Rights of Persons with Disability in 2007.

Since 1994, South Africa has seen a steady increase in policies which require a responsive, integrated approach to ECI. The White Paper 6 on Special Needs Education (Department of

Education, 2001) and the draft national ECD Policy (Department of Social Development, 2015), acknowledge the need for early childhood development programmes. However, these policies have been criticised for lack of integration and inadequate implementation (UNICEF, 2012). The influence of significant factors, such as a budget for staff and other resources, had not been foreseen (Uys, 2009). Furthermore, the policies lack specificity with regards to the roles and responsibilities of professionals in ECI, and moreover do not address ECI adequately (Samuels et al., 2012).

Despite policies not addressing ECI adequately, there are ECI services that can be accessed in South Africa (Eloff, Maree, & Ebersöhn, 2006; Samuels et al., 2012). These services can be accessed within the private sector, where multidisciplinary teams are used (McKenzie & Müller, 2006) rather than a transdisciplinary collaboration model. The primary reason for this relates to the medical aid funding models which do not allow for billing using transdisciplinary models of collaboration. Thus, private medical aid funders seem to prefer multidisciplinary team work, with each professional working in their own area of expertise in isolation and billing in isolation for time spent with the family. Hence, collaborative services using transdisciplinary models would make billing for various professionals difficult.

Outside of the private sector, the remaining 68% of the population depend entirely on the public health sector (Rowe & Moodley, 2013), and thus have limited access to ECI services. Whilst ECI services using a collaborative approach can be accessed in South Africa, Samuels et al. (2012) argue that monitoring and evaluation of these services is still required.

2.5. Evaluating collaboration in ECI

In the literature, several studies have evaluated families' and/ or professionals' perceptions of collaboration, including family- centered practices in ECI services (Blu-Banning et al., 2004; Crais, Roy, & Free, 2006; Dinnebeil et al., 1996; Hanna & Rodger, 2002; Foster et al., 2010; Lea, 2006; Yang et al., 2013). Various factors and variables influencing collaboration in ECI services (discussed in Section 2.4) have been identified in these studies, revealing varied findings for professionals and families. Hence, approaching family and professional perceptions on collaboration is essential for validating research findings (Ziviani et al., 2013) and improving services (McNaughton, 1994).

2.5.1. *Family and professional perceptions of collaboration*

Whilst recommended practices on collaboration in ECI services have been developed and validated through the consensus of experts (Sandall et al., 2005), limited information exists on professionals' beliefs in adopting these practices (Brook, Sawyer, & Campbell, 2009). Such information is critical, since professionals' beliefs have been identified as a potential influence of whether they adopt these practices (Kucukarslan, Lai, Dong, Al-Bassam, & Kim, 2011; McWilliam, 1999). Scholars have argued that, in some instances, professionals have expressed beliefs that align with recommended practices (King, Law, King, & Rosenbaum, 1998; McWilliam, 2000), yet that they do not necessarily conduct their day-to-day practices in a manner that reflects those beliefs (Dinnebeil et al., 1996; McWilliam, 2000; Youngwerth & Twaddle, 2011).

Similar to professionals, a family's beliefs have the potential to influence their perception of family-centered practices (Law et al., 2003). Importantly, families should be provided with information on family-centered practices, what it means, and what they should expect from the service (Law et al., 2003). In the Lea (2006) study, six adolescent mothers and their professionals were interviewed to identify their perceptions on the effectiveness of collaboration in the ECI team. Interestingly, the findings revealed that whilst the professionals and adolescent mothers acknowledged the importance of respect, empathy, trust, and equitable distribution of power; these responses were not evident in their interactions. Moreover, contrary to family-centered practices, the adolescent mothers perceived professionals as being disrespectful, not considering the mother's concerns to be significant, pre-judging the mothers based on their age, and lacking in empathy. Subsequently, the mothers displayed a lack of trust in the professionals.

In another study on the perceptions of families and professionals on ideal and actual family-centered practices in ECI services, Crais et al. (2006) interviewed 58 family members and 134 professionals, finding differing results to the Lea (2006) study. Crais et al. (2006) identified no significant differences between professionals and families on ideal and actual family-centered practices. Essentially, both the families and professionals were in agreement. Families were generally satisfied that professionals were making positive comments about the child, explaining and summarizing assessment results to the parent, and identifying the next steps for the family and professionals.

Similar to the Crais et al. (2006) study, subsequent literature has reported on family satisfaction with collaboration in ECI services (Corter, Patel, Pelletier, & Bertrand, 2008; Moore, 2008). The studies reflect that families were satisfied when they experienced easy access to services, access to accurate information in a timely manner, prompt referral to the required intervention (King et al., 1996; Ziviani, Feeney, & Khan, 2011), and prompt recognition of developmental concerns (Corter et al., 2008; Moran et al., 2007; Moore, 2008).

Families have also expressed dissatisfaction with collaboration in ECI services as revealed in the James and Chard (2010) study. In this study, families were dissatisfied when there was lack of support at critical times, as well as a lack of information and continuity of care. Interestingly, families recognized that their expertise, knowledge, and support were identified as valuable resources for other families, professionals, and the organization; however, these strengths were not effectively utilized by the team. Additionally, families reported that they were able to collaborate with individual professionals, but experienced difficulties collaborating at a team level (James & Chard, 2010). Such findings are in conflict with the ideologies of family-centered practices (Blu-Banning et al., 2004; Espe-Sherwindt, 2008).

Thus, the literature presents varied findings with respect to professional and parent perceptions on collaboration in ECI services (Crais et al., 2006; Lea, 2006). Guralnick (2008) posits that the variance in findings could be partly attributed to the different ECI contexts. On the other hand, Dinnebeil and Rule (1994) have argued that congruency in professional and family perceptions on collaboration could rather be related to the methodology employed in the studies. Congruency in professional and family perception can be assessed when both participants observe and rate the same behaviour in the same context using the same instrument (Dinnebeil & Rule, 1994).

Thus, there remains a gap in our understanding on how teams collaborate (Clarke, 2010; Zwarenstein et al., 2009). Importantly, knowledge on team members' understanding of collaboration, perceptions of family-centered practices, as well as their perceptions on the factors influencing collaboration, is essential. This is reflected in the limited number of studies focussing on the perspectives of professionals and families (Ziviani et al., 2013).

Similarly, South Africa presents with a paucity of research on team collaboration in general, along with almost non-existent information related to team collaboration in ECI services. Such information is fundamental, especially in its capacity to add to the body of literature on professional and family perceptions on collaboration in ECI services (King & Meyer, 2006) from a resource-limited setting (Ebersöhn & Eloff, 2002; Popich et al., 2006) with linguistic and cultural diversity, as well as a historical legacy. Therefore, the purpose of this study is to determine professionals' and caregivers' perceptions on team collaboration in ECI services in South Africa.

2.6. Summary

This chapter offered a critical review of the literature on collaboration in ECI services in relation to the South African context. First, collaboration in ECI within South Africa was contextualized and a historical perspective was provided. Thereafter, collaboration was defined according to the concepts identified by D'Amour et al. (2005). Subsequently, a literature search on the various models of collaboration in ECI was presented and models that are practised in South Africa were highlighted. A literature search was conducted to identify the factors influencing collaboration in ECI services, and these were delineated in terms of family- centered, interpersonal, and organizational variables. Finally, the importance of evaluating the professional and family perceptions of collaboration was highlighted.

CHAPTER 3

METHODOLOGY

3.1. Introduction

This chapter describes the research methodology used in this study. The aims and sub-aims of the study are presented, followed by the research design and phases. Thereafter, a systematic search to identify a measure for collaboration in ECI is described. The identification and selection for this study of the Yang et al. (2013) questionnaire for service providers (CECI-P) and Yang (2010) questionnaire for parents/caregivers (CECI-C) is then justified. The adaptation of these questionnaires for this study is described in Chapter 4. Subsequently, the participant selection criteria, recruitment and sampling, as well as a description of the participants are presented. This is followed by a description of the materials, equipment, and personnel involved in the study. The pilot study is presented in terms of its aims, results and recommendations; followed by the main study, which is described in terms of general procedures, data collection and data analysis procedures, as well as procedural and data reliability measures.

3.2. Research aims

The main aim of the study was to describe and compare professionals' and caregivers' perceptions of collaboration within ECI teams in South Africa.

3.2.1. *Sub-aims*

The following sub-aims delineate the main aim:

- i. To identify an appropriate questionnaire for collaboration in ECI teams.
- ii. To adapt the identified professional (Yang et al., 2013) and parent/caregiver (Yang, 2010) questionnaires, using Malmgreen's (2005) five-step procedure, for the South African context.
- iii. To translate the adapted parent/caregiver questionnaire into Setswana, using the translation procedure described by Peña (2007).
- iv. To describe and compare professionals' and caregivers' perceptions of collaboration within ECI teams in terms of the domains of the questionnaires. These include i) understanding of

collaboration, ii) advantages of collaboration, iii) difficulties with collaboration, iv) factors influencing collaborative relationships, and v) the outcomes of collaboration.

3.3. Research design

The research design proposed for this study was a descriptive comparative survey design (Fink, 2003; McMillan & Schumacher, 2006). The descriptive comparative survey design was selected for this study to describe professionals' and caregivers' perceptions on collaboration within ECI teams (Fink, 2003; McMillan & Schumacher, 2006). This design was also used to compare and examine differences between professional and caregiver perceptions on collaboration (McMillan & Schumacher, 2006). A survey approach is an economical and feasible way to obtain information from a large sample of participants (Stopher, 2012). Furthermore, a survey is often used to collect information on people's experiences on an event or activity (Fink, 2003), such as collaboration within ECI teams.

The survey was conducted using a self-administered survey questionnaire for professionals, and a group-administered questionnaire for caregivers. The survey questionnaires were hand-delivered to professionals in ECI teams, and the professionals were allowed to complete the survey questionnaire at their leisure. The caregiver survey questionnaire was administered in a group by a trained research assistant who is proficient in Setswana. The assistant read each question in the questionnaire, while the caregivers recorded their responses independently on their own copies of the questionnaire. This approach was chosen because it eliminates bias against caregivers who have varied levels of literacy and may have had difficulty with written questionnaires (Kumar, 2005; McMillan & Schumacher, 2006). Minimising bias around literacy is particularly important in the South African context since, the illiteracy rate for individuals 20 years and older (i.e. those who have had no schooling or who did not complete Grade 7) is 15.8% (Statistics South Africa, 2015). In addition, administering the caregiver questionnaires in a group enabled the completed questionnaires to be collected immediately, thereby resulting in a high return rate.

However, a survey does present some challenges which have implications for the current study. Administering a survey can be time consuming (Stopher, 2012) and bias may be introduced in the form of nonresponse or by participants providing favourable responses in order to be viewed in a positive light (McMillan & Schumacher, 2006; Stopher, 2012).

3.4. Research phases

The study comprised three phases. Phase 1 began with the identification of appropriate measuring instruments; followed by Phase 2, the material development phase, recruitment of participants and the pilot study; and Phase 3, the data collection and analysis phase. These phases are illustrated in Figure 3.1.

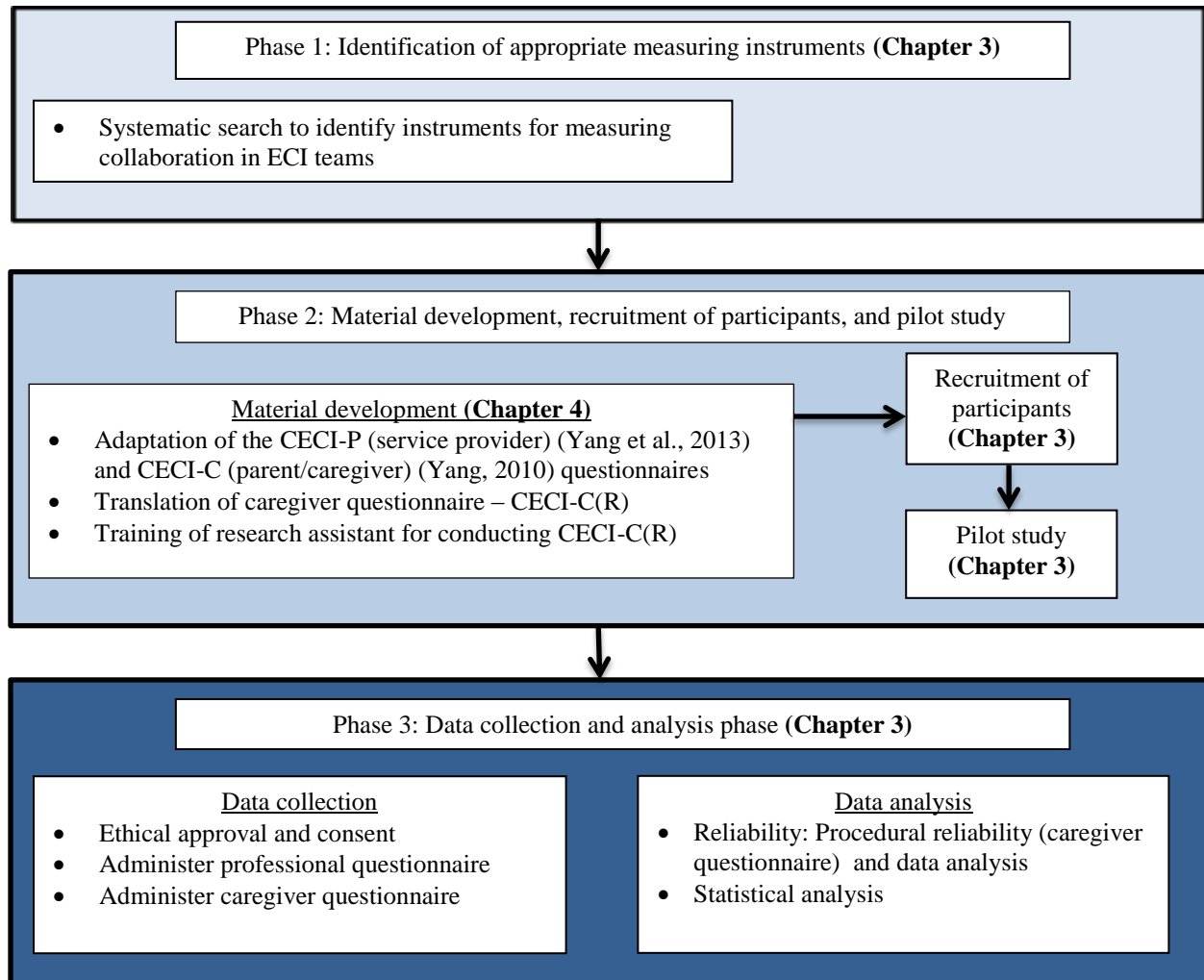


Figure 3.1 Overview of the phases of the study.

3.5. Systematic search to identify instruments measuring collaboration in ECI teams

A scoping search revealed that a systematic review on survey instruments for measuring teamwork in healthcare settings exists (Valentine, Nembhard, & Edmondson, 2015). Valentine et al. (2015) review articles published before September 2012, using the ISI Web of Knowledge database. The following keywords were used in their search: team or teamwork or collaboration

and survey or scale or measure or questionnaire. They identified 39 surveys that measured teamwork, of which 11 were psychometrically valid. The most common factors assessed in the surveys were communication, coordination, and respect. However, the surveys Valentine et al. (2015) identify are not specifically related to the field of ECI but rather to general healthcare settings.

A further search for articles was done to determine if recent instruments on team collaboration related to the field of ECI were available. The Academic Search Complete electronic database and search engine Ebscohost were used. Incorporating the search terms from the review published by Valentine et al. (2015), the following keywords and Boolean operators were used: collab* and scale or measure or instrument or questionnaire and early childhood or early intervention and health. The descriptors were limited to studies in the past ten years, between 2004 and 2014. Inclusion criteria were peer-reviewed journals and full-text articles published in English. Articles that were selected were related to collaboration in early childhood with a specific focus on measures, scales or instruments. Articles that did not consider collaboration between professionals as well as family members were excluded. In addition, studies that discussed collaboration theoretically or qualitatively were excluded. The search was conducted based on the structure provided by the PRISMA Systematic Review process (Moher et al., 2009). The process followed for the literature search is illustrated in Figure 3.2.

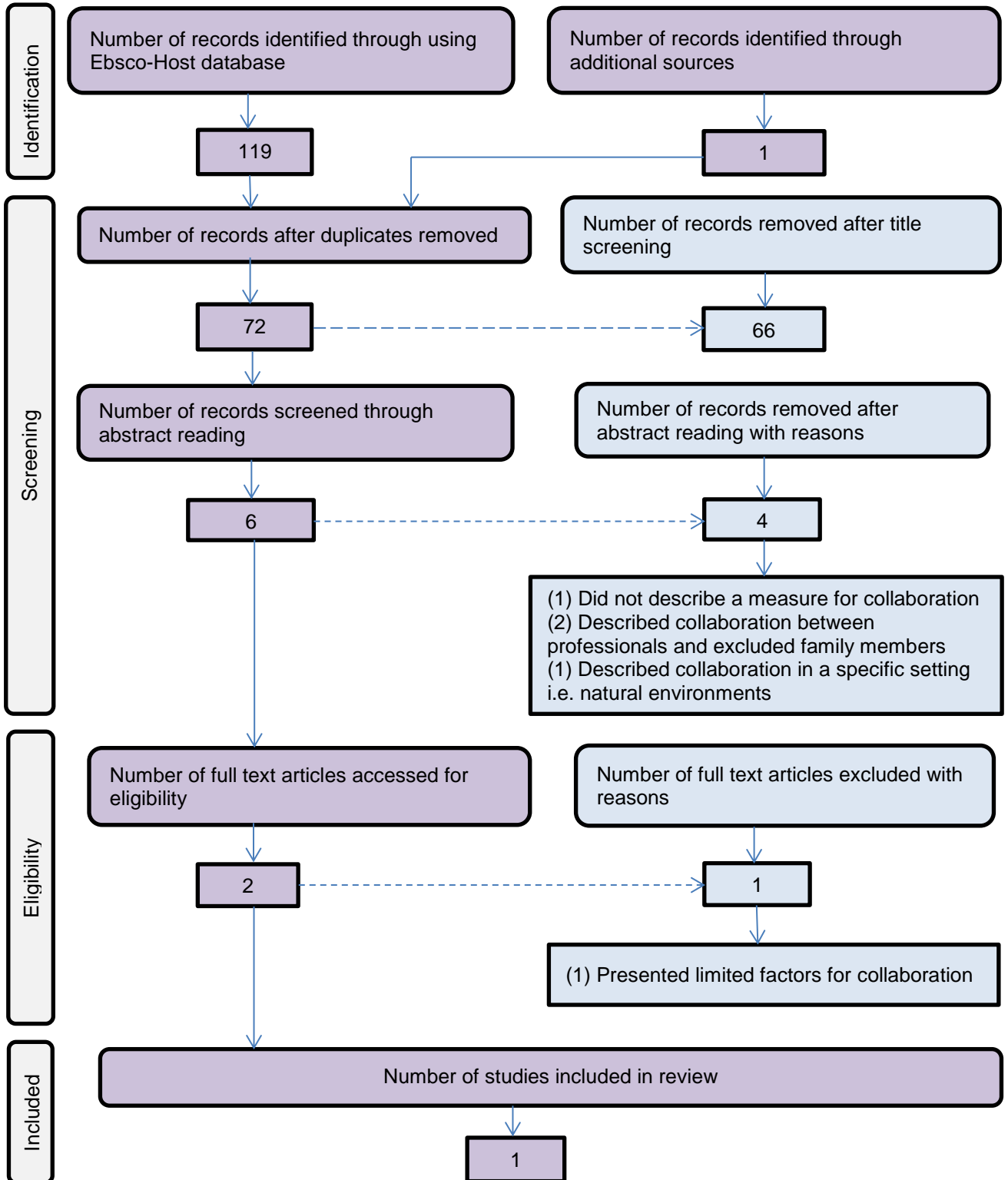


Figure 3.2 Flow diagram depicting the process of identifying measuring instruments for collaboration in ECI.

The literature search identified 119 papers, to which was added one paper that was hand searched. After duplicates were removed, 72 papers remained. The titles of the papers were screened, after which 66 papers that were not related to collaboration in ECI were excluded. The abstracts of the remaining six papers were then screened. Four papers were excluded for the following reasons: one paper did not describe a measure for collaboration, two papers described collaboration between professionals and excluded family members, and one paper described collaboration in a specific setting, that is, natural environments.

The remaining two papers were read in their entirety. One paper was excluded as it focussed on limited factors (e.g. trust, sharing of resources, professional expertise) for collaboration. The Yang et al. (2013) study was selected because it discusses various factors for collaboration in ECI services. The study describes a survey questionnaire, the Collaborative Practice in Early Childhood Intervention Service Provider (CECI-P), which was used to assess service providers' perceptions of collaboration in ECI services in Australia. In the study, Yang et al. (2013) suggested that investigating parent perspectives on collaboration would be focussed on in future research. The corresponding author was contacted (this is described in Section 4.2.1) and subsequently provided the researcher with the service provider (CECI-P) and parent/caregiver (CECI-C) survey questionnaires. The CECI-P contains seven domains and 99 items, while the CECI-C contains six domains and 86 items. Fifty-four items were common in both questionnaires. The domains and number of items in the CECI-P (Yang et al., 2013) and CECI-C (Yang, 2010) are described in Table 3.1. In addition to these items, each domain had one open-ended question, for the exception to this being the Understanding of collaboration (Domain 1) and Self-assessment on Collaboration (Domain 2).

Table 3.1
Number of items in each domain of CECI-P and CECI-C

Domains	CECI-P (Yang et al., 2013)	CECI-C (Yang, 2010)
	No of items	No of items
Domain 1: Understanding of collaboration	10	12
Domain 2: Self-assessment on collaboration	10	-
Domain 3: Advantages of collaboration	12	10
Domain 4: Difficulties with collaboration	11	10
Domain 5: Factors influencing collaborative relationships		
• Structural factors	10	10
• Interpersonal factors	21	19

Domains	CECI-P (Yang et al., 2013)	CECI-C (Yang, 2010)
	No of items	No of items
Domain 6: Outcomes of collaboration		
• Satisfaction with collaboration	4	5
• Outcomes of collaboration	9	8
• Effectiveness of collaboration	2	2
Domain 7: Suggestions for better collaboration	10	10

The Collaboration in ECI Professional Revised (CECI-P[R]) and Collaboration in ECI Caregiver Revised (CECI-C[R]) for the current study were adapted from the Yang et al. (2013) service provider (CECI-P) and Yang (2010) parent/caregiver (CECI-C) questionnaires. The Yang et al. (2013) and Yang (2010) questionnaires were used to identify service providers' and parents' perceptions of collaboration respectively, across agencies providing early intervention services for children with intellectual disabilities. These questionnaires were based on the measure developed by Dinnebeil et al. (1999), literature, and feedback from service providers (Yang et al., 2013).

The CECI-P(R) and CECI-C(R) for the current study were used to identify professionals' and caregivers' perceptions of collaboration in hospital and clinic-based settings where ECI services for young children are provided in South Africa. Therefore, the Yang et al. (2013) and Yang (2010) questionnaires had to be adapted to be relevant to these contexts. The process of developing and adapting the materials, including the translation of materials is described in Chapter 4.

3.6. Participants

3.6.1. Participant selection criteria

The selection criteria for professionals and caregivers are presented in Table 3.2.

Table 3.2
Participant selection criteria

Criteria	Justification	Measure
<i>Professional:</i>		
a) A minimum of six months of experience in their current ECI team.	Experience is essential for successful collaboration (Allen et al., 1997). For this study, participants with a minimum of six months experience were used due to the common practise of professionals rotating between services. Studies on collaboration have generally included participants with between one and two years of experience in ECI teams (Yang et al., 2013; Ziviani et al., 2013).	Obtained from the biographical information.
b) Providing intervention to children	ECI services are provided to children between 0-6 years (Shonkoff & Meisels, 2000). Furthermore, in South Africa, free	Obtained from the service information.

Criteria	Justification	Measure
from 0-6 years in a hospital/clinic based setting.	healthcare services including ECI are provided to children between 0-6 years (National Health Act, 2003). These services are accessed in a hospital or clinic-based setting.	
c) Using a team approach in ECI.	The focus of this study is on collaboration in team-based services, which is a fundamental principle when providing intervention for young children (Paul & Roth, 2011; Peterander, 2003).	Obtained from the service information.
d) Literate in English.	The questionnaire should be presented in a language that is understood by participants (Stopher, 2012). Therefore, it was imperative for professionals to be able to read and understand the questions in the CECI-P(R), which was presented in English.	Obtained from the biographical information.
Caregiver:		
a) Has a child between 0-6 years attending ECI services.	The focus of this study is on young children (0-6 years) receiving ECI services. As stated earlier, ECI services are generally directed at children between 0-6 years (Shonkoff & Meisels, 2000).	Obtained from the biographical information.
b) Should be attending services for a minimum period of six months.	Including caregivers' attendance of ECI services with their child for a minimum of six months increases the reliability of the data obtained, as these caregivers would have had a greater opportunity to collaborate with professionals in a team.	Obtained from the biographical information.
c) Home language Setswana or read and understand Setswana.	Setswana is a predominant African language spoken in Pretoria, South Africa (Statistics South Africa, 2012). Thus, many caregivers accessing ECI services in public institutions in Pretoria are Setswana-speaking or read and understand Setswana. The CECI-C(R) was translated into Setswana and read by a research assistant who is competent in Setswana. Therefore, it was important for caregivers to be able to read and understand Setswana.	Self-report from caregivers. Confirmed with the biographical information.

3.6.2. *Recruitment of participants and sampling*

After approval for the study was obtained from the relevant authorities (ethics committee, Gauteng Department of Health, hospitals and clinics), research sites and participants were selected using non-probability purposive sampling methods. The capital city of South Africa, Pretoria, was selected because various ECI services are offered there. Furthermore, the Gauteng Province (in which Pretoria is based) has the largest number of children with disabilities in comparison to the other provinces in South Africa (Statistics South Africa, 2015). Public hospitals and clinics were selected as research sites, because the majority of people in South Africa access health services in these settings (Statistics South Africa, 2015).

Using the Gauteng Provincial Health Rehabilitation Services Resource List (2015), all hospitals and clinics located in Pretoria were contacted telephonically, i.e. seven hospitals and eight clinics ($n = 15$), to confirm that they provided services to children (0-6 years) using a team approach. Of these, six clinics and seven hospitals provided these services. Permission was then

requested from these hospitals and clinics ($n = 13$). Three hospitals and three clinics were excluded as permission letters were not returned.

Hence, four hospitals and three clinics ($n = 7$ sites) provided permission to participate in the study. A coordinator was selected from each site. The coordinator was required to i) assist with the distribution of consent letters and survey packs to professionals providing team services to children (0-6 years), as well as ii) identify potential caregivers based on the selection criteria, outlined in Table 3.2. The professional consent letters and survey pack, consisting of the Biographical Information questionnaire, Service Information questionnaire, and CECI-P(R), were hand-delivered to the coordinator to be distributed to the professionals working in ECI teams who had met the selection criteria. Thirty-nine survey packs were distributed. A total of 34 professionals consented to participate in the study and completed the questionnaire.

Concurrent to the selection of professional participants, the coordinators also provided the researcher with a list of caregivers ($n = 75$) who were currently attending their ECI services on specific appointment dates. Eleven caregivers did not arrive for ECI services on their appointment date. Hence, 64 caregivers who met the selection criteria (Table 3.2) were identified at the site and were provided with consent letters in Setswana. The caregiver survey pack consisted of the Biographical Information questionnaire, Service Information questionnaire, and CECI-C(R). All 64 caregivers consented to participate in the study and completed the caregiver questionnaire independently while the research assistant, competent in Setswana, read each item in the questionnaire.

The children of the caregivers were receiving ECI services from the professionals who participated in the study. The professionals did not have knowledge of which caregivers participated in the study.

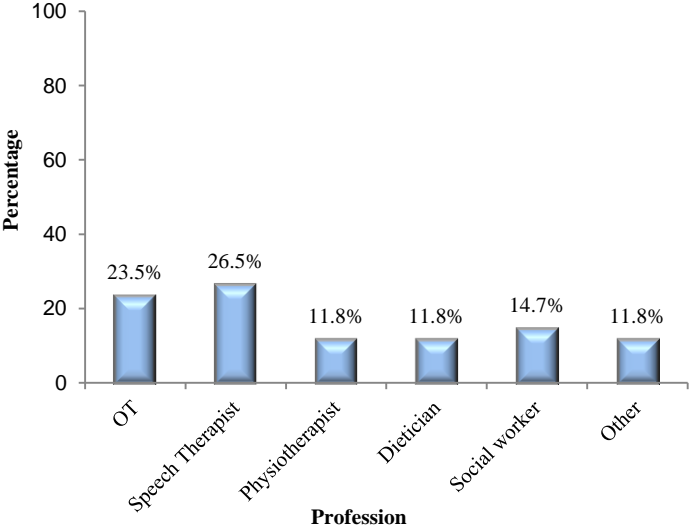
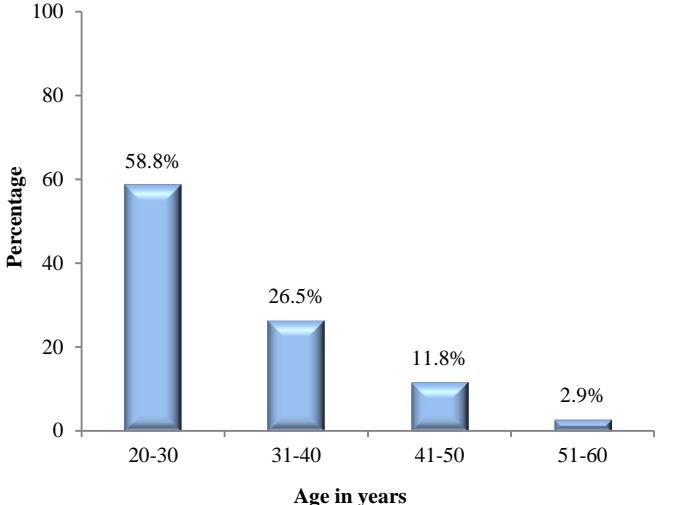
3.6.3. *Description of participants*

This section presents the descriptive information of the professional and caregiver participants in the study.

3.6.3.1. Descriptive information of professionals

The 34 professionals are described in terms of their profession, age, educational qualifications, home language, language proficiency, number of years of experience in providing ECI services and their training in ECI. Service information was also obtained from the professional participants in terms of frequency of team intervention, composition of team, and nature of collaboration. The descriptive information for the professionals is presented in Table 3.3 and Table 3.4 below.

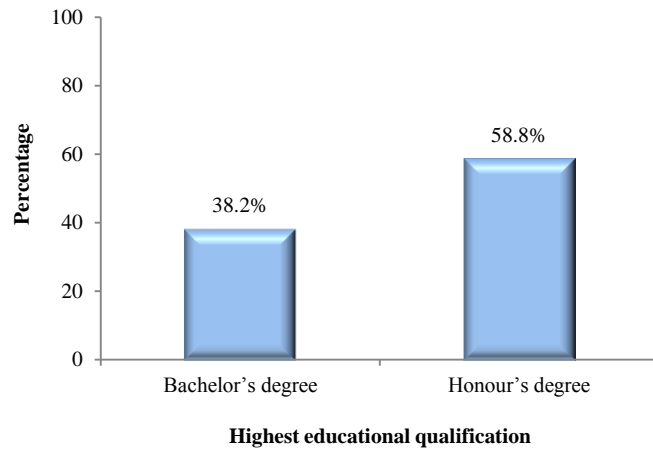
Table 3.3
Descriptive information of professionals

Description	Results														
<p>Profession (n=34)</p> <p>With respect to profession, 23.5% (8) were occupational therapists (OT), 26.5% (9) were speech-language therapists, 11.8% (4) were physiotherapists, 11.8% (4) were dieticians, 14.7% (5) were social workers, and 11.8% (4) constituted the ‘Other’ category.</p> <p>The ‘Other’ category included podiatrists (2), a dually qualified speech-language therapist and audiologist (1), and an audiologist (1).</p>	 <table border="1"> <caption>Profession Distribution Data</caption> <thead> <tr> <th>Profession</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>OT</td> <td>23.5%</td> </tr> <tr> <td>Speech Therapist</td> <td>26.5%</td> </tr> <tr> <td>Physiotherapist</td> <td>11.8%</td> </tr> <tr> <td>Dietician</td> <td>11.8%</td> </tr> <tr> <td>Social worker</td> <td>14.7%</td> </tr> <tr> <td>Other</td> <td>11.8%</td> </tr> </tbody> </table>	Profession	Percentage	OT	23.5%	Speech Therapist	26.5%	Physiotherapist	11.8%	Dietician	11.8%	Social worker	14.7%	Other	11.8%
Profession	Percentage														
OT	23.5%														
Speech Therapist	26.5%														
Physiotherapist	11.8%														
Dietician	11.8%														
Social worker	14.7%														
Other	11.8%														
<p>Age of professionals (n=34)</p> <p>Most of the professionals 58.8% (20) were in the 20-30 year age group, 26.5% (9) were between 31-40 years, 11.8% (4) were between 41-50 years, and 2.9% (1) was between 51-60 years.</p>	 <table border="1"> <caption>Age Distribution Data</caption> <thead> <tr> <th>Age in years</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>20-30</td> <td>58.8%</td> </tr> <tr> <td>31-40</td> <td>26.5%</td> </tr> <tr> <td>41-50</td> <td>11.8%</td> </tr> <tr> <td>51-60</td> <td>2.9%</td> </tr> </tbody> </table>	Age in years	Percentage	20-30	58.8%	31-40	26.5%	41-50	11.8%	51-60	2.9%				
Age in years	Percentage														
20-30	58.8%														
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Description	Results
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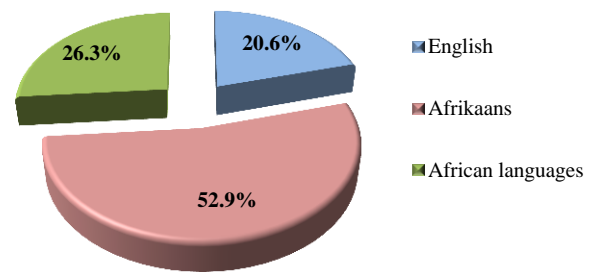
Highest educational qualifications (n=34)

The adjacent graph illustrates that 38.2% (13) of the professionals had a Bachelor's degree, while 58.8% (20) had an Honour's degree. None had obtained a Master's or PhD qualification.



Home language (n=34)

The pie chart illustrates that the home language of the majority, 52.9% (18) of the professionals was Afrikaans. Furthermore, 26.3% (9) reported that their home language was an African language, and 20.6% (7) of the professionals reported English as their home language.

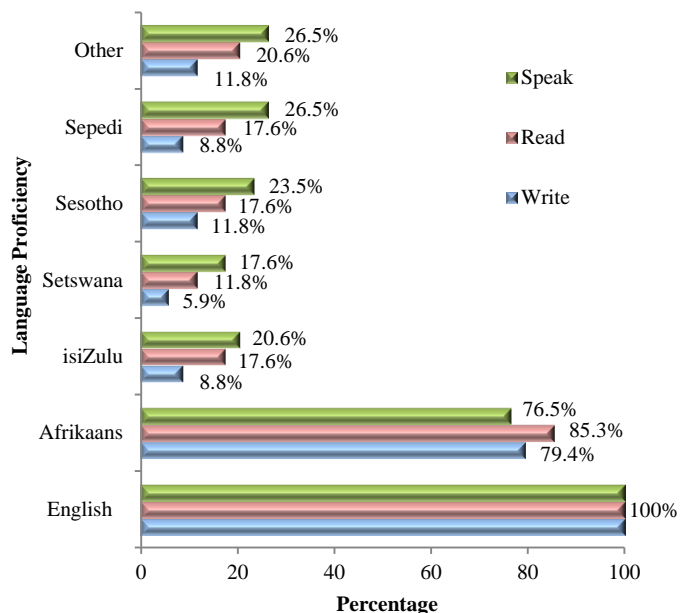


Language proficiency

All professionals, 100% (34) were able to speak, read, and write English.

In addition, 17.6% (6) could speak Setswana, 23.5% (8) Sesotho, and 26.5% (9) Sepedi, while 11.8% (4) could read Setswana, 17.6% (6) Sesotho, and 17.6% (6) Sepedi.

With respect to writing, 5.9% (2) could write in Setswana, 11.8% (4) in Sesotho, and 8.8% (3) in Sepedi.



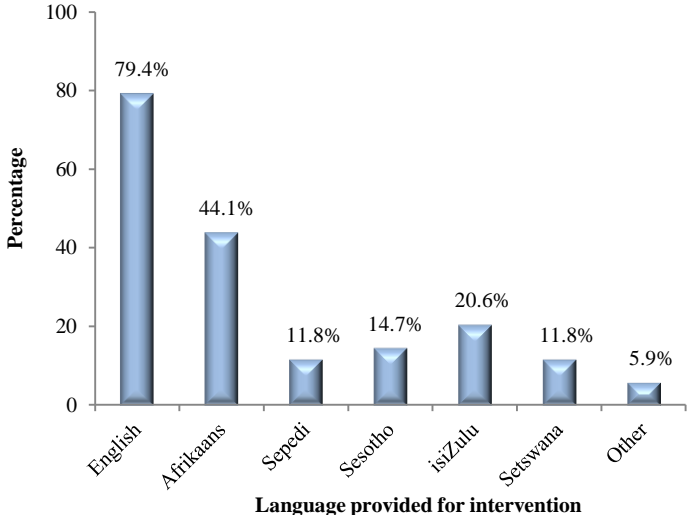
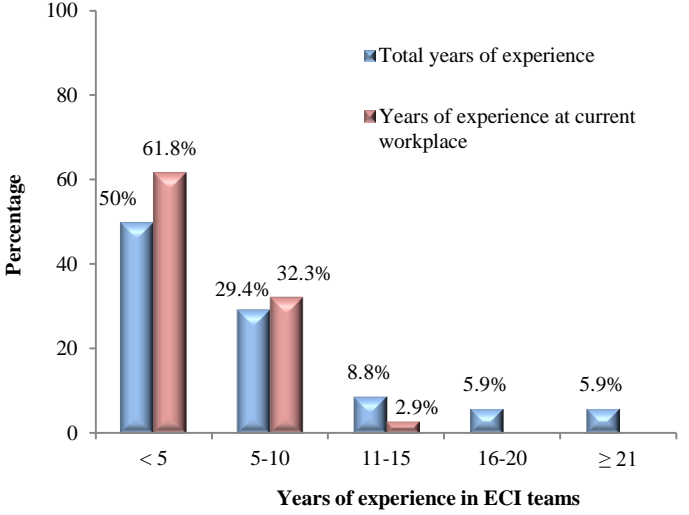
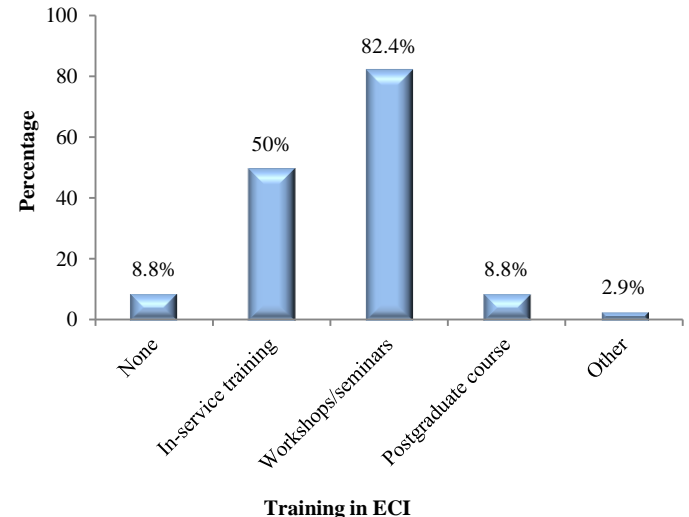
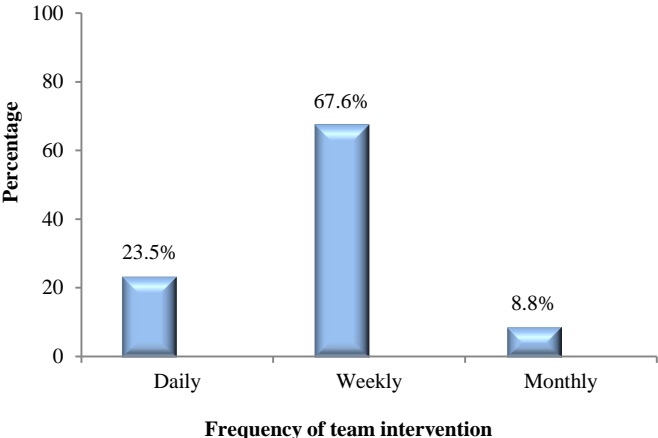
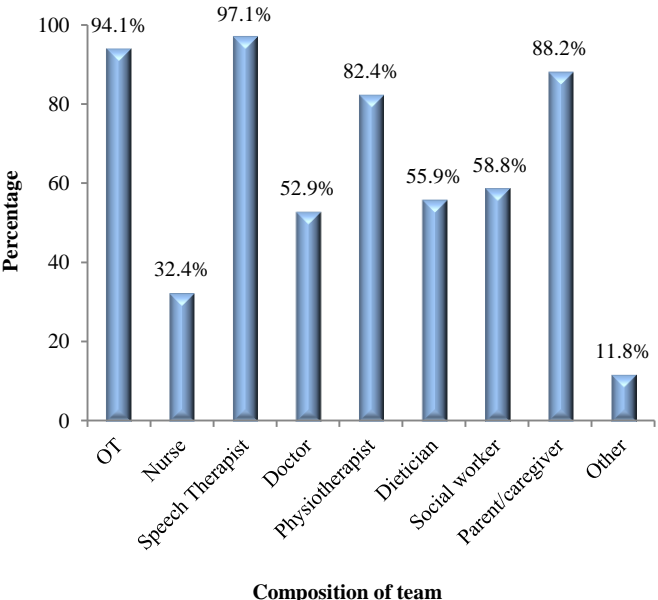
Description	Results																		
<p>Language provided for intervention (n=34)</p> <p>The majority, 79.4% (27), of the professionals provided intervention in English, 44.1% (15) in Afrikaans, 11.8% (4) in Sepedi, 14.7% (5) in Sesotho, 20.6% (7) in isiZulu, and 11.8% (4) in Setswana.</p> <p>Two professionals (5.9%) also provided intervention in other African languages, including Tshivenda and Xitsonga.</p>	 <table border="1" style="margin: auto;"> <caption>Language provided for intervention</caption> <thead> <tr> <th>Language</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>English</td> <td>79.4%</td> </tr> <tr> <td>Afrikaans</td> <td>44.1%</td> </tr> <tr> <td>Sepedi</td> <td>11.8%</td> </tr> <tr> <td>Sesotho</td> <td>14.7%</td> </tr> <tr> <td>isiZulu</td> <td>20.6%</td> </tr> <tr> <td>Setswana</td> <td>11.8%</td> </tr> <tr> <td>Other</td> <td>5.9%</td> </tr> </tbody> </table>	Language	Percentage	English	79.4%	Afrikaans	44.1%	Sepedi	11.8%	Sesotho	14.7%	isiZulu	20.6%	Setswana	11.8%	Other	5.9%		
Language	Percentage																		
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isiZulu	20.6%																		
Setswana	11.8%																		
Other	5.9%																		
<p>Years of experience in ECI teams (n=34)</p> <p>In terms of the total years of experience, 50% (17) of the professionals had less than 5 years of experience, 29.4% (10) had between 5-10 years of experience, 8.8% (3) had between 11-15 years of experience, 5.9% (2) had between 16-20 years of experience, and 5.9% (2) had 21 or more years of experience.</p> <p>Furthermore, 61.8% (21) reported working less than 5 years, 32.3% (11) reported working between 5-10 years, and 2.9% (1) reported working between 11-15 years at their current workplace.</p>	 <table border="1" style="margin: auto;"> <caption>Years of experience in ECI teams</caption> <thead> <tr> <th>Years of experience</th> <th>Total years of experience (%)</th> <th>Years of experience at current workplace (%)</th> </tr> </thead> <tbody> <tr> <td>< 5</td> <td>50%</td> <td>61.8%</td> </tr> <tr> <td>5-10</td> <td>29.4%</td> <td>32.3%</td> </tr> <tr> <td>11-15</td> <td>8.8%</td> <td>2.9%</td> </tr> <tr> <td>16-20</td> <td>5.9%</td> <td>0%</td> </tr> <tr> <td>≥ 21</td> <td>5.9%</td> <td>0%</td> </tr> </tbody> </table>	Years of experience	Total years of experience (%)	Years of experience at current workplace (%)	< 5	50%	61.8%	5-10	29.4%	32.3%	11-15	8.8%	2.9%	16-20	5.9%	0%	≥ 21	5.9%	0%
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16-20	5.9%	0%																	
≥ 21	5.9%	0%																	
<p>Training in ECI</p> <p>The adjacent graph illustrates that 8.8% (3) of the professionals did not receive any training in ECI, 50% (17) received in-service training, and 82.4% (28) attended workshops/seminars. In addition, 8.8% (3) reported attending a postgraduate course.</p> <p>Furthermore, 2.9% (1) of the professionals indicated training in the 'Other' category. The participant is currently involved in a Master's in ECI.</p>	 <table border="1" style="margin: auto;"> <caption>Training in ECI</caption> <thead> <tr> <th>Training Type</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>None</td> <td>8.8%</td> </tr> <tr> <td>In-service training</td> <td>50%</td> </tr> <tr> <td>Workshops/seminars</td> <td>82.4%</td> </tr> <tr> <td>Postgraduate course</td> <td>8.8%</td> </tr> <tr> <td>Other</td> <td>2.9%</td> </tr> </tbody> </table>	Training Type	Percentage	None	8.8%	In-service training	50%	Workshops/seminars	82.4%	Postgraduate course	8.8%	Other	2.9%						
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Table 3.3 shows that the majority of professionals have had less than five years of experience providing ECI services and are between 20-30 years of age. The majority of professionals are language proficient and provide intervention in English and Afrikaans; while fewer professionals are language proficient and provide intervention in African languages. Furthermore, the majority of the professionals received training in ECI in the form of workshops/seminars and in-service training.

Table 3.4
Service information from professionals

Description	Results																				
Frequency of team intervention	 <table border="1"> <caption>Frequency of team intervention</caption> <thead> <tr> <th>Frequency</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Daily</td> <td>23.5%</td> </tr> <tr> <td>Weekly</td> <td>67.6%</td> </tr> <tr> <td>Monthly</td> <td>8.8%</td> </tr> </tbody> </table>	Frequency	Percentage	Daily	23.5%	Weekly	67.6%	Monthly	8.8%												
Frequency	Percentage																				
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<p>The majority, 67.6% (23) of the professionals provided ECI on a weekly basis, followed by 23.5% (8) on a daily basis, and 8.8% (3) on a monthly basis.</p>																					
Composition of the team	 <table border="1"> <caption>Composition of team</caption> <thead> <tr> <th>Profession</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>OT</td> <td>94.1%</td> </tr> <tr> <td>Nurse</td> <td>32.4%</td> </tr> <tr> <td>Speech Therapist</td> <td>97.1%</td> </tr> <tr> <td>Doctor</td> <td>52.9%</td> </tr> <tr> <td>Physiotherapist</td> <td>82.4%</td> </tr> <tr> <td>Dietician</td> <td>55.9%</td> </tr> <tr> <td>Social worker</td> <td>58.8%</td> </tr> <tr> <td>Parent/caregiver</td> <td>88.2%</td> </tr> <tr> <td>Other</td> <td>11.8%</td> </tr> </tbody> </table>	Profession	Percentage	OT	94.1%	Nurse	32.4%	Speech Therapist	97.1%	Doctor	52.9%	Physiotherapist	82.4%	Dietician	55.9%	Social worker	58.8%	Parent/caregiver	88.2%	Other	11.8%
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Social worker	58.8%																				
Parent/caregiver	88.2%																				
Other	11.8%																				
<p>Professionals reported that their team members comprised 97.1% (33) speech-language therapists, 94.1% (32) occupational therapists, 88.2% (30) parents, 58.8% (20) social workers, 55.9% (19) dieticians, 52.9% (18) doctors, and 32.4% (11) nurses.</p>																					
<p>Furthermore, 11.8% (4) of the team members constituted the 'Other' category (non-permanent team members), which included a podiatrist, audiologist, dietician, and social worker.</p>																					

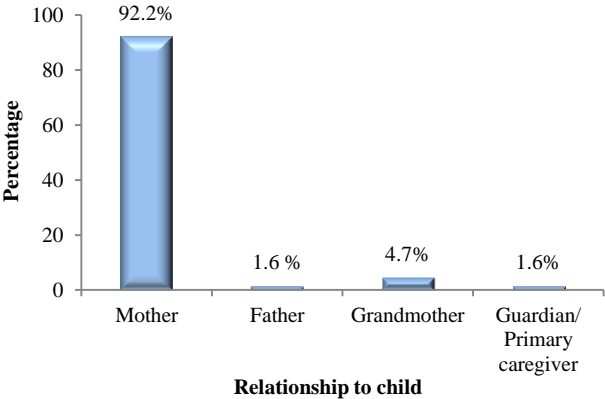
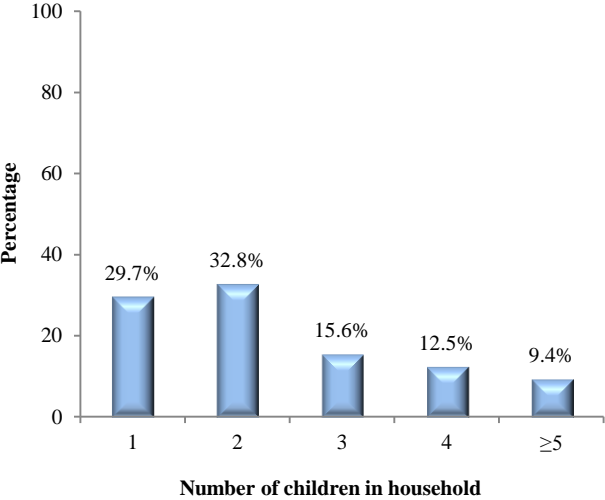
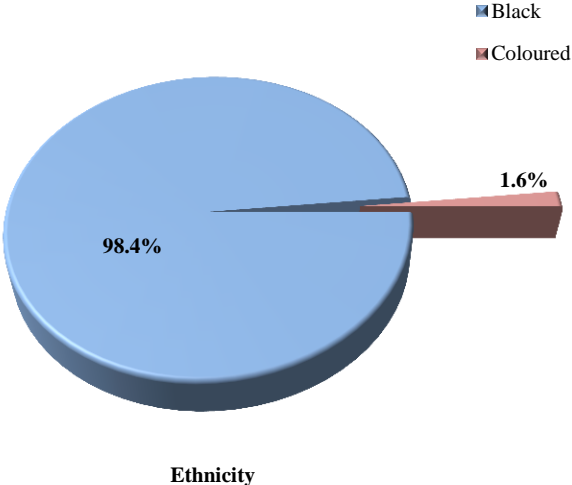
Description	Results																
<p>Nature of collaboration</p> <p>When professionals were asked whether they worked independently with separate intervention plans (IP), 11.8% (4) reported 'yes', 61.8% (21) reported 'sometimes', while 26.8% (9) reported 'no'.</p> <p>When professionals were asked whether they worked independently with a joint IP, 58.8% (20) reported 'yes', 35.3% (12) reported 'sometimes', while 5.9% (2) reported 'no'.</p> <p>When professionals were asked whether they worked together with a joint IP, 35.3% (12) reported 'yes', 55.9% (19) reported 'sometimes', while 8.8% (3) reported 'no'.</p>	<table border="1"> <caption>Data for Figure 3.4: Nature of collaboration</caption> <thead> <tr> <th>Nature of collaboration</th> <th>Yes (%)</th> <th>No (%)</th> <th>Sometimes (%)</th> </tr> </thead> <tbody> <tr> <td>Working independently with separate IP</td> <td>11.8%</td> <td>26.8%</td> <td>61.8%</td> </tr> <tr> <td>Working independently with joint IP</td> <td>58.8%</td> <td>5.9%</td> <td>35.3%</td> </tr> <tr> <td>Working together and joint IP</td> <td>35.3%</td> <td>8.8%</td> <td>55.9%</td> </tr> </tbody> </table>	Nature of collaboration	Yes (%)	No (%)	Sometimes (%)	Working independently with separate IP	11.8%	26.8%	61.8%	Working independently with joint IP	58.8%	5.9%	35.3%	Working together and joint IP	35.3%	8.8%	55.9%
Nature of collaboration	Yes (%)	No (%)	Sometimes (%)														
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Working independently with joint IP	58.8%	5.9%	35.3%														
Working together and joint IP	35.3%	8.8%	55.9%														

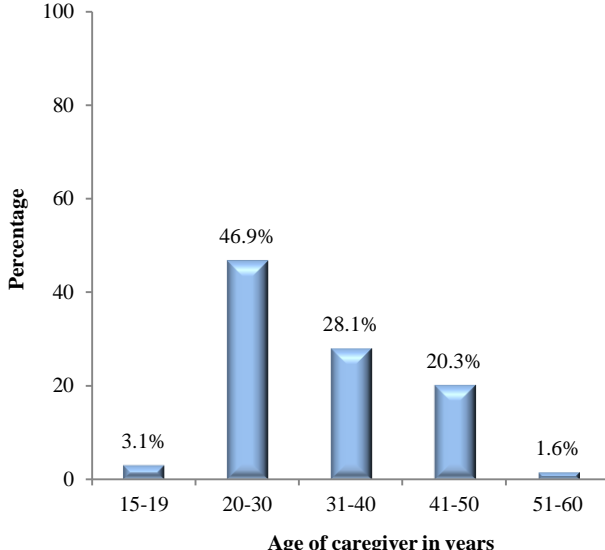
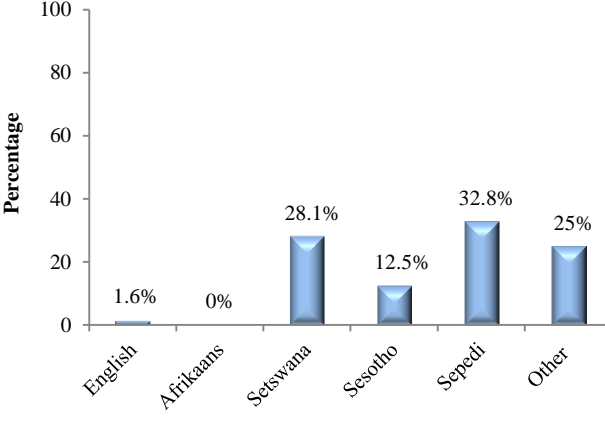
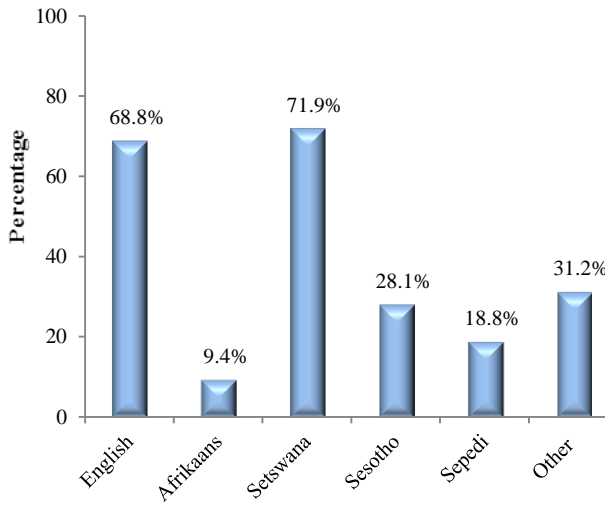
Table 3.4 shows the diversity of professionals involved in services for young children. The majority of these professionals provide ECI on a weekly basis including the parent as an integral member of the team. In addition, the majority of professionals work independently with joint intervention plans (IP)'s, followed by working together with joint IP. Fewer professionals work independently with separate IP.

3.6.3.2. Descriptive information of caregivers

The 64 caregivers are described in terms of their relationship to the child, number of children in the household, ethnicity, age, home language, marital status, educational level/qualifications and employment status. Furthermore, information on the child and services were obtained from the caregiver participants with respect to age of child, gender, disability/medical condition, and length of intervention. Table 3.5 and Table 3.6 illustrate the descriptive information of caregivers that participated in this study.

Table 3.5
Descriptive information of caregivers

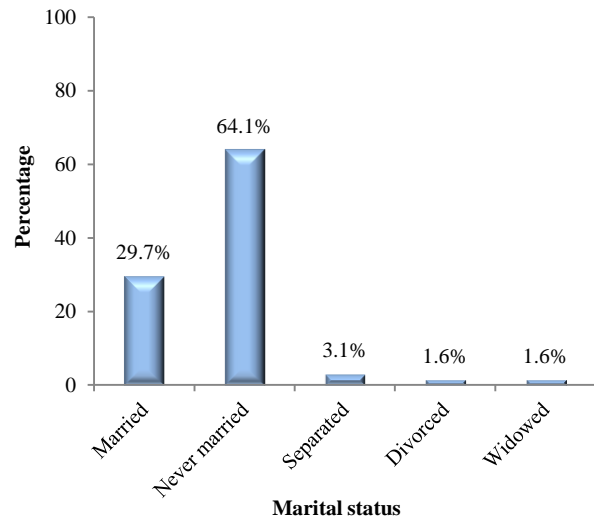
Description	Results												
<p>Caregiver relationship to child (n=64)</p> <p>Of the total number of caregivers, 92.2% (59) were mothers, followed by 4.7% (3) who were grandmothers, 1.6% (1) a father, and 1.6% (1) a guardian/primary caregiver.</p>	 <table border="1"> <caption>Caregiver relationship to child</caption> <thead> <tr> <th>Relationship to child</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Mother</td> <td>92.2%</td> </tr> <tr> <td>Father</td> <td>1.6%</td> </tr> <tr> <td>Grandmother</td> <td>4.7%</td> </tr> <tr> <td>Guardian/Primary caregiver</td> <td>1.6%</td> </tr> </tbody> </table>	Relationship to child	Percentage	Mother	92.2%	Father	1.6%	Grandmother	4.7%	Guardian/Primary caregiver	1.6%		
Relationship to child	Percentage												
Mother	92.2%												
Father	1.6%												
Grandmother	4.7%												
Guardian/Primary caregiver	1.6%												
<p>Number of children in the household</p> <p>Most caregivers, 32.8% (21) had two children in the household, 29.7% (19) had one child, 15.6% (10) had three children, and 12.5% (8) had four children. The remaining 9.4% (6) had five or more children living in the household.</p>	 <table border="1"> <caption>Number of children in household</caption> <thead> <tr> <th>Number of children in household</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>29.7%</td> </tr> <tr> <td>2</td> <td>32.8%</td> </tr> <tr> <td>3</td> <td>15.6%</td> </tr> <tr> <td>4</td> <td>12.5%</td> </tr> <tr> <td>≥5</td> <td>9.4%</td> </tr> </tbody> </table>	Number of children in household	Percentage	1	29.7%	2	32.8%	3	15.6%	4	12.5%	≥5	9.4%
Number of children in household	Percentage												
1	29.7%												
2	32.8%												
3	15.6%												
4	12.5%												
≥5	9.4%												
<p>Ethnic background (n=64)</p> <p>In terms of ethnicity, 98.4% (63) were Black, and 1.6% (1) was Coloured.</p>	 <table border="1"> <caption>Ethnicity</caption> <thead> <tr> <th>Ethnicity</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Black</td> <td>98.4%</td> </tr> <tr> <td>Coloured</td> <td>1.6%</td> </tr> </tbody> </table>	Ethnicity	Percentage	Black	98.4%	Coloured	1.6%						
Ethnicity	Percentage												
Black	98.4%												
Coloured	1.6%												

Description	Results														
<p>Age of caregiver (<i>n</i>=64)</p> <p>Of the total number of caregivers, 3.1% (2) were between 15-19 years of age, 46.9% (30) were between 20-30 years of age, 28.1% (18) were between 31-40 years of age, 20.3% (13) were between 41-50 years of age, and 1.6% (1) was between 51-60 years of age.</p>	 <table border="1" style="margin-left: auto; margin-right: auto;"> <caption>Age of caregiver in years</caption> <thead> <tr> <th>Age Group</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>15-19</td> <td>3.1%</td> </tr> <tr> <td>20-30</td> <td>46.9%</td> </tr> <tr> <td>31-40</td> <td>28.1%</td> </tr> <tr> <td>41-50</td> <td>20.3%</td> </tr> <tr> <td>51-60</td> <td>1.6%</td> </tr> </tbody> </table>	Age Group	Percentage	15-19	3.1%	20-30	46.9%	31-40	28.1%	41-50	20.3%	51-60	1.6%		
Age Group	Percentage														
15-19	3.1%														
20-30	46.9%														
31-40	28.1%														
41-50	20.3%														
51-60	1.6%														
<p>Home language of caregivers</p> <p>The home language of the majority of caregivers, 32.8% (21) was Sepedi, followed by 28.1% (18) Setswana, 12.5% (8) Sesotho, and 1.6% (1) English. The remaining 25% (16) of the caregivers spoke other African languages including isiZulu (4), isiXhosa (1), Xitsonga (7), Tshivenda (1), and isiNdebele (3).</p>	 <table border="1" style="margin-left: auto; margin-right: auto;"> <caption>Home language of caregivers</caption> <thead> <tr> <th>Language</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>English</td> <td>1.6%</td> </tr> <tr> <td>Afrikaans</td> <td>0%</td> </tr> <tr> <td>Setswana</td> <td>28.1%</td> </tr> <tr> <td>Sesotho</td> <td>12.5%</td> </tr> <tr> <td>Sepedi</td> <td>32.8%</td> </tr> <tr> <td>Other</td> <td>25%</td> </tr> </tbody> </table>	Language	Percentage	English	1.6%	Afrikaans	0%	Setswana	28.1%	Sesotho	12.5%	Sepedi	32.8%	Other	25%
Language	Percentage														
English	1.6%														
Afrikaans	0%														
Setswana	28.1%														
Sesotho	12.5%														
Sepedi	32.8%														
Other	25%														
<p>Caregiver competency in reading and understanding languages other than their home language</p> <p>With respect to caregiver competency in reading and understanding other languages, 71.9% (46) could read and understand Setswana, 68.8% (44) could read and understand English, 28.1% (18) could read and understand Sesotho, 18.8% (12) could read and understand Sepedi, 9.4% (6) could read and understand Afrikaans, and 31.2% (20) could read and understand other African languages including isiZulu (13), isiXhosa (2), Xitsonga (1), Tshivenda (1), Siswati (1), and isiNdebele (2).</p>	 <table border="1" style="margin-left: auto; margin-right: auto;"> <caption>Caregiver competency in other languages</caption> <thead> <tr> <th>Language</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>English</td> <td>68.8%</td> </tr> <tr> <td>Afrikaans</td> <td>9.4%</td> </tr> <tr> <td>Setswana</td> <td>71.9%</td> </tr> <tr> <td>Sesotho</td> <td>28.1%</td> </tr> <tr> <td>Sepedi</td> <td>18.8%</td> </tr> <tr> <td>Other</td> <td>31.2%</td> </tr> </tbody> </table>	Language	Percentage	English	68.8%	Afrikaans	9.4%	Setswana	71.9%	Sesotho	28.1%	Sepedi	18.8%	Other	31.2%
Language	Percentage														
English	68.8%														
Afrikaans	9.4%														
Setswana	71.9%														
Sesotho	28.1%														
Sepedi	18.8%														
Other	31.2%														

Description	Results
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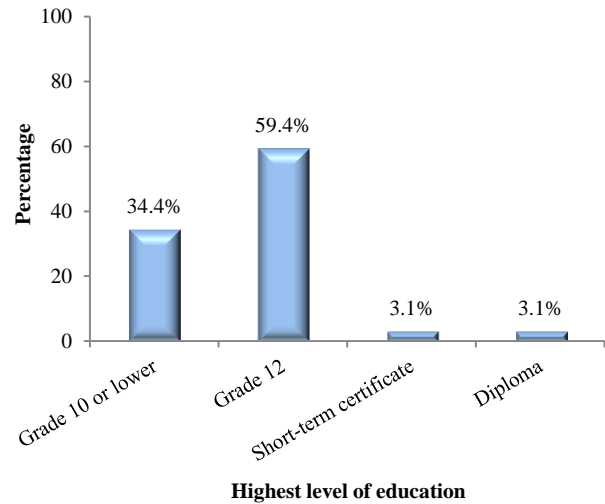
Marital status (*n*=64)

From the total number of caregivers, the majority, 64.1% (41), were never married, 29.7% (19) were married, 3.1% (2) were separated, 1.6% (1) was divorced, and 1.6% (1) was widowed.



Highest level of education (*n*=64)

Of the caregivers, 59.4% (38) had obtained Grade 12, 34.4% (22) had obtained Grade 10 or lower, 3.1% (2) obtained a short-term certificate, and 3.1% (2) obtained a Diploma.



Employment status (*n*=64)

In terms of employment status, of the majority of parents, 64.1% (41) were unemployed, while 21.9% (14) worked part-time or as casual workers, and 14.1% (9) worked full-time.

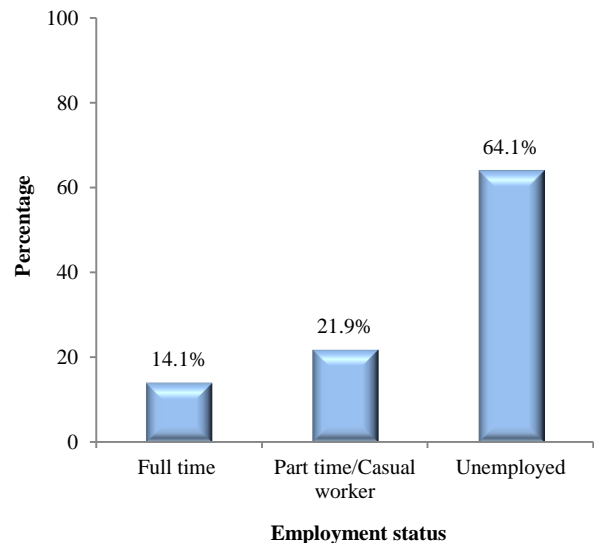


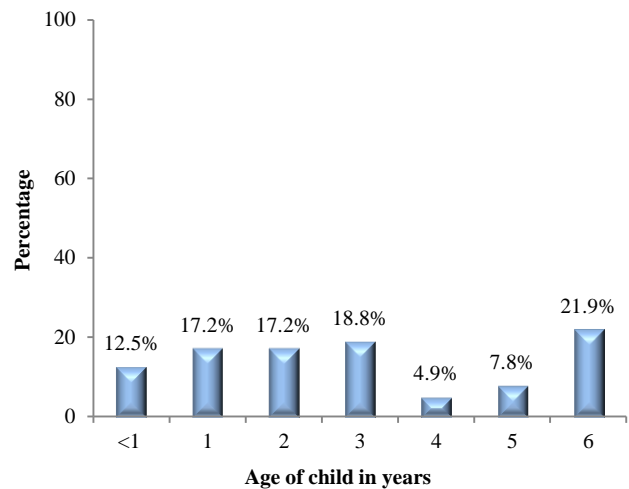
Table 3.5 illustrates that the majority of caregivers were mothers, with a Black ethnic background, had completed Grade 12, and were between 20-30 years of age. Between one and seven children lived in a household. The home language of all the caregivers was an African language, except for one caregiver whose home language was English. Specifically, 28.1% (18) of the caregivers reported that their home language was Setswana, while 71.9% (46) could read and understand Setswana. About two-thirds of the caregivers were single and unemployed.

Table 3.6
Information about child and services from caregiver

Description	Results
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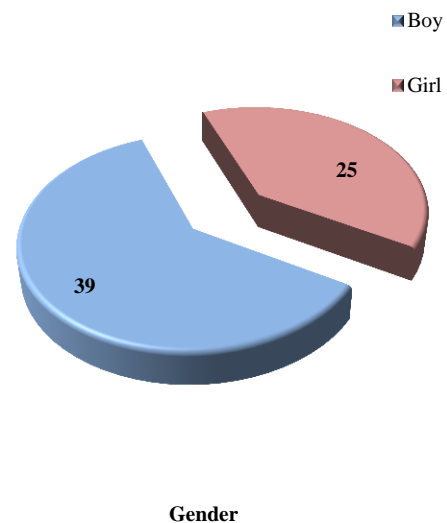
Age of child

Of the total number of children attending ECI services, 12.5% (8) were less than 1 year old, 17.2% (11) were one-year olds, 17.2% (11) were two-year olds, 18.8% (12) were three-year olds, 4.9% (3) were four-year olds, 7.8% (5) were five-year olds, and 21.9% (14) were six-year olds.



Gender of child receiving services (n=64)

The pie chart shows that 60.9% (39) of children receiving ECI services were boys, and 39.1% (25) were girls.



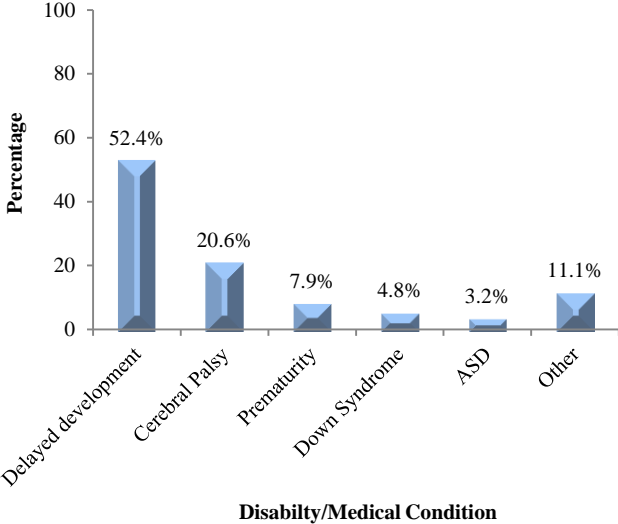
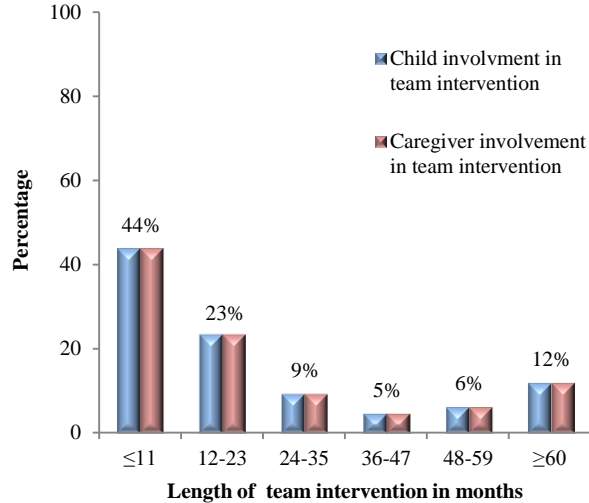
Description	Results																					
<p>Disability or medical condition of child (n=63)</p> <p>In terms of disability or medical condition, 52.4% (33) of the children receiving services presented with delayed development, 20.6% (13) with Cerebral Palsy, 7.9% (5) with prematurity, 4.8% (3) with Down Syndrome, 3.2% (2) with Autism spectrum disorder (ASD), and 11.1% (7) with other conditions including epilepsy and hydrocephalus.</p>	 <table border="1"> <caption>Disability or Medical Condition Data</caption> <thead> <tr> <th>Disability/Medical Condition</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Delayed development</td> <td>52.4%</td> </tr> <tr> <td>Cerebral Palsy</td> <td>20.6%</td> </tr> <tr> <td>Prematurity</td> <td>7.9%</td> </tr> <tr> <td>Down Syndrome</td> <td>4.8%</td> </tr> <tr> <td>ASD</td> <td>3.2%</td> </tr> <tr> <td>Other</td> <td>11.1%</td> </tr> </tbody> </table>	Disability/Medical Condition	Percentage	Delayed development	52.4%	Cerebral Palsy	20.6%	Prematurity	7.9%	Down Syndrome	4.8%	ASD	3.2%	Other	11.1%							
Disability/Medical Condition	Percentage																					
Delayed development	52.4%																					
Cerebral Palsy	20.6%																					
Prematurity	7.9%																					
Down Syndrome	4.8%																					
ASD	3.2%																					
Other	11.1%																					
<p>Length of team intervention for children and caregivers</p> <p>The majority of children and caregivers, 67% (43) were involved in team intervention for 23 months or less, 9% (6) between 24-35 months, 5% (3) between 36-47 months, 6% (4) between 48-59 months, and 12% (8) for 60 months or more.</p>	 <table border="1"> <caption>Length of team intervention in months Data</caption> <thead> <tr> <th>Length of team intervention in months</th> <th>Child involvement (%)</th> <th>Caregiver involvement (%)</th> </tr> </thead> <tbody> <tr> <td>≤11</td> <td>44%</td> <td>44%</td> </tr> <tr> <td>12-23</td> <td>23%</td> <td>23%</td> </tr> <tr> <td>24-35</td> <td>9%</td> <td>9%</td> </tr> <tr> <td>36-47</td> <td>5%</td> <td>5%</td> </tr> <tr> <td>48-59</td> <td>6%</td> <td>6%</td> </tr> <tr> <td>≥60</td> <td>12%</td> <td>12%</td> </tr> </tbody> </table>	Length of team intervention in months	Child involvement (%)	Caregiver involvement (%)	≤11	44%	44%	12-23	23%	23%	24-35	9%	9%	36-47	5%	5%	48-59	6%	6%	≥60	12%	12%
Length of team intervention in months	Child involvement (%)	Caregiver involvement (%)																				
≤11	44%	44%																				
12-23	23%	23%																				
24-35	9%	9%																				
36-47	5%	5%																				
48-59	6%	6%																				
≥60	12%	12%																				

Table 3.6 shows that most of the children were six years of age, were boys, and presented with delayed development. In addition, the majority of the caregivers and children were involved in team intervention with professionals for less than two years.

3.7. Materials, equipment, and personnel

3.7.1. *Materials*

The materials used in the main study included the survey pack, consent letters, permission letters and procedural script. The survey pack was presented in a booklet format. The survey pack for the professionals (Appendix C) and caregivers (Appendix D, Setswana [The English version is

provided as reference in this appendix]) comprised the following respectively: Biographical Information questionnaire (Appendix C & D, Section A), Service Information questionnaire (Appendix C & D, Section B), and CECI-P(R) (Appendix C, Section C) or CECI-C(R) (Appendix D, Section C) depending on the participant group. These are described in more detail below.

3.7.1.1. *Biographical Information questionnaire (Appendix C & D, Section A)*

Biographical Information questionnaires were developed for this study. The Biographical Information questionnaire for ECI professionals (Appendix C, Section A) collected data on the participant's profession, age, educational qualifications, home language, language proficiency, experience in providing intervention to young children, and training received. The caregiver Biographical Information questionnaire (Appendix D, Section A) collected data on the caregiver's relationship to the child, the number of children in the household, ethnicity, age, home language, language proficiency in reading and understanding, marital status, educational level/ qualifications and employment status.

3.7.1.2. *The Service Information questionnaire (Appendix C & D, Section B)*

Service Information questionnaires were developed for the purpose of this study. The Service Information questionnaire for professionals (Appendix C, Section B) collected data on the frequency of team intervention, the setting of intervention, the composition of the ECI team and the nature of collaboration. The caregiver Service Information questionnaire (Appendix D, Section B) was developed to obtain information on the child of the caregiver and the services received by the child. This questionnaire collected data on the age and gender of the child receiving ECI services, the disability or medical condition of the child, whether the child and caregiver were receiving team intervention, the length of intervention, and the length of caregiver involvement in the current team intervention.

3.7.1.3. *Collaboration in ECI Professional Revised- CECI-P(R) (Appendix C, Section C)*

The CECI-P(R) was used to describe professionals' perceptions of collaboration in ECI teams. The CECI-P(R) consists of six domains and 87 items, of which 83 are closed-ended statements and four are open-ended questions. The number of items for each domain is presented in Table 3.7. The response format for the CECI-P(R) is a five-point Likert scale, ranging from 'strongly disagree to strongly agree', 'extremely unimportant to extremely important', 'extremely

dissatisfied to extremely satisfied and *‘extremely effective to not at all effective’*. The CECI-P(R) was presented on A4 pages in the survey pack. The process of adapting the Yang et al. (2013) service provider questionnaire (CECI-P) to establish the CECI-P(R) for this study is discussed in Chapter 4.

3.7.1.4. Collaboration in ECI Caregiver Revised- CECI-C(R) (Appendix D, Section C)

The CECI-C(R) was used to describe caregivers’ perceptions of collaboration in ECI teams. The CECI-C(R) consists of five domains and 76 items of which 72 are closed-ended statements and four are open-ended questions. The number of items for each domain is presented in Table 3.7. The response format for the CECI-C(R) is a five-point and four-point Likert scale. The five-point Likert scale ranges from *‘strongly disagree to strongly agree’*, *‘extremely unimportant to extremely important’*, *‘extremely dissatisfied to extremely satisfied’* and *‘extremely effective to not at all effective’*. The ratings for the four-point Likert scale are *‘high, medium, low, none’*. The CECI-C(R) was presented on A4 pages in the survey pack. The process of adapting the Yang (2010) parent/caregiver questionnaire (CECI-C) to establish the CECI-C(R) for this study is discussed in Chapter 4.

Table 3.7
Domains and number of items in CECI-P(R) and CECI-C(R)

Domains	CECI-P(R)	CECI-C(R)
	No of items	No of items
Domain 1: Understanding of collaboration	9	11
Domain 2: Self-assessment on collaboration	10	-
Domain 3: Advantages of collaboration	12	10
Domain 4: Difficulties with collaboration	10	9
Domain 5: Factors influencing collaborative relationships		
• Organizational factors	9	9
• Interpersonal factors	20	19
Domain 6: Outcomes of collaboration		
• Satisfaction with collaboration	3	5
• Outcomes of collaboration	8	7
• Effectiveness of collaboration	2	2

3.7.1.5. Consent letters (Appendix E, F, G, H, I, J, & K)

Consent letters for professionals (Appendix E) and caregivers (Appendix F) were developed. The consent letters described the nature of the study, the confidentiality of the data, and that data would be stored for 15 years at the University of Pretoria. They also explained that

participation in the study was voluntary and that participants could withdraw from the study at any time without negative consequences. The letters also described what participation in the study would entail. The caregiver consent letter was translated into Setswana (Appendix G).

Consent letters were also developed for the professional and caregiver panel members for face (Appendix H & I) and content (Appendix J & K) validity (described in Chapter 4). The consent letters described the nature of the study, the confidentiality of the data, and that data would be stored for 15 years at the University of Pretoria. They explained that participation in the study was voluntary and that participants could withdraw from the study at any time without negative consequences. The letters also described what participation in the study would entail.

3.7.1.6. *Permission letters (Appendix L & M)*

Permission was obtained from the Gauteng Department of Health (Appendix L). Permission letters were developed to obtain permission from hospitals and clinics (Appendix M). The permission letter described the nature of the study, criteria for the selection of participants, and what would be expected of the site and participants if they participated in the study. The letter also explained that participation in the study was voluntary, that participants could withdraw from the study at any time, and that data would be confidential and stored for a period of 15 years at the University of Pretoria.

3.7.1.7. *Procedural script and checklist (Appendix N & O)*

A procedural script was developed (English version, Table 3.9 and Setswana version, Appendix N) to ensure consistency of procedures for data collection with the caregivers. The procedural script was used by a trained research assistant to collect data within the group setting. A procedural checklist (Appendix O) was developed to rate each component of the procedural script used by the research assistant to conduct the CECI-C(R).

3.7.2. **Equipment**

3.7.2.1. *Recording equipment*

A Bell professional digital voice recorder with high fidelity, low-noise recording and an enhanced voice-activated recording function was utilized. The voice recorder was used to record the data collection with the caregivers.

3.7.3. *Personnel*

3.7.3.1. *Coordinator*

A coordinator from each site was selected based on previous professional acquaintance with the researcher. Each person, who agreed to function as a coordinator, was a therapist working in the ECI team at the research site, and who therefore had access to the other ECI team members. The coordinator assisted with the identification of potential caregiver participants, as well as with the distribution and collection of survey packs from the ECI team members. A token of appreciation was given to the coordinators for their assistance.

3.7.3.2. *Research assistant*

The research assistant was a speech-language therapy assistant at a public hospital. She has nine years of experience working with caregivers and young children, translating information from English to Setswana and vice versa. She was trained by the researcher to conduct the CECI-C(R) (Setswana) in a structured manner within a group setting, as described in Section 4.5.2. She was remunerated for her assistance.

3.8. **Pilot study**

The aim of the pilot study was to determine the feasibility of the participant selection procedure, the reliability of the CECI-P(R) and CECI-C(R), and the reliability and feasibility of the data collection and analysis procedures planned for the study (Bowden, Fox-Rushby, Nyandieka, & Wanju, 2002). Table 3.8 outlines the objectives, materials/ measures, procedures, results and recommendations of the pilot study.

3.8.1. *Participants*

A pilot study was conducted with five professionals working within an ECI team and five caregivers of children receiving ECI services who met the selection criteria (Section 3.6.1).

The team of professionals consisted of an occupational therapist, speech-language therapist, dietician, physiotherapist, and social worker. All professionals were between 20 and 40 years of age. Four professionals held an Honour's equivalent Degree and one professional held a Bachelor's Degree in their respective fields. The home languages of the professionals included English, Afrikaans, Sesotho, and isiZulu. Professionals had between five and 20 years of

experience working with young children in a public health institution. They were employed at their current workplace for between one and 11 years. Professionals reported receiving training in ECI in the form of in-service training and workshops.

Five caregivers participated in the pilot study. Four were biological parents and one was the grandmother of a child attending ECI services. The caregivers reported there being between one to five children living in each household. The caregivers were between the ages of 20 and 50 years, with a home language of Setswana, Sepedi, or Sesotho. Four caregivers had not been previously married and one caregiver was married. Three caregivers obtained a Grade 12 qualification and two a Grade 10 or lower education. Three caregivers were unemployed; one was working full-time and one part-time employed.

The caregivers reported that the children receiving ECI services were between one and three years of age and had attended ECI for a minimum of six months and yet not more than six years.

3.8.2. *Summary of the results and recommendations from the pilot study*

A summary of the results and recommendations from the pilot study are presented in Table 3.8.

Table 3.8
Pilot study: Objectives, materials, procedure, results and recommendations

Objective	Materials/measure	Procedure	Results	Recommendations
1. To determine the feasibility of the participant selection procedure for: 1.1 Professionals 1.2 Caregivers	Selection criteria (Section 3.6.1).	The same participant selection procedure as for the main study was used (Section 3.6.1).		
		<p>Professionals: The coordinators were requested to identify team members working in ECI teams at their institution. They were then asked to provide the team member with a consent letter. Upon consent, they were required to distribute the questionnaires to the team members. Questionnaires were then collected by the researcher from the coordinators.</p> <p>Caregivers: The coordinator provided the researcher with a list of caregivers attending the ECI service on specific appointment dates. The caregivers who met the participant selection criteria were then identified at the site by the researcher.</p>	<p>Professionals: There were challenges with sourcing team members who had a minimum of one year experience at their current workplace.</p> <p>Caregivers: There were a limited number of caregivers with Setswana as their home language. Four caregivers reported that their home language was either Sepedi or Sesotho, but that they were able to understand and read Setswana.</p> <p>Data collection in group sessions was challenging due to caregivers arriving at different times.</p> <p>There were also challenges with sourcing caregivers of children attending services for a minimum of one year.</p>	<p>Professionals: The selection criteria should include professionals with a minimum of 6 months experience, instead of 1 year.</p> <p>Caregivers: The ability to read and understand Setswana should be added as a criterion for caregiver selection.</p> <p>Coordinator to inform caregivers on the time to arrive for services.</p> <p>The selection criteria should include caregivers of children attending services for a minimum of 6 months instead of 1 year.</p>

Objective	Materials/measure	Procedure	Results	Recommendations
2. To evaluate the clarity of the instructions and items in the measuring instruments i.e., 2.1 CECI-P(R) 2.2 CECI-C(R)	Evaluation criteria for questionnaires (Appendix P & Q).	The professional and caregiver were requested to fill in the evaluation form after completing the survey. They were asked to rate the clarity of the items in the questionnaires. Caregivers were assisted by a research assistant competent in Setswana to provide further clarification if required.	For both the CECI-P(R) and CECI-C(R), participants indicated that the items were clear, and that the language used in instructions and items was comprehensible. However, specific changes to the CECI-P(R) and CECI-C(R) were instituted based on the responses of the participants. These are outlined below for each questionnaire: CECI-P(R): For question 5, two professionals did not cross the language used for all components; that is, speaking reading, writing and language used in intervention CECI-C(R): Responses provided to Question 11 were not the anticipated responses. This may be due to the fact that the meaning of the question in Setswana was not the same as that of the English version.	The instruction for Question 5 should be revised to: “What language/s are you proficient in for each of these skills?” An additional question was added “What language do you provide intervention in?” Question 11 should be changed from “ <i>Bogole ba ngwana ke eng kgotsa o palelwa ke eng?</i> ” (What is the child’s disability or what can’t the child do?) to: “ <i>Bogole ba ngwana ke eng kgotsa o na le bolwetse bo bo feng?</i> ” (What is the child’s disability or what is the child’s medical condition?). No changes recommended.
3. To evaluate the presentation and layout of the measuring instruments i.e., 3.1 CECI-P(R) 3.2 CECI-C(R)	Evaluation criteria for questionnaires (Appendix P & Q).	The professional and caregiver were requested to fill in the evaluation form after completing the questionnaire. They were requested to rate the presentation and layout of the questionnaire. The caregiver was assisted by a research assistant competent in Setswana to provide further clarification if required.	Both the professionals and caregivers indicated that the respective questionnaires had a professional appearance in terms of layout and printing.	No changes recommended.
4. To evaluate the reliability of the procedural script for the CECI-C(R)	Digital tape recorder, script and checklist (Appendix O).	The procedural script used by the assistant was tape recorded. An inter-rater reliability check was conducted by two raters working with young	The procedural script was followed in the same manner for each group of participants. Two raters evaluated 30% of the tape recordings for procedural	No changes recommended.

Objective	Materials/measure	Procedure	Results	Recommendations
		children in a public institution. Both raters listened to 30% of the tape recordings and used the checklist to evaluate the procedural script for the CECI-C(R) in each recording.	integrity. There was 100% agreement between the raters on the procedure followed by the assistant.	
5. To determine the adequacy of the tape recordings in terms of the sound quality for the inter-rater reliability check	Digital tape recorder and recordings of the procedural script.	The raters listened to the tape recordings and used the checklist to evaluate the procedural script. The researcher enquired from the raters whether the sound quality of the recordings was adequate.	The raters were able to listen to the tape recordings and evaluate the procedural script. The raters reported that the sound quality was adequate.	No changes recommended.
6. To determine the feasibility of administering the CECI-C(R) within a group setting	CECI-C(R), procedural script and tape recordings.	The assistant used the procedural script to conduct the CECI-C(R) in Setswana within a group setting. Thereafter, the researcher observed the group session and tape recordings with the research assistant.	The researcher and research assistant agreed that administering the CECI-C(R) within a group setting was feasible.	No changes recommended.
7. To determine the intended analysis of the data	SPSS software.	All data was inserted into the SPSS software package. The data was analysed using descriptive parameters of frequency, means and percentages. In addition, inferential statistics including the Independent samples <i>t</i> -tests, Spearman correlations and Chi-square analysis, were conducted.	Descriptive parameters of frequency, means, and percentages were feasible as well as the Independent samples <i>t</i> -tests, Spearman correlations and Chi-square analysis.	No changes recommended.

The recommendations from the pilot study assisted with the recruitment of participants and improving the clarity of the questions and translations. These recommendations were implemented.

3.9. Main study

The main study is discussed in terms of data collection procedures, data analysis and statistical procedures, as well as reliability measures.

3.9.1. *Data collection procedures*

3.9.1.1. *General procedures*

Ethics approval was obtained from the Ethics Committee in the Faculty of Humanities at the University of Pretoria (Appendix R). Permission from the Gauteng Department of Health was obtained prior to the commencement of the study (Appendix L). Furthermore, permission from the hospitals and clinics was obtained prior to professional and caregiver involvement in the study (Appendix M). Thereafter, a consent letter was hand-delivered to the coordinator for distribution to the professionals that met the selection criteria (Appendix E). Potential caregivers at the ECI site were identified by the coordinator, based on the caregiver selection criteria. A consent letter was given to all selected caregivers on the day of data collection (Appendix F).

3.9.1.2. *Data collection procedures for professionals*

After the consent letters were received from the professionals, the researcher hand-delivered the survey packs to the coordinator. The coordinator then delivered them to the various ECI team members. Professionals were able to complete the survey pack at their leisure. The participants then placed their survey pack in the envelope provided and sealed it before returning it to the coordinator, ensuring confidentiality of information. Participants were required to return the survey pack to the coordinator a week later. The coordinator followed up daily with the professionals to ensure their progress with completing the survey pack. Of the 39 survey packs distributed, 34 professionals consented to participate in the study and completed and returned the survey pack, resulting in a return rate of 87%. The researcher then personally collected the completed questionnaires from the coordinator, one week after delivering them. The coordinator was provided with a token of appreciation for assistance with distribution and collection of

survey packs. The coordinator was also provided with thank you notes and tokens of appreciation which she distributed to the participants.

3.9.1.3. *Data collection procedures for caregivers*

After caregiver consent was received, a total of 31 group sessions were conducted at the hospital or clinic where caregivers attended ECI services; this was considered to be a convenient location for participating caregivers. The group sessions were held in a quiet area of the hospital or clinic, in a room that was allocated to the researcher. The caregivers were divided into groups, ranging between two to eight caregivers per group. The digital tape recorder was started once data collection commenced. The audio recordings were used to ensure procedural integrity of the data collected. Each caregiver was provided with a survey pack and a pen. The research assistant then administered the CECI-C(R), following the procedural script in Setswana (Appendix N). The English version of the procedural script, which also outlines the procedure undertaken for administering the CECI-C(R), is presented in Table 3.9.

The research assistant sat in front of the caregiver group. In order to minimize the Hawthorne effect (Maxwell & Satake, 2006; McMillan & Schumacher, 2006), the research assistant made it clear to participants that there were no correct or incorrect answers to the items in the survey, that their responses were confidential, that they would not be identified in any of the results, and that they could withdraw from the study with no negative consequences and that the services they receive would not be affected. The assistant then read out the introduction. Thereafter, the research assistant read out each question and allowed caregivers $\pm 5-10$ seconds to complete the question independently. The research assistant did provide alternative words in Setswana for caregivers who asked for clarification (Appendix S). In addition, if asked she repeated the question. Once the group session was completed, all questionnaires were collected. The caregivers were then thanked for their participation and were each provided with a token of appreciation. Caregivers were also given the opportunity to ask the researcher and research assistant questions. No questions were asked.

Table 3.9
Procedural script for administering CECI-C(R)

Area	Procedure	Instruction/question
Introduction	The caregivers were greeted and the purpose of the interview was briefly provided.	“Hello. My name is _____. I am very grateful that you have agreed to take part in this study. As the consent letter states, the aim of this study is to understand parents’ experiences of working together with professionals in a team that is providing a service to their child. The information provided by you and other parents will assist in improving the services for young children and their families. I will be doing the interview in Setswana and it will take about 40 minutes to complete”.
Biographical information	Each question was read out to the caregivers. The caregivers were requested to record their responses.	“I am going to ask you a few questions about you. Please let me know if you need me to repeat or explain any of the questions”.
Service information	Each question was read out to the caregivers. The caregivers were requested to record their responses.	“I am going to ask you a few questions about the service that you and the child are attending for his/her development. Please let me know if you need me to repeat or explain any of the questions”.
CECI-C(R)	There are five domains in the CECI-C(R). Each domain and all questions in each domain were sequentially read out. Each domain of the CECI-C(R) was presented on a separate A4 page in a booklet format. The response to each statement was immediately recorded by each caregiver.	“Now, I am going to read each statement in this questionnaire. After each statement, I want you to write down your answer. Remember there are no right or wrong answers. Listen to each statement carefully. If you need me to repeat, please ask”.
Conclusion	The caregivers were thanked for their participation. They were each provided with a token of appreciation. They were also reminded to use the telephone number on the consent form if they had any queries.	“We have come to the end. Thank you for participating in this study. Here is a small gift to show our appreciation. If you need any information, please contact us on the number that is written in the consent letter”.

3.9.2. *Data analysis and statistical procedures*

3.9.2.1. *Preparation of the data*

Each completed questionnaire received a unique identification number. The researcher entered data from the measuring instruments into an electronic spreadsheet for analysis, using the IBM Statistical Package for the Social Science (SPSS) Version 23 for Windows. Codebooks were

developed for the CECI-P(R) and CECI-C(R) (Appendix T & U), for entering the raw data into SPSS. After all the data was entered into SPSS, steps were taken to clean the data of errors. SPSS Descriptives were used to check for outliers including missing data. Any outliers were rectified and a number code (9999) was assigned to the missing values. For all statistical procedures, missing values were deleted pairwise in SPSS.

3.9.2.2. *Statistical procedures*

Descriptive statistics were utilized to organize the data that was collected, to discuss variability in scores, and to discuss and compare relationships between data. Descriptive statistics included measures of central tendency, including means, standard deviations, frequency, and effect size (Maxwell & Satake, 2006; McMillan & Schumacher, 2006). These measures were used to describe the demographics of professionals, caregivers, and children receiving ECI services, as well as the nature of ECI services in South Africa. Importantly, these statistical measures were used to describe professional and caregiver perceptions on collaboration in ECI services in South Africa.

All the variables in the current study were evaluated using two-tailed tests. The level of significance was set at $p < 0.10$, due to the small sample size. Inferential statistics was used; this included the Spearman Rank-Order Correlations, Independent Samples t -test, and Chi-square Analysis (Viswanathan, 2005). The Spearman Rank-Order was used for describing the relationships between continuous variables. The Independent Sample t -test was performed to compare and describe differences in the mean scores of professional and caregiver perspectives on collaboration. The Chi-square Analysis was used to compare categorical variables (Stopher, 2012; Viswanathan, 2005). The responses to the open-ended questions were recorded verbatim and presented as the number of participants who mentioned the item.

3.10. **Reliability**

To determine the reliability of the CECI-P(R) and CECI-C(R), the internal consistency was assessed by calculating Cronbach's alpha (Maxwell & Satake, 2006; Viswanathan, 2005), discussed in Chapter 5, Section 5.2.1. In addition, procedural reliability as well data reliability was calculated in order to determine if they yielded consistent results (Leedy & Ormrod, 2005).

3.10.1. *Procedural reliability*

A procedural checklist (Appendix O) was developed to measure procedural integrity for the group sessions. Schlosser (2005) recommends that between 20% and 40% of sessions should be scored for procedural integrity. Two independent raters, with Setswana as their home language, listened to 30% of the audio recordings (9/31 group sessions) and completed the procedural checklist in order to determine the procedural integrity for data collection with caregivers. Hence, two raters scored a behaviour using the same instrument (Kimberlin & Winterstein, 2008).

The two raters used for the interrater reliability were physiotherapists, registered with the Health Professions Council of South Africa. They had 19 and five years of experience working with young children. Inter-rater reliability is expressed as a percentage (McMillan & Schumacher, 2010).

$$\frac{\text{Number of correct tallies (179)}}{\text{Total number of tallies (180)}} \times 100$$

= Inter-rater reliability % (99%) (McMillan & Schumacher, 2010)

The results revealed 99% inter-rater agreement. A high score was expected as the procedural steps were strictly scripted. Table 3.10 illustrates the percentage agreement for the raters.

Table 3.10
Inter-rater reliability for procedural script

AREAS EVALUATED	% Agreement	
	Rater 1	Rater 2
Assistant introduced herself	100%	100%
Purpose of the study was stated	100%	100%
Role of the assistant was stated	98%	100%
Instructions for each section were read according to the questionnaire	100%	100%
Items were read exactly as presented in the questionnaire	100%	100%
Questions were asked in a sequential order	100%	100%
Clarification was provided without giving answers	100%	100%
Parents/caregivers were given sufficient time to answer	100%	100%

AREAS EVALUATED	% Agreement	
	Rater 1	Rater 2
Parents/caregivers were given an opportunity to ask any questions	100%	100%
Parents/caregivers were thanked for their participation	100%	100%
Overall rating	99%	100%

3.10.2. *Data reliability*

The data was transferred directly from the CECI-P(R) and CECI-C(R) to the excel sheet in the SPSS software package. A speech-language therapist with nine years of experience working with children served as the rater to determine the accuracy of the transference of data to the excel sheet. The rater randomly selected and reviewed 20% of the survey packs and reported 100% accuracy of the data entered.

3.11. **Summary**

This chapter described the methodology used in this study. The aims and sub-aims of the study were presented, followed by the research design and phases. The process of identifying a measure of collaboration in ECI was presented. The selection of the Yang et al. (2013) service provider and Yang (2010) parent questionnaires was justified (the development and adaptation of the materials used in this study is discussed in Chapter 4). In this chapter, the participant selection criteria, recruitment and sampling, description of participants, materials, equipment, and personnel were described. The pilot study was discussed highlighting the results and modification implemented. The main study was discussed in terms of general procedures, data collection procedures and analysis, as well as procedural and data reliability measures.

CHAPTER 4

MATERIAL DEVELOPMENT

4.1. Introduction

This chapter provides an overview of the development and adaptation of the materials used in this study. The identification and selection of the CECI-P (Yang et al., 2013) and CECI-C (Yang, 2010) was discussed in Chapter 3. This chapter describes the adaptation (Malmgreen, 2005) of the CECI-P (service provider) (Yang et al., 2013) and CECI-C (parent/caregiver) (Yang, 2010) questionnaires to develop the CECI-P(R) (professional) and CECI-C(R) (caregiver) questionnaires for the South African context. Thereafter, the development of the Biographical Information questionnaire and Service Information questionnaire for both the professionals and caregivers is described. Subsequently, the translation process (Peña, 2007) of the caregiver materials into Setswana is described. The chapter concludes with an account of the training provided to the research assistant in data collection.

4.2. Adaptation of the CECI-P (Yang et al., 2013) and CECI-C (Yang, 2010)

Adapting and implementing research instruments from another English-speaking country requires content-validation, because words or phrases that are unknown or unfamiliar will need to be modified (Malmgreen, 2005). Therefore, it was necessary to adapt the CECI-P (Yang et al., 2013) and CECI-C (Yang, 2010) to ensure that the terminology and content were appropriate to the South African context. The five-step process of obtaining and validating a tool from another English-speaking country, proposed by Malmgreen (2005), was used. The process is illustrated in Figure 4.1.

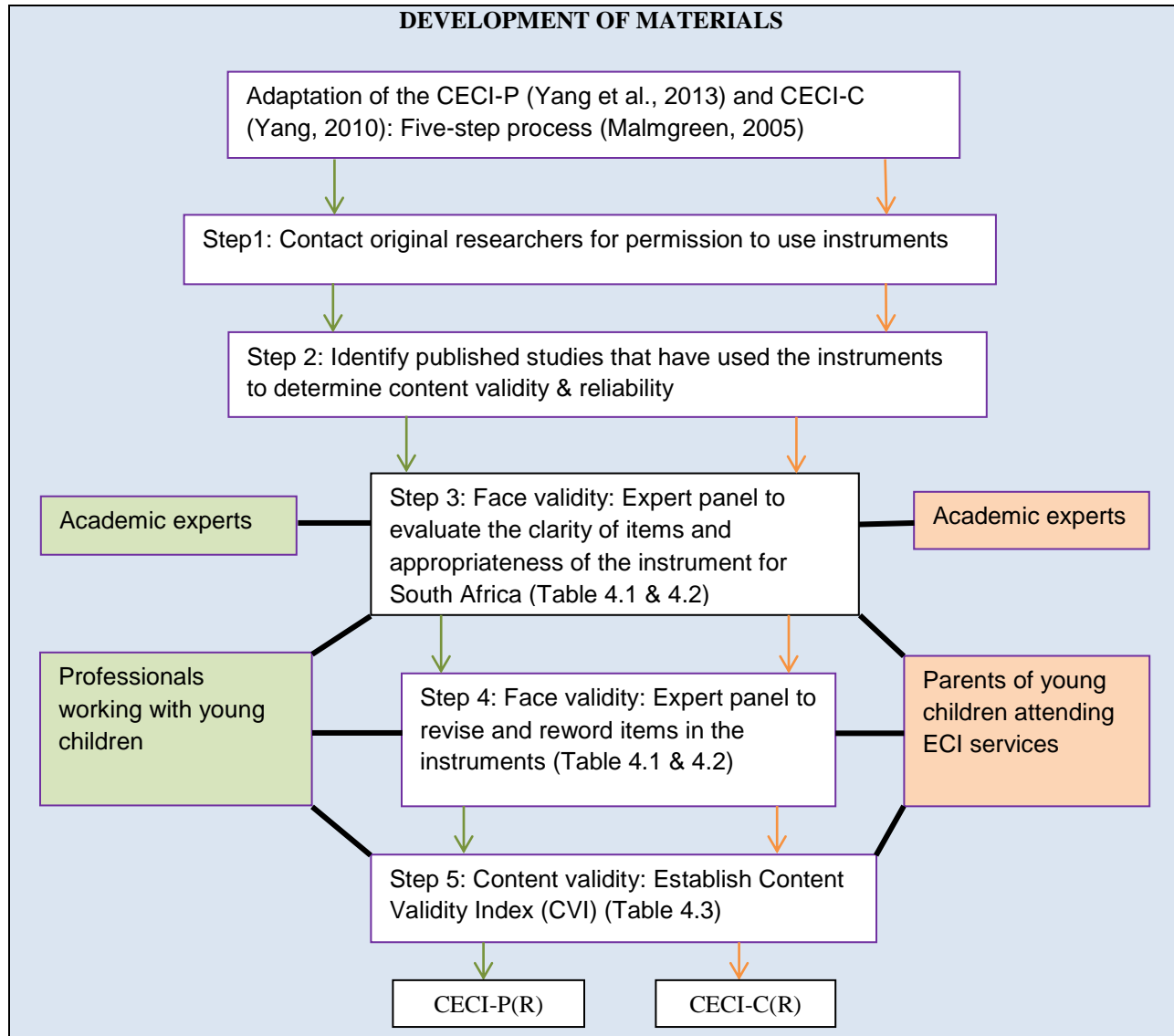


Figure 4.1 Procedure for the development of CECI-P(R) and CECI-C(R).

4.2.1. *Step 1: Obtain permission to use CECI-P (Yang et al., 2013) and CECI-C (Yang, 2010)*

The corresponding author of the CECI-P (Yang et al., 2013) was contacted via email with the request to use the questionnaire. The corresponding author was willing to share the professional and parent questionnaires, provided they were given appropriate acknowledgement of their work (Appendix V).

4.2.2. Step 2: Review of literature to obtain reliability and validity data on CECI-P (Yang et al., 2013) and CECI-C (Yang, 2010)

The literature was reviewed and the only published study, citing the CECI-P, was by the authors of the questionnaire (Yang et al., 2013). The authors reported good internal consistency for the CECI-P, with the Cronbach's alpha ranging from 0.60 to 0.92. Furthermore, in Yang's (2010) doctoral thesis, he reported good internal consistency for the CECI-C, with the Cronbach's alpha ranging from 0.77 to 0.94.

4.2.3. Step 3 and Step 4: Establishing face validity of the CECI-P(R) and CECI-C(R)

The CECI-P (Yang et al., 2013) and CECI-C (Yang, 2010) were adapted to establish the CECI-P(R) and CECI-C(R) respectively, for the current study (Table 4.1 and 4.2). Four sets of panel reviews were conducted to establish the validity of the CECI-P(R) and CECI-C(R). Of the reviews, three sets of panel reviews were used to establish the face validity of the CECI-P(R) and the CECI-C(R) to minimize any flaws, ambiguity and unclear items (Welman, Kruger, & Mitchell, 2005). A fourth panel was used to establish congruency in meaning of the common items in the CECI-P(R) and CECI-C(R). Informed consent was obtained from the panel members prior to their participation in the review (Appendix M & O). The consent letter explained the aim of the study and the role of the expert panel. The results of the four panel reviews are summarised and presented in Table 4.1 and Table 4.2.

Table 4.1
Results of panel reviews for face validity of the CECI-P(R)

Aims	Participants	Procedure	Results/Recommendations	Modifications made
	<i>Panel 1</i>			
a) To determine the appropriateness of the terminology in a South African context	Comprised four academics and five professionals. The academics all currently teach in the field of ECI. The five professionals are enrolled in postgraduate studies, two of whom have a Master's degree in ECI. All professionals have a minimum of three years' experience in the field of ECI.	Participants were requested to review the CECI-P (Yang et al., 2013). Thereafter, they were required to provide written comments on the appropriateness of the terminology of the CECI-P for the South African context and to suggest changes.	<p>The participants reported that the instructions should state “early childhood intervention” and not “intellectual disability”.</p> <p>Question 1, 12, 58, 92 and questionnaire instructions: The term “early intervention service” is not commonly used in services in South Africa and should therefore be replaced with “services for young children”.</p> <p>Questions 47, 48, 50: The term “interagency” should be deleted.</p> <p>Questions 13, 37, 80: The term “agencies” should be deleted.</p> <p>Questions 15-20, 29-30, 42-44, 84-88: The term “carers” should be replaced with “parents” as participants will identify better with the term “parent” than “carers”.</p> <p>Question 23: The term “organizations” should be deleted.</p> <p>Question 25: The phrase “then leading to growth” should be replaced with “improve their professional skills”.</p> <p>Question 27: The term “responsive should be replaced with “faster”.</p> <p>Question 41: The term “consultation” should be replaced with “therapy”.</p> <p>Question 2 “collaboration is simply about information sharing”, 50 “interagency understanding”, 80 “The collaborative work across agencies””: These questions should be deleted.</p>	<p>Modified as suggested by the panel.</p> <p>Modified as suggested by the panel.</p> <p>Modified as suggested by the panel.</p> <p>Modified as suggested by the panel.</p> <p>Modified as suggested by the panel.</p> <p>Modified as suggested by the panel.</p> <p>Modified as suggested by the panel.</p> <p>Modified as suggested by the panel.</p> <p>Modified as suggested by the panel.</p> <p>Modified as suggested by the panel.</p> <p>Modified as suggested by the panel.</p> <p>Done as suggested by the panel. This resulted in 103 items in the CECI-P(R). The CECI-P(R) was then reviewed by Panel 2.</p>
	<i>Panel 2</i>			
To re-evaluate the CECI-P(R) in order to further	Comprised three professionals who	Participants were requested to review the	Questions 4, 11, 34-36, 43, 45, 46, 50, 55, 77, 79, 89-93, 100, 103: The term “collaborative”	Modified as suggested by the panel.

Aims	Participants	Procedure	Results/Recommendations	Modifications made
validate if the terminology used is appropriate for the South African context	have a minimum of five years' experience in the field of ECI. Two of the participants have a Master's degree in the Field of ECI.	adapted questionnaire. They were then requested to provide written comments on the appropriateness of the terminology for professionals in South Africa.	<p>should be replaced with "collaboration" or "collaboration in teams".</p> <p>Question 28: The term "provided" should be replaced with "needed".</p> <p>Questions 12, 35, 51-53: The term "staff" should be replaced with "professionals".</p> <p>The term "structural factors" should be replaced with "organizational factors".</p> <p>Question 74: This question should be deleted as it was not understood by the panel.</p>	<p>Modified as suggested by the panel.</p> <p>Modified as suggested by the panel.</p> <p>Modified as suggested by the panel.</p> <p>Done as suggested by the panel. This resulted in 102 items.</p> <p>A final review of the CECI-P(R) was then conducted by Panel 3.</p>
Panel 3				
<p>a) To determine if the instructions for completing the questionnaire were clear</p> <p>b) To determine if the questions were brief (i.e. no more than 20 words and no more than 3-4 commas)</p> <p>c) To determine the presence of leading questions</p> <p>d) To determine if the questions were written in simple language</p>	Comprised four professionals who have a minimum of four years' experience in the field of ECI. Three of the participants have a Master's degree in the field of ECI.	The participants were asked to review the CECI-P(R) and then complete a brief questionnaire on the structure of the questionnaire (Iarossi, 2006; Stopher, 2012). The participants were requested to provide a rating from 1 (agree) to 3 (disagree) for each criterion outlined in the aims (Iarossi, 2006).	<p>The participants indicated that the instructions were clear.</p> <p>The questions were considered to be brief.</p> <p>There were no leading questions.</p> <p>Participants indicated that the language used was fairly simple. However suggestions were provided for Question 8 and 78.</p> <p>Question 8: The term "involved parties" should be replaced with "all team members".</p> <p>Question 78: The term "families" should be replaced with "parents".</p> <p>Participants reported no redundancy.</p> <p>Participants indicated that each question addressed one issue at a time.</p> <p>Participants indicated that there were no spelling or grammatical errors.</p>	<p>Despite the participants' response, the instructions for all domains were revised to increase clarity.</p> <p>No modifications were required.</p> <p>No modifications were required.</p> <p>Modified as suggested by the panel.</p> <p>Modified as suggested by the panel.</p> <p>No modifications were required.</p> <p>No modifications were required.</p> <p>No modifications were required.</p>
e) To determine if questions were redundant				
f) To determine if each question addressed one issue at a time.				
g) To determine if there were any spelling or grammatical errors				

Aims	Participants	Procedure	Results/Recommendations	Modifications made
h)To determine the time taken to complete the questionnaire			Participants indicated that the questionnaire was long and that the professionals' suggestions for better collaboration could be ascertained from the open-ended question in Domain 5: "Factors influencing collaboration." Therefore, Domain 7 "Suggestions for better collaboration" should be excluded.	Done as suggested by the panel. This resulted in 89 items.
i)To determine if the layout of the questionnaire was acceptable			All participants indicated that the questionnaire had a professional appearance.	No modifications were required. Further face validity was required to compare the items that were common in the CECI-P(R) and CECI-C(R) for similarity in meaning. Therefore Panel 4 was selected to review the items that were common in the CECI-P(R) and CECI-C(R).
To determine if the items that were common in the CECI-P(R) and CECI-C(R) had the same meaning.	Panel 4 Consisted of two professionals with over seven years' experience working in teams for young children.	The participants were provided with the CECI-P(R) and CECI-C(R).The researcher marked 43 items that should be similar for both questionnaires. The participants were requested to indicate if corresponding items in the two questionnaires correlated in terms of their meaning.	Both participants indicated that the items were not similar. It was recommended that the wording of the items in the professional questionnaire should be the same as that of the caregiver questionnaire. Furthermore, Question 2 and Question 80 should be deleted from the professional questionnaire as it was deleted from the caregiver questionnaire.	The wording of the 43 items in the professional questionnaire was changed to be the same as that of the caregiver questionnaire. Done as suggested. This resulted in 87 items in the CECI-P(R).

Table 4.1 presents the results of the face validity of the CECI-P(R), using four panels of experts. Panels comprised both professionals and academics. Changes were made to the terminology used in the CECI-P (Yang et al., 2013) to ensure relevance to the South African context. Furthermore, the length of the questionnaire was reduced according to the suggestion of the expert panel. The CECI-P (Yang et al., 2013) consisted of 105 items. Sixteen items were deleted due to the recommendations of the panels, resulting in 89 items. Of the four panels, the final panel was used to review the items that were common in the CECI-P(R) and CECI-C(R). Based on the recommendations of the panel, 43 items were revised and two items were deleted resulting in 87 items in the CECI-P(R).

Table 4.2 presents the results of the face validity of the CECI-C(R). Four expert panels were consulted; these included professionals, academics, and caregivers. Changes were made to the terminology used in the CECI-C (Yang, 2010) to ensure greater familiarity to caregivers in South Africa. The CECI-C (Yang, 2010) consisted of 92 items. Fourteen items were deleted due to the recommendations of the panels, resulting in 78 items.

Table 4.2
Results of panel reviews for face validity of the CECI-C(R)

Aims	Participants	Procedure	Results/Recommendations	Modifications made
	Panel 1			
To determine the appropriateness of the terminology in a South African context.	Comprised four academics and five professionals. The academics currently teach in the field of ECI. The five professionals are enrolled in postgraduate studies, two of whom have a Master's degree in ECI. All professionals have a minimum of three years' experience in the field of ECI.	Participants were requested to review the CECI-C (Yang, 2010). Thereafter, they were required to provide written comments on the appropriateness of the terminology of the CECI-C within the South African context and to suggest changes.	<p>Participants stated that "collaboration" should be replaced with "working together".</p> <p>The instructions should state "services for young children" and not "intellectual disability".</p> <p>Questions 7, 42, 43: The term "staff" should be replaced with "professionals".</p> <p>Questions 18-20, 69-71, 74, 75: The term "carers" should be replaced with "parents".</p> <p>Question 14: The term "responsive" should be replaced with "quick".</p> <p>Question 16: The term "organizations" should be deleted.</p> <p>Question 36 and 37: The term "interagency" should be deleted.</p> <p>Question 39: The item "interagency understanding" should be deleted.</p>	<p>Modified as suggested by the panel.</p> <p>Modified as suggested by the panel.</p> <p>Modified as suggested by the panel.</p> <p>Modified as suggested by the panel.</p> <p>Modified as suggested by the panel.</p> <p>Done as suggested by the panel.</p> <p>Done as suggested by the panel.</p> <p>Done as suggested by the panel.</p> <p>This resulted in 92 items in the CECI-C(R). The CECI-C(R) was then reviewed by Panel 2.</p>
	Panel 2			
To re-evaluate the CECI-C(R) in order to further validate if the terminology used is appropriate within the South African context.	Comprised three professionals who have a minimum of five years' experience in the field of ECI. Two of the participants have a Master's degree in the field of ECI.	Participants were requested to review the adapted questionnaire. They were then requested to provide written comments on the appropriateness of the terminology for caregivers in South Africa.	<p>The Parent Questionnaire should be renamed: "Collaboration in Early childhood Intervention: Caregiver Revised" i.e. CECI-C(R).</p> <p>The term "structural factors" should be replaced with "organizational factors".</p> <p>Question 31: The term "conflict" should be replaced with "disagreements".</p>	<p>Modified as suggested by the panel.</p> <p>Modified as suggested by the panel.</p> <p>Modified as suggested by the panel.</p> <p>The CECI-C(R) was then reviewed by Panel 3, in order to obtain the caregiver perspectives on the CECI-C(R).</p>
	Panel 3			
a) To determine if the instructions for completing	Comprised three caregivers of children	The caregivers were requested to review the	The participants indicated that the instructions were fairly clear.	However, the instructions for all domains were revised to be simpler and

Aims	Participants	Procedure	Results/Recommendations	Modifications made
the questionnaire were clear.	attending ECI	CECI-C(R) and then		clearer.
b) To determine if the questions were brief (i.e. no more than 20 words and no more than 3-4 commas).	services at a public institution. The children receiving ECI services were between the ages of one and four years.	complete a brief questionnaire on the structure of the questionnaire (Iarossi, 2006; Stopher, 2012) (Appendix D). The caregivers were asked to provide a rating from 1 (agree) to 3 (disagree) for each criterion outlined in the aims (Iarossi, 2006).	The questions were considered to be brief.	No modifications were required.
c) To determine the presence of leading questions.	Two of the caregivers were second language English-speaking and one caregiver was first language English-speaking.		There were no leading questions.	No modifications were required.
d) To determine if the questions were written in simple language.			Symbols (<) should be replaced with words (less than).	Modified as suggested by the panel.
			<i>Biographical questionnaire:</i>	
			Question 2: The term “household” should be replaced with “house”.	Modified as suggested by the panel.
			Question 3: The term “ethnicity” should be replaced with “race”.	Modified as suggested by the panel.
			The term “services” should be further explained with examples.	The term “services” was used with examples such as “Speech-Language Therapy, Occupational Therapy”.
			<i>CECI-C(R):</i>	
e) To determine if questions were redundant.			Question 1: The term “essential” should be replaced with “necessary”.	Modified as suggested by the panel.
f) To determine if each question addressed one issue at a time.			Question 15: The term “multiple” should be replaced with “many”.	Modified as suggested by the panel.
g) To determine if there were any spelling or grammatical errors.			Question 57: The term “prompt” should be replaced with “quick”.	Modified as suggested by the panel.
h) To determine the time			Question 68 and 69: The term “setting” should be replaced with “place”.	Modified as suggested by the panel.
			The parents indicated that each question asks for specific information.	No modifications were required.
			Parents indicated that each question addressed one issue at a time.	No modifications were required.
			The parents indicated that there were no spelling or grammatical errors.	No modifications were required.
			Participants indicated that the questionnaire was	Done as suggested by the panel.

Aims	Participants	Procedure	Results/Recommendations	Modifications made
<p>required to complete the questionnaire.</p> <p>i) To determine if the layout of the questionnaire was acceptable.</p>	<p>.</p>		<p>long and that caregivers’ suggestions for better collaboration can be ascertained from the open-ended question in Domain 4: “Factors influencing relationships in a team”. Therefore, Domain 6 “Suggestions for better collaboration” should be excluded.</p> <p>All participants indicated that the questionnaire had a professional appearance.</p>	<p>This resulted in 79 items.</p> <p>No modifications were required.</p> <p>Due to the revisions made to the CECI-C(R), a final review was conducted by Panel 4 to determine similarity in meaning for items in the CECI-C(R) and the source questionnaire, CECI-C (Yang, 2010).</p>
<p>To determine similarity in meaning for items in the CECI-C(R) and source questionnaire, CECI-C (Yang, 2010).</p>	<p>Panel 4</p> <p>Comprised the researcher and a speech-language therapist with 17 and eight years of experience respectively in working with young children and their parents in a public institution.</p>	<p>The researcher and therapist reviewed each item in the questionnaire. Each item was also reviewed against the corresponding item in the CECI-C (Yang, 2010). The researcher and the therapist had to agree that each item was appropriate for the South African population and that the meaning was the same or similar to the source questionnaire (Yang, 2010). Consensus between researcher and the therapist on each item was necessary.</p>	<p>All items in the CECI-C(R) were reviewed. It was agreed that due to the Content Validity Index (CVI) results of Panel 1 for the CECI-C(R) (Table 4.3) the following 20 questions should be revised to make them simpler and easier to understand: Questions 5, 6, 10, 13, 15, 18, 19, 24, 26, 31, 32, 33, 44, 46, 54, 60, 61, 65, 67, 70.</p> <p>It was agreed that the following 18 questions should be revised to have the same wording or similar wording to the items in the source questionnaire (Yang, 2010): Questions 2, 7, 8, 9, 17, 20, 21, 27, 40, 48, 49, 50, 51, 53, 58, 62, 75, 79.</p> <p>It was agreed that Question 28 should be deleted because all six parents from Panel 1 and Panel 2 requested clarification on this question.</p>	<p>All 20 items were revised accordingly.</p> <p>All 18 questions were revised accordingly.</p> <p>Modified as suggested by the panel. This resulted in 78 items in the CECI-C(R).</p>

4.2.4. *Step 5: Establishing the content validity of the CECI-P(R) and CECI-C(R)*

Content validity is the extent to which a measurement instrument is a representative sample of the content area being measured (Leedy & Ormrod, 2005). Content validity was determined through establishing the Content Validity Index (CVI) of the questionnaires (Lynn, 1986).

The aim of the CVI was to assist in revising, deleting or substituting items on the CECI-P(R) and CECI-C(R) (Lynn, 1986; Polit & Beck, 2006). A CVI is computed by dividing the number of experts providing a score of 3 or 4 by the total number of experts. For example, an item that is rated as quite relevant (score of 3) or highly relevant (score of 4) by 8 out of 10 subject experts will have a CVI of 0.80 (Polit & Beck, 2006). One concern raised about the CVI is that it is an index of inter-rater agreement, and thus only represents a proportion of agreement. In order to address this issue, Lynn (1986) developed criteria for item acceptability that incorporates the standard error of proportion. For a minimum of three experts, all items should meet the CVI criteria of 1.0; that is, 100% (Lynn, 1986).

Two CVI indexes were conducted for the CECI-P(R) and CECI-C(R). Two sets of expert panels consisting of three professionals each were used for the CECI-P(R) and two sets of expert panels consisting of three caregivers each were used for the CECI-C(R). Informed consent was obtained from the panel members prior to participation in the study (Appendix M & P). The respective questionnaires and a study letter containing a brief description of the questionnaire and the aims of the study were provided to the expert panel members. The study letter, which contained a brief description of the questionnaire and the aims of the study, was necessary to avoid the Frame of Reference effect (De Jong & Schellens, 1995). This is an error which may occur if panel members base their responses on their personal contexts and experiences, thus neglecting to look at the actual aims and purpose of the instrument and task (Dada, Huguet, & Bornman, 2013).

The aim, participants, procedures, overall results of CVI ratings, and the subsequent modifications that were implemented are discussed in Table 4.3. The raw data of the CVI ratings for the CECI-P(R) and CECI-C(R) are also included in Appendix W and X respectively.

Table 4.3
Results of panel reviews for establishing the CVI for the CECI-P(R) and CECI-C(R)

Aims	Participants	Procedure	Results/Recommendations	Modifications made
Panel 1				
To determine the Content Validity Index (Lynn, 1986) of the CECI-P(R) and CECI-C(R).	<p>CECI-P(R): Comprised three professionals enrolled for a postgraduate qualification in ECI and providing ECI services at a public institution.</p> <p>CECI-C(R): Comprised three caregivers of children attending ECI services at a public institution. The children receiving services were between one and four years of age. Two parents were first language English-speaking and one parent was second language English-speaking.</p>	The professionals and caregivers were instructed to rate the items on the CECI-P(R) and CECI-C(R) respectively in terms of their relevance to collaboration in teams (Lynn, 1986; Polit & Beck, 2006). A four-point Likert scale was used to avoid a neutral and ambivalent mid-point (Lynn, 1986). The labels used in this study were: 1=not relevant, 2=somewhat relevant, 3=quite relevant, 4=highly relevant (Davis, 1992).	<p>CECI-P(R): All professionals rated all the questions. Questions that did not meet the CVI criteria of 1.0 (Lynn, 1986) were Questions 2, 12-13, 16, 23-25, 31, 33, 34-35, 39, 41, 43, 46, 48-50, 64, 67, 69,74.</p> <p>CECI-C(R): All parents rated all the questions. Questions that did not meet the CVI criteria of 1.0 (Lynn, 1986) were Questions 2, 5, 15, 25-34, 36-38, 45, 63, 70, 77, 91.</p>	<p>CECI-P(R): All 22 questions were revised. Since a large number of items did not meet the criteria, a second CVI was necessary to determine the validity of the items in the newly revised questionnaire. Therefore, a second panel was selected.</p> <p>CECI-C(R): All 20 questions were revised. Panel 4, described in Table 4.2, was used to revise the items in the questionnaire. After the review by Panel 4, 78 items remained in the questionnaire. A second CVI was then necessary to determine the validity of the items in the newly revised questionnaire.</p>
Panel 2				
To re-establish the CVI for the CECI-P(R) and CECI-C(R).	<p>CECI-P(R): Comprised three professionals with more than five years' experience working in teams providing a service for young children.</p> <p>CECI-C(R): Comprised three parents, different to those in Panel 1, of children attending services for young children at a public institution. The children receiving services were between the ages of eleven months and four years. Two parents were first language English-speaking and one parent was second language English-speaking.</p>	Same procedure as for Panel 1.	<p>CECI-P(R): All professionals rated all the questions. All items met the criteria of 1.0 (Lynn, 1986).</p> <p>CECI-C(R): All parents rated all the questions. Questions that did not meet the criteria of 1.0 (Lynn, 1986) were Questions 2, 69.</p>	<p>CECI-P(R): No further modifications were required.</p> <p>CECI-C(R): Questions 2 and 69 were deleted from the questionnaire. This resulted in the final 76 items in the CECI-C (R).</p> <p>The revised CECI-P(R) and CECI-C(R) were then piloted on five professionals and caregivers respectively (this is described in Chapter 3, Section 3.8).</p>

Table 4.3 presents two content validity indexes for the CECI-P(R) and CECI-C(R). For the first CVI, 22 items in the CECI-P(R) and 20 items in the CECI-C(R) did not meet Lynn’s (1986) criteria of 1.0. As noted earlier, to achieve a CVI of 1.0 from three expert panel members requires 100% agreement between panel members. With respect to the CECI-P(R), the items were modified and a second CVI was then conducted, the results of which met Lynn’s criteria as a 100% agreement was obtained on all items. Therefore, no further modifications were required for the CECI-P(R). For the CECI-C(R), the results of the second CVI revealed two items that did not meet the criteria of 1.0 and were therefore deleted, resulting in 76 items being in the final questionnaire. Furthermore, during the second CVI, there were no requests for clarification on terminology. This demonstrated that the items could be understood and were appropriate for caregivers in South Africa.

4.3. Developing Biographical and Service Information questionnaires for professionals and caregivers

The questions included in the Biographical and Service Information questionnaires should be relevant to the conceptual framework of the study and should contribute to the data analysis process. The questions that are included in the Biographical questionnaire are supported by the literature; explicated in Table 4.4 below.

Table 4.4
Biographical information for professionals and caregivers: Justification from the literature

Biographical information	Justification	Support from the literature
<i>Professional (Appendix C, Section A)</i>		
Age	This information was used to describe the ages of professionals working in ECI teams. A correlation analysis between age and the domains of the CECI-P(R) was conducted.	A diversity of demographic characteristics, including different age groups within a team, may help in providing varied perspectives which can facilitate creativity and problem-solving when collaborating in a team (Choi & Pak, 2007). In addition, the maturity of team members has been considered an important factor for team success (Choi & Pak, 2007).
Language proficiency	This information was used as selection criteria to identify professionals proficient in English, since the CECI-P(R) was presented in English.	Participants should be able to read and understand the questions in a survey, and therefore the survey should be presented in the language that is understood by participants (Stopher, 2012). In relation to the current study, participants who are not competent in English could provide

Biographical information	Justification	Support from the literature
Language provided during intervention	This information was used to describe the language used by professionals in intervention.	random or inconsistent responses to the questions in the survey (Viswanathan, 2005). Pillay et al. (1997) reported that the majority of professionals in South Africa do not speak the language of the people receiving services.
Educational qualifications and additional training	This information was used to describe the professional's educational qualifications and training related to ECI.	Collaboration in teams can be enhanced through acquiring additional professional skills (Cooper, Cant, & Porter, 2010).
Experience	This information was used as selection criteria to identify professionals with a minimum of six months experience of working in ECI teams.	Practice and experience increases team knowledge, enabling members to develop strategies for team collaboration (Millward & Jeffries, 2001).
<i>Caregiver (Appendix D, Section A)</i>		
Caregiver relationship to child, and number of children in household	This information was used to describe relations to the child and the number of children in the household.	In South Africa, approximately 26% of children do not live with either biological parent (UNICEF, 2013). This often results in families taking on the children of their relatives (Statistics South Africa, 2012).
Race/ethnicity	This information was used to describe the ethnicity of the caregiver and child.	In South Africa, the majority of young children below five years presenting with a disability are Black African; this is followed by Coloured, White, and Indian/Asian (Statistics South Africa, 2012).
Language proficiency	This information was used to identify the caregivers' competency in Setswana.	It is imperative for participants to be able to read and understand the questions in a survey and therefore surveys should be presented in the language that is understood by participants (Stopher, 2012).
Age and educational level	This information was used to describe the age and educational level of caregivers.	The literature reports that professionals sometimes find it easier to establish relationships with parents who share their demographic profile e.g. age and educational level (Dinnebeil et al., 1996). A mismatch in demographic profiles could potentially influence collaboration in teams (Dinnebeil et al., 1996).
Marital and employment status	This information was used to describe the marital and employment status of caregivers.	In South Africa, 41.9% of Black African children live with their mothers in single-parent households. This is high when compared to other race groups. Furthermore, the unemployment rates for Black African females (32.5%) are higher than for any other race/ gender grouping (Statistics South Africa, 2013).

Similar to the Biographical questionnaire (Table 4.4), the questions that are included in the Service Information questionnaire (Table 4.5) are supported by the literature.

Table 4.5

Service information for professionals and caregivers: Justification from the literature

Service information	Justification	Support from the literature
Professionals (Appendix C, Section B)		
Team intervention in ECI services	This information was used as selection criteria to identify professionals working in ECI teams.	ECI as a holistic approach cannot be implemented to the required standard by individual professionals; therefore teams are essential (Peterander, 2003; Wong et al., 2012).
Organizational unit (e.g. hospital, clinic)	This information was used to describe the sites for ECI teams in healthcare settings in South Africa.	In South Africa, ECI services are typically provided in public hospitals and clinics, since children between 0-6 years are entitled to free healthcare (National Health Act, 2003).
Composition of team	This information was used to describe the diversity of members working in ECI teams in South Africa.	ECI services are usually provided by a team consisting of professionals from various disciplines (e.g. nurses, physiotherapists, occupational therapists, social workers, doctors, speech-language therapists) (Eldar, 2005; Xyrichis & Ream, 2008) as well as the parent of the child (Harbin et al., 2000).
Model of collaboration	This information was used to describe the model of collaboration in ECI services in South Africa.	In South Africa, the multidisciplinary model of collaboration is common practice due to professional training in the medical model approach (Uys & Samuels, 2010).
Caregivers (Appendix D, Section B)		
Age of child, team intervention, length of service	This information was used as the selection criteria to identify children between 0-6 years receiving team intervention for a minimum of six months. Additionally, the caregivers selected were required to be involved in team intervention for a minimum of six months.	ECI includes services for children between 0-6 years using a team approach (Shonkoff & Meisiels, 2000). In South Africa, free health care is provided to children between 0-6 years (National Health Act, 2003) and therefore, caregivers of children in this age range were selected. Furthermore, the age of the child and the length of service were included, as studies have shown that younger children who have spent longer periods in intervention reported positive outcomes for family- centered care (Raspa et al., 2010).
Disability/diagnosis of child, gender of child	This information was used to describe the gender and the disability or diagnosis of the child receiving ECI services in South Africa.	The prevalence rate for children with a disability in South Africa is between 2% and 6%, of which the majority are males (UNICEF, 2012). Children with a disability may present with a cognitive or motor impairment, with Cerebral Palsy being the biggest contributor to the burden of childhood disability (Saloojee et al., 2006).

4.4. Translation of caregiver materials

The demography of South Africa necessitated the inclusion of caregivers with home languages other than English in this study. Setswana is one of the dominant African languages spoken in Pretoria, Gauteng where the main study was conducted (Statistics South Africa, 2012). The caregiver materials included in the study that required translation, were the caregiver consent letter (Appendix F) and the caregiver Biographical and Service Information questionnaires (Appendix D). The translators who were used and the process of translation (Peña, 2007) are described below.

4.4.1. Translators

Four translators were used in the study. The translators were proficient in English and Setswana and had experience translating from English to Setswana and vice versa. A description of the translators is presented in Table 4.6.

Table 4.6
Description of translators

Category	Translator 1	Translator 2	Translator 3	Translator 4
Qualification/s	MA Sociolinguistics	B.Com (Hon)	BSc. Physiotherapy	BSc. OT
Occupation	Senior lecturer in sociolinguistics	Senior lecturer in chartered accountancy	Physiotherapist	Occupational therapist
Work experience	33 years of experience as a lecturer	11 years of experience as a lecturer	19 years of experience in a hospital setting with multi-lingual/multi-cultural patients	Five years of experience in a hospital setting with multi-lingual/ multi-cultural patients
Mother tongue	Setswana	Sepedi	Sesotho	Setswana
Other languages	English, Sepedi	Setswana, English, isiZulu, Sesotho, Tsonga	Setswana, English, isiZulu, Tsonga	Sepedi, Sesotho, isiZulu, English
Translation experience	22 years of experience	11 years of experience	19 years of experience	Five years of experience

4.4.2. Translation process

The researcher first conducted an information session with the translators to discuss the aims and objectives of the study and the blind-back procedure to be followed. A blind-back translation procedure was used in this study to ensure linguistic equivalence prior to ensuring functional, metric and cultural equivalence (Peña, 2007). Linguistic equivalence is the direct

translation from one language (e.g. English) to another language (e.g. Setswana). However, direct translations can change the meaning of an item (lack of cultural equivalence) which has implications for the content validity of an instrument (Bornman et al., 2010; Peña, 2007). The potential for cultural insensitivity is often related to the functional differences in the translation; that is an incongruity in meaning between translations. Functional equivalence is necessary to ensure that the same construct is measured (Peña, 2007). In addition, lack of consideration of the linguistic difficulty of an item (metric equivalence) can pose a threat with respect to the validity and reliability of an instrument (Peña, 2007). Taking into account the validity and reliability threats, the translation procedure included four steps, namely linguistic translation and establishing functional, metric and cultural equivalence (Figure 4.2). Once translation of the measuring instrument was completed, a pilot study was conducted.

Figure 4.2 illustrates the procedures used in the translation of caregiver materials for this study. The process began with a forward translation by Translator 1 and Translator 2, who were provided with background knowledge to the study. Translator 2 highlighted concerns and consensus was reached. This was followed by a blind-back translation of the materials by Translator 3 and Translator 4, for linguistic equivalence. The researcher then analysed the English version of the CECI-C(R) and the back translations for differences. Thereafter, the differences and context of the study were discussed with Translator 3 and Translator 4. The concerns raised by Translator 3 and 4 were considered, consensus was reached and the final translations were produced.

Subsequently, the researcher, Translator 3 and two speech-language therapy assistants with nine and five years' experience translating in services for young children then reviewed the materials for functional equivalence between the English and Setswana version of the materials. Concerns were raised and consensus was reached on the items that required changes. The materials were then provided to Translator 3 and two caregivers receiving ECI services at a public institution for determining metric equivalence. The caregivers agreed that the materials could be understood. Finally, the same two caregivers for determining metric equivalence were consulted for establishing the cultural acceptability of the materials. The caregivers agreed that the items were culturally appropriate.

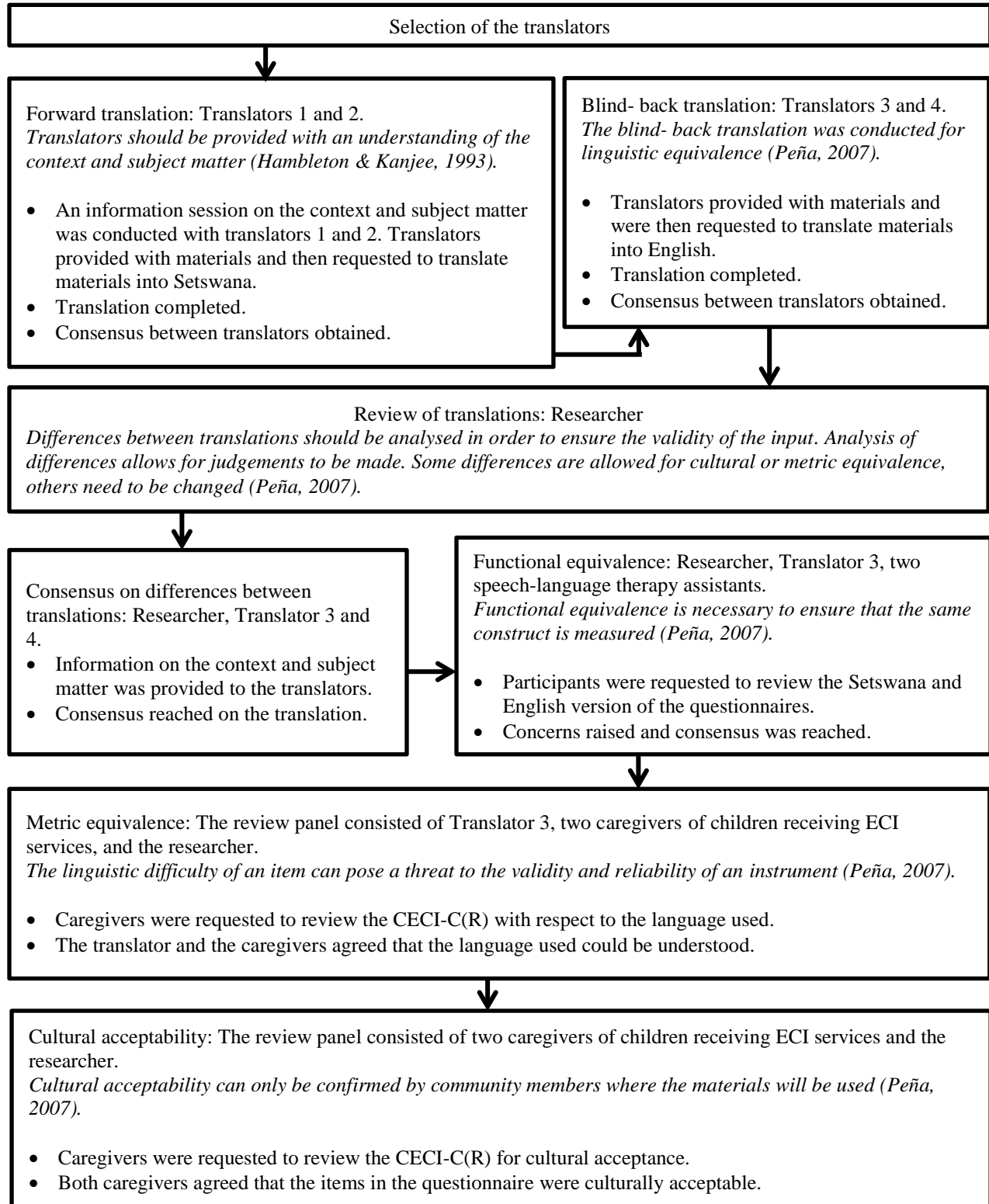


Figure 4.2 Procedures followed in the translation of caregiver materials (Peña, 2007).

4.5. Training of research assistant for administering CECI-C(R)

4.5.1. *Selection of research assistant*

A research assistant was selected to assist with data collection with caregivers, as the researcher is not competent in Setswana.

The research assistant was competent in Setswana, as it was her home language and it had been her language of education until Grade 12. She therefore understood cultural aspects of the language (Hambleton & Kanjee, 1993). In addition, she was able to read and write in Setswana. Furthermore, she worked as a speech-language therapy assistant for nine years at a public hospital in Gauteng. She had extensive experience working with children and caregivers, conducting basic speech-language therapy tests in Setswana and Sesotho, as well as obtaining case history information from caregivers.

4.5.2. *Procedure for training of research assistant*

The researcher conducted two training sessions with the research assistant prior to the assistant administering the CECI-C(R) with caregivers. The first training session included information on the aims and objectives of the study, the role of the assistant, and the process to be followed in data collection. This included conducting the interview, dealing with questions and clarifications, and a trial run of the procedural script (Edwards, 1998). The second training session involved administering the CECI-C(R) to two caregivers of children attending ECI services at a public hospital. The researcher evaluated the performance of the assistant and deviations from the protocol were discussed with the assistant.

4.6. Conclusion

In this chapter, a five-step procedure (Malmgreen, 2005) for the adaptation of the CECI-P (Yang et al., 2013) and CECI-C (Yang, 2010) were described. The development of the Biographical and Service Information questionnaires was described. The procedure (Peña, 2007) followed in the translation of the CECI-C(R) into Setswana was described in detail. The chapter concluded with the procedure followed in the training of the research assistant for administering the CECI-C(R) to caregivers.

CHAPTER 5

RESULTS

5.1. Introduction

This chapter presents the results of the study according to the sub-aims, outlined in Chapter 3. Figure 5.1 presents the schematic representation of the results. First, the reliability of the data measures is discussed. Results on the professionals’ perceptions of collaboration are presented, followed by the results on caregivers’ perceptions of collaboration. Professional and caregiver findings are presented in terms of the participants’ perceived understanding of collaboration, advantages of collaboration, difficulties with collaboration, factors influencing collaboration, and the outcomes of collaboration. In addition, the professional questionnaire includes a domain on the professionals’ self-assessment on collaboration. Finally, the results on the comparison between professional and caregiver perceptions on collaboration are presented.

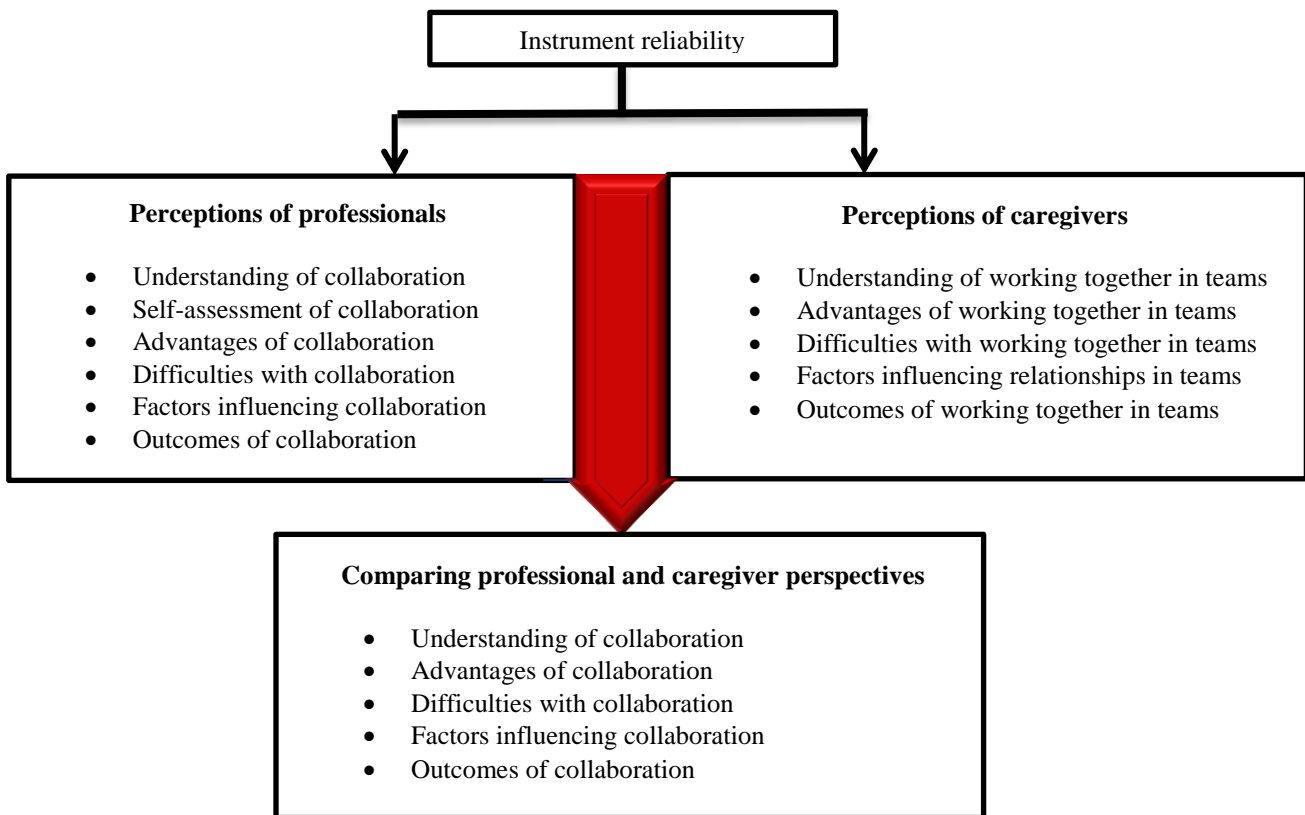


Figure 5.1 Schematic representation of the results.

5.2. Reliability

In this section, measures for establishing the internal consistency reliability for the CECI-P(R) and CECI-C(R) are discussed.

5.2.1. Instrument reliability

Internal consistency reliability is a measure of how well the items on a questionnaire measure the same construct (Kimberlin & Winterstein, 2008). Internal consistency reliability for the CECI-P(R) and CECI-C(R) was measured with Cronbach's alpha, as it is generally the most appropriate measure of reliability for questionnaires in which items are not scored right or wrong, and where there is a range of answers for each item (Maxwell & Satake, 2006; McMillan & Schumacher, 2006). Within this measuring scheme, it is recommended that the coefficient alpha should be greater than or equal to .70 - .80 (Field, 2013). The alpha for the CECI-P(R) was .90 and CECI-C(R) .89, indicating high reliability. The alphas for each domain and sub-domain of the CECI-P(R) and CECI-C(R) are presented in Table 5.1.

Table 5.1
Reliability of CECI-P(R) and CECI-C(R)

Domains	Professional- CECI-P(R)			Caregiver- CECI-C(R)		
	Number of items	α	Interpretation	Number of items	α	Interpretation
Understanding of collaboration	8	.61	Acceptable	9	.65	Acceptable
Self-assessment on collaboration ^a	9	.64	Acceptable			
Advantages of collaboration	12	.90	Excellent	10	.84	Good
Difficulties with collaboration	10	.81	Good	9	.81	Good
Factors influencing collaboration						
-Organizational factors	9	.69	Acceptable	9	.79	Good
-Interpersonal factors	20	.89	Good	19	.91	Excellent
Outcomes of collaboration						
-Satisfaction with collaboration	3	.83	Good	5	.84	Good
-Effects of collaboration	8	.89	Good	7	.82	Good
-Effectiveness of collaboration ^b	2			2		

^a Domain not assessed in the CECI-C(R).

^b This sub-domain is based on single items (Yang, 2010), therefore an alpha is not presented.

For the CECI-P(R), two items were deleted: "To work together effectively in a team takes a lot of time" (under the "Understanding of collaboration" domain), and the item "Can't trust the decisions made by parents" (in the "Self -assessment of collaboration" domain), as these items reduced the reliability of the domains. Subsequently, the Cronbach alpha for the "Understanding of collaboration" and "Self-assessment of collaboration" domains was $\alpha.61$ and $\alpha.64$ respectively.

5.3. Perceptions of professionals

The professionals' perceptions of the understanding, self-assessment, advantages, difficulties, and effects of collaboration were assessed using a five-point Likert-type scale, ranging from 1.00 (*strongly disagree*) to 5.00 (*strongly agree*). Similarly, professionals' perceptions of the factors influencing collaboration were assessed using a five-point Likert-type scale ranging from 1.00 (*extremely unimportant*) to 5.00 (*extremely important*); likewise satisfaction with collaboration, ranged from 1.00 (*extremely dissatisfied*) to 5.00 (*extremely satisfied*); and effectiveness of collaboration, ranged from 1.00 (*extremely effective*) to 5.00 (*not at all effective*).

For correlation between domains, the items in the "Effectiveness of collaboration" sub-domain were reverse scored, since the numerical scoring scale for this sub-domain was ranked in the opposite direction to the scales in the other domains. This was necessary for comparing the "Effectiveness of collaboration" sub-domain with other domains (Field, 2013). All domains included an open-ended question except for "Understanding of collaboration", "Self-assessment on collaboration", and "Effectiveness of collaboration". Where included, the open-ended question was used to obtain additional information on the particular domain.

5.3.1. *Understanding of collaboration*

The mean scores and standard deviations for Domain 1 "Understanding of collaboration," are presented in Table 5.2.

Table 5.2
Means and standard deviations for professionals' understanding of collaboration

Understanding of collaboration items	Mean	SD	N
Working together in a team is necessary to provide quality services for young children.	4.91	0.29	34
Finding resources such as information and support services are important for providing effective services for young children.	4.85	0.36	34
Parents should be included in the team providing services to young children.	4.91	0.29	34
The needs of the family should be considered first when working together in teams for young children.	4.47	0.79	34
Working together in a team requires commitment of all involved for the best results.	4.94	0.24	34
Working together effectively requires open communication (e.g. all information is shared).	4.76	0.61	34
Clear and shared goals are needed for all team members to work together.	4.76	0.50	34
Decision-making should involve all team members.	4.47	0.75	34
Total	4.56	0.41	

As illustrated in Table 5.2, the mean scores for all items were high, ranging from 4.47 to 4.94. The items that received the most positive ratings were “commitment” to team collaboration ($M = 4.94$, $SD = 0.24$), collaboration is “necessary to provide quality services for young children” ($M = 4.91$, $SD = 0.29$), “parents should be included in the team” ($M = 4.91$, $SD = 0.29$), and “finding resources” for collaboration ($M = 4.85$, $SD = 0.36$). Two items, that is, “the needs of the family should be considered first” ($M = 4.47$, $SD = 0.79$) and “decision-making should involve all team members” ($M = 4.47$, $SD = 0.75$), although quite high, were rated the lowest of all the ratings. The overall mean for the “Understanding of collaboration” domain was 4.56, with a standard deviation of 0.41, implying that professionals had a good understanding of collaboration.

5.3.2. *Self-assessment on collaboration*

The mean scores and standard deviations for Domain 2 “Self-assessment on collaboration,” are presented in Table 5.3.

Table 5.3
Means and standard deviations for professionals’ self-assessment on collaboration

Self-assessment on collaboration items	Mean	SD	N
Believe in working together in a team and its resulting outcomes.	4.68	0.47	34
Know the other members involved in the team providing a service for young children.	4.56	0.61	34
Have knowledge of the services provided by other professionals.	4.50	0.51	34
Respect the other professionals’ opinions.	4.71	0.52	34
Respect parents as partners and full team members.	4.76	0.43	34
Use jargon-free language when talking to parents.	4.12	1.07	34
Willing to provide information to parents when they request.	4.71	0.46	34
Encourage parents to be an active member, not just a listener.	4.88	0.33	34
Consider the ethnic background of the children and families.	4.65	0.65	34
Total	4.62	0.30	

Table 5.3 illustrates that the mean scores for all items were high, ranging from 4.12 to 4.88, implying that professionals perceived that they were collaborating well in the team and were adhering to family-centered practices. Two items, that is, “encourage[ing] parents to be active members” ($M = 4.88$, $SD = 0.33$) and “respect[ing] parents as partners and full team members” ($M = 4.76$, $SD = 0.43$) had the highest mean scores. Of all the items, “us[ing] jargon-free language when talking to parents” ($M = 4.12$, $SD = 1.07$) was rated lower than all other items in this domain; however, the item also presented with a large standard deviation. This implies that there were a

wider range of scores by professionals on this item. The overall mean for the “Self-assessment on collaboration” domain was 4.62, with a standard deviation of 0.30.

5.3.3. *Advantages of collaboration*

The mean scores and standard deviations for Domain 3 “Advantages of collaboration,” are presented in Table 5.4.

Table 5.4
Means and standard deviations for professionals’ perceptions of the advantages of collaboration

Advantages of collaboration items	Mean	SD	N
Benefit young children and their families.	4.85	0.36	34
Help to make the best use of resources such as materials and equipment required for the child.	4.76	0.43	34
Help to provide many services (e.g. speech-language therapy, physiotherapy) effectively.	4.82	0.39	34
Help make service delivery more cost-effective.	4.79	0.41	34
Help professionals learn from each other and improve their professional skills.	4.91	0.29	34
Help professionals in their teamwork skills.	4.82	0.39	34
Provide efficient services to the needs of children and families.	4.82	0.39	34
Help parents to access the services (e.g. speech-language therapy, occupational therapy) needed.	4.85	0.44	34
Help professionals to develop skills in working together with parents to identify needs.	4.76	0.43	34
Help parents to improve their abilities in taking care of their children.	4.72	0.67	33
Help parents to connect with other families to share experiences.	4.59	0.61	34
Improve the quality of life of children and families.	4.71	0.58	34
Total	4.79	0.31	

As shown in Table 5.4, the mean scores for all items were high, ranging from 4.59 to 4.91. This implies that all professionals perceived collaboration to be beneficial for professionals, parents, and children. Three items that received high ratings with respect to the advantages of collaboration were “professionals learn from each other and improve their skills” ($M = 4.91$, $SD = 0.29$), collaboration “benefit[s] young children and their families” ($M = 4.85$, $SD = 0.36$) as well as “help parents to access the services needed” ($M = 4.85$, $SD = 0.44$). However, “help[ing] parents to connect with other families to share experiences” ($M = 4.59$, $SD = 0.61$) was rated high, but lower than other items in the domain. The overall mean for the “Advantages of collaboration” domain was 4.79, with a standard deviation of 0.31.

5.3.3.1. Open-ended question

In the open-ended question about the additional advantages to collaboration, three professionals' responses can be summarised as follows: collaboration helped team members to identify multidisciplinary training needs (1); collaboration saved time, because professionals were able to implement skills from other disciplines (1); and team members were able to assist each other with language translation (1).

5.3.4. Difficulties with collaboration

The mean scores and standard deviations for Domain 4 “Difficulties with collaboration,” are presented in Table 5.5. High mean scores in this domain (≥ 4) imply that professionals agreed with the item, indicating that the specific item was a challenge for collaboration. A score of three implies that they were neutral about the item. Low mean scores (≤ 2) imply that professionals disagreed with the item, indicating that it was not a challenge for collaboration.

Table 5.5

Means and standard deviations for professionals' perceptions of the difficulties with collaboration

Difficulties with collaboration items	Mean	SD	N
Inadequate funding to support the working together of team members.	3.00	1.11	33
Insufficient members for teamwork.	3.41	1.40	34
Insufficient time to work together in a team.	3.30	1.21	33
Lack of agreement between parents and professionals on the services to be provided.	2.47	0.99	34
Insufficient understanding of the different professional roles.	2.85	1.18	34
Absence of a common language between professionals in teamwork.	2.62	2.23	34
Lack of shared service delivery strategies between professionals.	2.73	1.28	33
Parents disclose insufficient information.	3.35	1.14	34
Parents do not know how to get involved in working together in a team.	2.82	1.00	34
Language barriers of parents from different cultural backgrounds hinder communication.	4.00	0.85	34
Total	3.07	0.70	

As displayed in Table 5.5, the standard deviations for all items were high, implying that professionals had a wider range of opinions on this item. The mean scores show that the professionals' perceptions leaned towards being neutral or did not perceive as many difficulties with collaboration, except for the item “Language barriers of parents from different cultural backgrounds hinder communication” which received the highest mean score ($M = 4.00$, $SD = 0.85$). Two items that received lower mean scores were in relation to the “lack of agreement between parents and professionals on the services to be provided” ($M = 2.47$, $SD = 0.99$) and the

“absence of a common language between professionals” ($M = 2.62$, $SD = 2.23$). The overall mean for the “Difficulties with collaboration” domain was 3.07, with a standard deviation of 0.70.

5.3.4.1. Open-ended question

Ten out of the 34 professionals responded to the open-ended question about additional difficulties with collaboration. These included, and are summarised as: poor communication between team members (2); professionals overstepping the scope of their practice (1); unwilling and poor team member participation in the team (3); insufficient funding and lack of team members (1); poor patient attendance for therapy (2); and insufficient training at an undergraduate level (1). More professionals responded to the open-ended question in this domain compared to the open-ended questions in other domains. This may suggest that professionals are experiencing various challenges with collaboration in ECI services.

5.3.5. Factors influencing collaboration

Domain 5 “Factors influencing collaboration” comprises two sub-domains, namely, “Organizational factors influencing collaboration” and “Interpersonal factors influencing collaboration”. The mean scores and standard deviations for “Organizational factors” are presented in Table 5.6, and “Interpersonal factors” presented in Table 5.7.

Table 5.6
Means and standard deviations for professionals’ perceptions of organizational factors influencing collaboration

Organizational factors items	Mean	SD	N
Time for working together in a team	4.41	0.57	34
Sharing of resources such as equipment for child treatment	4.26	0.71	34
Sharing of information	4.71	0.52	34
Ensuring information is kept confidential	4.71	0.58	34
Leadership in teams	3.91	1.06	34
Opportunities for team training on teamwork	4.47	0.66	34
Professional availability	4.79	0.41	34
Number of patients requiring services from teams	4.35	0.85	34
Professional expertise	4.56	0.56	34
Total	4.46	0.36	

As displayed in Table 5.6, the mean scores for all items were high, ranging from 3.91 to 4.79. High scores imply that professionals perceived the organizational factors to be integral to successful collaboration. The item on “leadership in teams” ($M = 3.91$, $SD = 1.06$) had the lowest

mean score with a fairly large standard deviation in comparison to the other items, implying that there was a wider range of opinions on this item. Three items that received the highest mean scores were in relation to “professional availability” ($M = 4.79$, $SD = 0.41$), “sharing of information” ($M = 4.71$, $SD = 0.52$), and “confidentiality of information” ($M = 4.71$, $SD = 0.58$). The overall mean for the “Organizational factors influencing collaboration” sub-domain was 4.46, with a standard deviation of 0.36. This implies that professionals perceived the organizational factors to be important for successful collaboration.

Table 5.7 presents the results for the “Interpersonal factors influencing collaboration” for the professional participants.

Table 5.7
Means and standard deviations for professionals’ perceptions of interpersonal factors influencing collaboration

Interpersonal factors items	Mean	SD	N
Knowing how to work together in a team	4.53	0.51	34
Knowledge of services (e.g. occupational therapy)	4.65	0.60	34
Expertise in providing services to young children	4.50	0.56	34
Commitment to working together in a team	4.76	0.43	34
Beliefs in including families in the team providing services for young children	4.71	0.46	34
Trusting relationship amongst team members	4.68	0.59	34
Mutual respect amongst team members	4.88	0.41	34
Mutual understanding amongst team members	4.85	0.44	33
Open communication	4.88	0.33	34
Availability of all information	4.68	0.53	34
Equality in teamwork	4.50	0.71	34
Professional’s confidence in working together in a team	4.53	0.56	34
Showing concern for family needs	4.47	0.56	34
Showing understanding for family concerns	4.65	0.54	34
Professionals do not criticize parent’s decisions	4.44	0.79	34
Quick response to family needs	4.38	0.70	34
Professionals use language that can be understood	4.76	0.43	34
Respect of different cultures	4.82	0.39	34
Family’s honesty to professionals	4.71	0.46	34
Parent participation in teamwork	4.71	0.45	34
Total	4.65	0.30	

Table 5.7 shows that the mean scores for all items were high, ranging from 4.38 to 4.88, implying that professionals perceived all interpersonal factors to be integral to successful collaboration. Of these, the most important interpersonal factors influencing collaboration were related to “mutual respect” ($M = 4.88$, $SD = 0.41$), “open communication” ($M = 4.88$, $SD = 0.33$), “mutual understanding amongst team members” ($M = 4.85$, $SD = 0.44$), “commitment to

collaboration” ($M = 4.76$, $SD = 0.43$), and that “professionals use language that can be understood” ($M = 4.76$, $SD = 0.43$). The overall mean for the “Interpersonal factors influencing collaboration” sub-domain was 4.65, with a standard deviation of 0.30.

5.3.5.1. Open-ended question

In the open-ended question about the additional interpersonal factors influencing collaboration, three professionals’ responses can be summarized as follows: professionals should have experience and knowledge on collaboration (1); conflict-management skills (1); and commitment and displaying passion towards own profession (1).

5.3.6. Outcomes of collaboration

Domain 6 “Factors influencing collaboration” comprises three sub-domains, namely, “Satisfaction with collaboration”, “Effects of collaboration”, and “Effectiveness of collaboration”. The results for the “Satisfaction with collaboration” are presented in Table 5.8.

Table 5.8

Means and standard deviations for professionals’ satisfaction with collaboration (n = 34)

Satisfaction with collaboration items	Extremely dissatisfied	Dissatisfied	Moderate	Satisfied	Extremely satisfied	Mean	SD
	N (%)	N (%)	N (%)	N (%)	N (%)		
Working together with other professionals in the team.	0	3 (8.8)	7 (20.6)	17 (50)	7 (20.6)	3.82	0.87
Working together with families.	0	0	1 (2.9)	22 (64.7)	11 (32.4)	4.29	0.52
The time devoted for working together in the team.	1 (2.9)	3 (8.8)	6 (17.6)	20 (58.8)	4 (11.8)	3.68	0.91

As shown in Table 5.8, with respect to “working together with families”, 64.7% ($n = 22$) of the professionals were satisfied and 32.4% ($n = 11$) were extremely satisfied. Furthermore, with respect to “working together with other professionals”, 50% ($n = 17$) were satisfied, 20.6% ($n = 7$) were extremely satisfied; whilst 20.6% ($n = 7$) were moderately satisfied, and 8.8% ($n = 3$) were dissatisfied. The results show that professionals were more satisfied with working with families than with other professionals, and that they were less satisfied with the allotment of time devoted to collaboration.

Table 5.9 presents the results for the “Effects of collaboration” for the professional participants.

Table 5.9
Means and standard deviations for professionals’ perceptions of the effects of collaboration

Effects of collaboration items	Mean	SD	N
The shared goal of service delivery is attained.	4.35	0.54	34
Parents are able to access comprehensive services more easily.	4.71	0.46	34
Parents save time by getting all services from one place.	4.76	0.43	34
Parents become more experienced in making decisions.	4.35	0.69	34
Parents improve their abilities in taking care of their children.	4.47	0.66	34
Parents have more opportunities to interact with each other to share experiences.	4.50	0.62	34
Children and families have a better chance of coping in their community.	4.53	0.66	34
The quality of life of children and families can be effectively improved.	4.56	0.61	34
Total	4.53	0.44	

As displayed in Table 5.9, the mean scores for all items were high, ranging from 4.35 to 4.76. Two items received the highest mean scores, that is, professionals perceived that collaboration enabled “parents [to] save time by getting all services from one place” ($M = 4.76$, $SD = 0.43$) as well as that they “are able to access comprehensive services easily” ($M = 4.71$, $SD = 0.46$). Two items that were rated lower than the others were “the shared goal of service delivery is attained” ($M = 4.35$, $SD = 0.54$) and “parents become more experienced in making decisions” ($M = 4.35$, $SD = 0.69$). The overall mean for the “Effects of collaboration” sub-domain was 4.53, with a standard deviation of 0.44. This implies that professionals perceived collaboration to have positive effects for services, children, and families.

5.3.6.1. Open-ended question

Three professionals out of 34 responded to the open-ended question about the additional outcomes of collaboration. In summary, their responses were: there is mutual accountability for the child and family outcomes (1); goals are prioritized (1); there is continuity of services; and collaboration is cost effective for parents (1).

Table 5.10 presents the results for the “Effectiveness of collaboration” for the professional participants.

Table 5.10

Means and standard deviations for professionals' perceptions of the effectiveness of collaboration (n = 34)

Effectiveness of collaboration items	Extremely effective	Highly effective	Moderate	Less effective	Not at all effective	Mean	SD
	N (%)	N (%)	N (%)	N (%)	N (%)		
Team effectiveness.	3 (8.8)	16 (47.1)	13 (38.2)	2 (5.9)	0	2.41	0.74
Effectiveness of teaming between parent and professionals.	4 (11.8)	9 (26.5)	19 (55.9)	1 (2.9)	1(2.9)	2.59	0.86

Note. The scores in this sub-domain were not reversed. The items were scored on a scale of 1= *extremely effective* to 5 = *not at all effective*.

Table 5.10 illustrates that 8.8% ($n = 3$) of professionals perceived the team to be “extremely effective”, 47.1% ($n = 16$), “highly effective”; whilst 5.9% ($n = 2$) reported that the team was “less effective.” The mean score was 2.41 and standard deviation was 0.74. Furthermore, 11.8% ($n = 4$) perceived parent-professional collaboration to be “extremely effective”, 26.5% ($n = 9$), “highly effective”; whilst 2.9% ($n = 1$), “less effective”, and 2.9% ($n = 1$), “not at all effective.” The mean score was 2.59 and standard deviation was 0.86. Professionals perceived the team collaboration to be more effective than parent-professional collaboration.

5.3.7. *Correlation among domains and between demographic variables and domains in CECI-P(R) for professional participants*

Spearman’s rho test was used to establish the correlation coefficient for the association among domains and between demographic variables and domains in the CECI-P(R). A positive correlation coefficient indicates a positive relationship; while a negative correlation coefficient indicates a negative relationship. Thus, values of around .10 indicate a weak correlation, values around .30 indicate a moderate correlation, and values around .50 indicate a strong correlation (Field, 2013). The p -value was set at .10 due to the small sample size.

5.3.8. *Correlation between professionals' perceptions of collaboration with age and years of experience*

Table 5.11 presents the Spearman’s rho test results for the correlation between professionals’ perceptions of collaboration (the understanding, advantages, difficulties, factors

influencing, and outcomes), and their age and years of experience providing intervention to young children.

Table 5.11
Correlation between professionals' perceptions of the domains of the CECI-P(R) and age and years of experience

Domains	Age	<i>p</i> -value	Years of experience providing intervention to young children between 0-6 years	<i>p</i> -value
Understanding of collaboration	$r_s(32) = -.121$	.495	$r_s(32) = .099$	.579
Advantages of collaboration	$r_s(31) = .122$	.500	$r_s(31) = .327^*$	.064
Difficulties with collaboration	$r_s(29) = .068$	.716	$r_s(29) = .274$	.136
Factors influencing collaboration				
-Organizational	$r_s(32) = .205$	.246	$r_s(32) = .407^{**}$	.017
-Interpersonal	$r_s(32) = -.032$	.859	$r_s(31) = .051$	.778
Outcomes of collaboration	$r_s(32) = .120$	.499	$r_s(32) = .102$	.565

* $p < .10$, ** $p < .05$

As shown in Table 5.11, there is a moderate positive correlation between years of experience and “advantages of collaboration” ($r_s(31) = .327$, $p = .064 < .10$), where high scores for the “Advantages” domain correlate with greater years of experience. This implies that professionals who strongly perceived the advantages of collaboration had significantly more experience providing intervention to young children and vice versa. Furthermore, there is a moderate to strong positive correlation between years of experience and “organizational factors influencing collaboration” ($r_s(32) = .407$, $p = .017 < .01$), where high scores on the “Organizational factors” sub-domain are associated with greater years of work experience. This implies that professionals who strongly perceived organizational factors to be influencing collaboration had significantly more years of experience providing intervention to young children and vice versa.

However, there was no statistically significant correlation between years of experience and the “understanding”, “difficulties”, “interpersonal factors”, and the “outcomes of collaboration”. Furthermore, there was no statistically significant correlation between participants’ age and the “understanding”, “advantages”, “difficulties”, “factors influencing collaboration”, and the “outcomes of collaboration”.

5.3.9. *Correlation between professionals' perceptions of the advantages, difficulties, factors influencing collaboration and satisfaction, effects, and effectiveness of collaboration*

Table 5.12 presents the Spearman's rho results for the correlation between professionals' perception of the advantages, difficulties, factors influencing collaboration, as well as the satisfaction, effects, and effectiveness of collaboration.

Table 5.12

Correlation between professionals' perceptions of advantages, difficulties and factors influencing collaboration with satisfaction, effects, and effectiveness of collaboration

Domains	Satisfaction of collaboration	Effects of collaboration	Effectiveness of collaboration
Advantages of collaboration	$r_s(31) = .315^*$ ($p = .074$)	$r_s(31) = .683^{***}$ ($p = .000$)	$r_s(31) = .424^{**}$ ($p = .014$)
Difficulties with collaboration	$r_s(29) = -.093$ ($p = .619$)	$r_s(29) = -.086$ ($p = .647$)	$r_s(29) = -.246$ ($p = .182$)
Factors influencing collaboration			
Organizational	$r_s(32) = .121$ ($p = .495$)	$r_s(32) = .389^{**}$ ($p = .023$)	$r_s(32) = .344^{**}$ ($p = .046$)
Interpersonal	$r_s(31) = .399^{**}$ ($p = .021$)	$r_s(31) = .528^{***}$ ($p = .002$)	$r_s(31) = .538^{***}$ ($p = .001$)

* $p < .10$, ** $p < .05$, *** $p < .01$

As shown in Table 5.12, there is a moderate positive correlation between professionals' perceptions of "satisfaction of collaboration" and the "advantages of collaboration" ($r_s(31) = .315$, $p = .074 < .10$); with high scores on the "Satisfaction" domain being associated with high "advantages" scores. This implies that professionals who were more satisfied with collaboration also perceived significantly greater advantages for collaboration and vice versa. Furthermore, there is a moderate positive correlation between professionals' perceptions of "satisfaction of collaboration" and "interpersonal factors influencing collaboration" ($r_s(31) = .399$, $p = .021 < .05$), with high scores on the "Interpersonal factors" sub-domain being associated with high "satisfaction" scores. This implies that professionals who were more satisfied with collaboration were also significantly more in agreement with the interpersonal factors influencing collaboration and vice versa. There is no statistically significant correlation between the "satisfaction of collaboration" and the "difficulties with collaboration", as well as "organizational factors influencing collaboration".

There is a strong positive correlation between professionals' perceptions of the "effects of collaboration" and the "advantages of collaboration" ($r_s(31) = .683, p = .000 < .01$), as well as "interpersonal factors influencing collaboration" ($r_s(31) = .528, p = .002 < .01$). Furthermore, there is a moderate positive correlation between professionals' perceptions of the "effects of collaboration" and the "organizational factors influencing collaboration" ($r_s(32) = .389, p = .023 < .05$). High scores on the "Advantages" domain, as well as on the "Interpersonal factors" and "Organizational factors" sub-domains were associated with high effect scores. This implies that professionals who perceived significant advantages for collaboration, and who strongly agreed with the interpersonal and organizational factors influencing collaboration, also perceived positive effects for collaboration and vice versa. There is no statistically significant correlation between the "effects of collaboration" and "difficulties with collaboration".

There is a moderate to strong positive correlation between professionals' perceptions of the "effectiveness of collaboration" and the "advantages of collaboration" ($r_s(31) = .424, p = .014 < .05$). There is a moderate positive correlation between professionals' perceptions of the "effectiveness of collaboration" and "organizational factors influencing collaboration" ($r_s(32) = .344, p = .046 < .05$). Furthermore, there is a strong positive correlation between professionals' perceptions of the "effectiveness of collaboration" and "interpersonal factors influencing collaboration" ($r_s(31) = .538, p = .001 < .01$). High scores on the "Advantages" domain and the "Organizational factors" and "Interpersonal factors" sub-domains were associated with high "team effectiveness" scores. This implies that professionals who perceived significant advantages to collaboration and who strongly agreed with the organizational factors and interpersonal factors influencing collaboration also perceived greater team effectiveness and vice versa. There is no statistically significant correlation between "effectiveness of collaboration" and "difficulties with collaboration".

5.4. Perceptions of caregivers

The caregivers' perceptions of the understanding, advantages, difficulties, and effects of collaboration were assessed using a five-point Likert-type scale, ranging from 1.00 (*strongly disagree*) to 5.00 (*strongly agree*). Similarly, caregivers' perceptions of the factors influencing collaboration were assessed using a five-point Likert-type scale, ranging from 1.00 (*extremely unimportant*) to 5.00 (*extremely important*); likewise satisfaction with collaboration, ranged from

1.00 (*extremely dissatisfied*) to 5.00 (*extremely satisfied*); and effectiveness of collaboration, ranged from 1.00 (*extremely effective*) to 5.00 (*not at all effective*).

For correlation between domains, the items in the “Effectiveness of collaboration” sub-domain were reverse scored, since the numerical scoring scale for this sub-domain was ranked in the opposite direction to the scales in the other domains. All domains included an open-ended question, except for the “Understanding of collaboration” and “Effectiveness of collaboration.” Where included, the open-ended question was used to obtain additional information on the particular domain. Furthermore, the parents’ levels of involvement in the team and their willingness to participate in a team were assessed on a four-point Likert scale ranging from 1.00 (*high*) to 4.00 (*none*).

5.4.1. *Understanding of working together in teams*

The mean scores and standard deviations for Domain 1 “Understanding of working together in teams,” are presented in Table 5.13. The item “To work together effectively in a team takes a lot of time” was reverse scored, as it was presented in the opposite direction to the other items. This was essential for comparison with other items in the domain (Field, 2013).

Table 5.13

Means and standard deviations for caregivers’ understanding of working together in a team

Understanding of working together in a team items	Mean	SD	N
Working together in a team is necessary to provide quality services for young children.	4.59	0.61	64
Finding resources such as information and support services are important for providing effective services for young children.	4.64	0.52	64
Parents should be included in the team providing services to young children.	4.58	0.79	64
The needs of the family should be considered first when working together in teams for young children.	4.14	1.13	64
Working together in a team requires commitment of all involved for the best results.	4.64	0.55	64
Professional’s opinions about working together in a team are important for successful interaction with parents.	4.70	0.46	64
Working together effectively requires open communication (e.g. all information is shared).	4.67	0.68	64
Decision-making should involve all team members.	4.48	0.71	64
To work together effectively in a team takes a lot of time. ^a	2.53	1.24	64
Total	4.33	0.40	

^a Item reverse scored.

As illustrated in Table 5.13, two items received the highest mean scores, namely, “professional’s opinions about working together in a team are important for successful interaction with parents” ($M = 4.70$, $SD = 0.46$), and that “working together effectively requires open communication” ($M = 4.67$, $SD = 0.68$). Two items related to the family or caregiver, that is, “parents should be included in the team” ($M = 4.58$, $SD = 0.79$), and that “the needs of the family should be considered first” ($M = 4.14$, $SD = 1.13$) were rated positive, but with lower mean scores. The findings show that the caregivers perceived collaboration to be time-consuming ($M = 2.53$, $SD = 1.24$); however, the caregivers had a wider range of opinions on this item, due to the large standard deviation. The overall mean for the “Understanding of working together in teams” was 4.33, with a standard deviation of 0.40, implying that the caregivers had a good understanding of collaboration.

Table 5.14 presents the caregivers’ responses to their involvement and willingness to participate in the team.

Table 5.14
Frequency of caregivers’ levels of involvement and willingness to participate in the team

	High	Medium	Low	N
	<i>N (%)</i>	<i>N (%)</i>	<i>N (%)</i>	
Level of involvement in the team	53 (82.8)	10 (15.6)	1 (1.6)	64
Level of willingness to participate in the team	61 (95.3)	3 (4.7)	-	64

Table 5.14 shows that 82.8% of the caregivers were highly involved in the team. All caregivers were willing to be involved in the team with an overwhelmingly high percentage (95.3%) of caregivers being highly willing to participate in teams. The findings show that more caregivers were willing to participate in collaboration when compared to the percentage of caregivers currently involved in collaboration.

5.4.1.1. *Association between caregivers’ levels of involvement and willingness to participate in the team*

Chi-square analysis was used to determine the association between caregivers’ levels of involvement and their willingness to participate in the team. Data for the low and medium scores

were combined. Table 5.15 presents the results of the association between the level of involvement and their willingness to participate in a team.

Table 5.15
Association between caregivers' levels of involvement and willingness to participate in the team

Willingness to be involved	Level of involvement	
	Medium or low N (%)	High N (%)
Medium or low	2/11 (18.18)	9/11 (81.82)
High	1/53 (1.89)	52/53 (98.11)
Total N (%)	3/64 (4.7)	61/64 (95.3)

$$X^2 = 5.414, df = 1, p = .020 < .05$$

Note. X^2 = chi-square, p = p -value, df = degrees of freedom. Data for low and medium scores were combined.

In Table 5.15, although the expected count in two of the cells was less than 5, the results of the Chi-square test indicate that there is a statistically significant association between the “levels of involvement” and “willingness to participate” in a team ($X^2(1, N = 64) = 5.41, p = .020 < .05$). This implies that the caregivers who were highly involved in the team were also highly willing to participate in the team. The strength of the relationship was assessed by means of the Phi coefficient, which was .291, indicating a medium effect size (Field, 2013). This implies that in practice there is a medium association, and thus a high level of involvement is more likely in respondents with high willingness to be involved (98%) than in those with medium or low willingness to be involved (81%) in collaboration.

5.4.2. *Advantages of working together in a team*

The mean scores and standard deviations for Domain 2 “Advantages of working together in a team,” are presented in Table 5.16.

Table 5.16
Means and standard deviations for caregivers' perceptions of the advantages of working together in a team

Advantages of working together in a team items	Mean	SD	N
Benefit young children and their families.	4.66	0.51	64
Provide quick services (e.g. speech-language therapy, occupational therapy) to the needs of children and families.	4.58	0.61	64
Help to make the best use of resources such as materials and equipment required for the child.	4.63	0.49	64
Help to provide many services (e.g. speech-language therapy, physiotherapy) effectively.	4.71	0.46	63
Help parents to access the services (e.g. speech-language therapy, occupational therapy) needed.	4.72	0.55	64

Advantages of working together in a team items	Mean	SD	N
Help parents to develop skills in working together with professionals to identify needs.	4.67	0.54	64
Help parents to improve their abilities in taking care of their children.	4.70	0.58	64
Help parents to participate in the planning of services provided to the child.	4.69	0.50	64
Help parents to connect with other families to share experiences.	4.66	0.51	64
Improve the quality of life of children and families.	4.70	0.46	64
Total	4.66	0.35	

Table 5.16 illustrates that the mean scores for all items were high, ranging from 4.58 to 4.72. This implies that all the caregivers perceived collaboration to be beneficial for professionals, parents, and children. Four items received particularly high mean scores; these were in relation to “parents access[ing] the services needed” ($M = 4.72$, $SD = 0.55$), collaboration “help[ing] to provide many services effectively” ($M = 4.71$, $SD = 0.46$), “help[ing] parents to improve their abilities in taking care of their children” ($M = 4.70$, $SD = 0.58$), as well as “improve[ing] the quality of life of children and families” ($M = 4.70$, $SD = 0.46$). “Provid[ing] quick services to the needs of children and families” ($M = 4.58$, $SD = 0.61$) was rated positive but lower than all other items in this domain. The overall mean for the “Advantages of working together in a team” domain was 4.66, with a standard deviation of 0.35.

5.4.2.1. *Open-ended question*

Two out of 64 caregivers responded to the open-ended question about the additional advantages of collaboration. Their responses are summarized as: collaboration improved their knowledge (1), as well as provided them with ideas to deal with problems (1).

5.4.3. *Difficulties with working together in a team*

The mean scores and standard deviations for Domain 3 “Difficulties with working together in a team,” are presented in Table 5.17. High mean scores in this domain (≥ 4) imply that caregivers agreed with the item, indicating that it was a challenge for collaboration. A score of three implies that they were neutral about the item. Low mean scores (≤ 2) imply that caregivers disagreed with the item, indicating that it was not a challenge for collaboration.

Table 5.17

Means and standard deviations for caregivers' perceptions of the difficulties with working together in a team

Difficulties with working together in a team items	Mean	SD	N
Insufficient time to work together in a team.	2.91	1.26	64
Lack of agreement between parents and professionals on the services to be provided.	2.34	1.17	64
Professionals do not communicate well with parents.	1.98	1.09	64
Professionals show no interest to parent involvement in the team.	2.05	0.93	64
Professionals lack of understanding of family needs.	2.95	1.30	64
Professionals do not know how to deal with disagreements between team members.	2.25	1.07	64
Professionals lack of awareness of the family's culture.	3.16	1.38	64
Difficult to follow instructions from different professionals.	2.25	1.14	64
Difficulty in understanding what professionals say.	2.31	1.11	64
Total	2.47	0.74	

As can be seen in Table 5.17, the standard deviations for all items were high, implying that caregivers had a wider range of opinions on these items. Three items, “professionals’ lack of awareness of the family’s culture” ($M = 3.16$, $SD = 1.38$), “professionals lack of understanding of family needs” ($M = 2.95$, $SD = 1.30$), followed by “insufficient time for collaboration” ($M = 2.91$, $SD = 1.26$) presented with the highest mean scores, suggesting that caregivers perceived these items to be challenges for collaboration. Two items that were not considered a challenge for collaboration and therefore, rated lower than the other items in the domain were in relation to caregivers perceiving that professionals communicated well with them ($M = 1.98$, $SD = 1.09$), and that professionals displayed interest in parental involvement in the team ($M = 2.05$, $SD = 0.93$). The overall mean for the “Difficulties with working together in a team” domain was 2.47, with a standard deviation of 0.74, indicating that overall caregivers did not perceive serious difficulties with collaboration.

5.4.3.1. Open-ended question

Six out of 64 caregivers responded to the open-ended question about the additional difficulties with collaboration. These included, and are summarised as: professionals do not have time to listen to what caregivers are saying (1); there is lack of progress with the child and a repeating of activities even though the child is competent in performing the specific activity (1); and that work commitments render it difficult for them to regularly participate in the team (2). Furthermore, caregivers indicated that assistants are required to help with the different languages (1); and that support, in terms of day-care facilities, are required for their children (1). In comparison to the other domains, more caregivers responded to the open-ended question in this

domain. This may suggest that caregivers are experiencing various challenges with collaboration in ECI services.

5.4.4. *Factors influencing relationships in a team*

Domain 4 “Factors influencing relationships in a team” comprises two sub-domains, namely, “Organizational factors influencing relationships in a team” and “Interpersonal factors influencing relationships in a team”. The mean scores and standard deviations for the “Organizational factors” are presented in Table 5.18, and “Interpersonal factors” in Table 5.19.

Table 5.18

Means and standard deviations for caregivers’ perceptions on the organizational factors influencing relationships in a team

Organizational factors items	Mean	SD	N
Time for working together in a team	4.52	0.80	64
Sharing of resources such as equipment for child treatment	4.72	0.55	64
Sharing of information	4.61	0.63	64
Ensuring information is kept confidential	4.38	1.08	64
Leadership in teams	3.75	1.32	64
Opportunities for team training on teamwork	4.34	0.89	64
Professional availability	4.48	0.87	64
Number of patients requiring services from teams	4.48	0.71	64
Professional expertise	4.67	0.56	64
Total	4.44	0.52	

With respect to the “Organizational factors influencing relationships in a team”, Table 5.18 illustrates that the mean scores for all items were high, ranging from 4.34 to 4.72. High scores imply that the caregivers agreed that the organizational factors to be integral to successful collaboration. The item on “leadership in teams” ($M = 3.75$, $SD = 1.32$) had a lower mean score; with a large standard deviation, implying that caregivers had a wider range of opinions on this item. Three items presented with the highest mean scores; these were in relation to “sharing of resources such as equipment for child treatment” ($M = 4.72$, $SD = 0.55$), “professional expertise” ($M = 4.67$, $SD = 0.56$), and “sharing of information” ($M = 4.61$, $SD = 0.63$). The overall mean for the “Organizational factors influencing relationships” sub-domain was 4.44, with a standard deviation of 0.52.

Table 5.19 presents the results for the “Interpersonal factors influencing relationships in a team” for the caregiver participants.

Table 5.19

Means and standard deviations for caregivers' perceptions of the interpersonal factors influencing relationships in a team

Interpersonal factors items	Mean	SD	N
Knowing how to work together in a team	4.56	0.53	64
Knowledge of services (e.g. occupational therapy)	4.70	0.46	64
Expertise in providing services to young children	4.67	0.47	64
Commitment to working together in a team	4.59	0.53	64
Beliefs in including families in the team providing services for young children	4.22	1.05	64
Trusting relationship amongst team members	4.56	0.53	64
Mutual respect amongst team members	4.80	0.41	64
Mutual understanding amongst team members	4.58	0.59	64
Open communication	4.58	0.64	64
Availability of all information	4.70	0.46	64
Equality in teamwork	4.53	0.73	64
Professional's honesty to parents	4.77	0.46	64
Showing concern for family needs	4.53	0.69	64
Showing understanding for family concerns	4.50	0.69	64
Professionals do not criticize parent's decisions	4.08	0.90	64
Quick response to family needs	4.42	0.77	64
Professionals use language that can be understood	4.67	0.47	64
Respect of different cultures	4.34	0.91	64
Parent participation in teamwork	4.77	0.53	64
Total	4.56	0.42	

Table 5.19 illustrates that the mean scores for all items were high, ranging from 4.08 to 4.80, implying that the caregivers perceived all interpersonal factors to be integral to collaboration. Of these, three items received the highest mean ratings; these were related to “mutual respect” ($M = 4.80$, $SD = 0.41$), “professional's honesty to parents” ($M = 4.77$, $SD = 0.46$) and “parent participation in teamwork” ($M = 4.77$, $SD = 0.53$). Two items that were rated high, but lower than other items in the domain were “professionals do not criticize parent's decisions” ($M = 4.08$, $SD = 0.90$) and “beliefs in including families in the team providing services for young children” ($M = 4.22$, $SD = 1.05$). The latter item presented with a large standard deviation, implying that caregivers had a wider range of opinions on this item. The overall mean for the “Interpersonal factors influencing relationships” sub-domain was 4.56, with a standard deviation of 0.42.

5.4.5. *Outcomes of working together in a team*

Domain 5 “Outcomes of working together in a team” comprises three sub-domains, namely, “Satisfaction with working together in a team”, “Effects of working together in a team”, and “Effectiveness of working together in a team”. The results for the “Satisfaction with working together in a team” are presented in Table 5.20.

Table 5.20

Means and standard deviations for caregivers' satisfaction with working together in a team (n = 64)

Satisfaction with working together in a team items	Extremely dissatisfied N (%)	Dissatisfied N (%)	Moderate N (%)	Satisfied N (%)	Extremely satisfied N (%)	Mean	SD
The services (e.g. speech-language therapy, occupational therapy) provided by the team.	0	2 (3.1)	8 (12.5)	15 (23.4)	39 (61)	4.42	0.83
Professionals working together in the team.	0	2 (3.1)	3 (4.7)	23 (35.9)	36 (56.3)	4.45	0.73
The amount of time provided for treatment.	1 (1.6)	0	11 (17.2)	15 (23.4)	37 (57.8)	4.33	0.87
Receiving the services needed (e.g. speech-language therapy, occupational therapy).	1 (1.6)	1 (1.6)	7 (10.9)	16 (25)	39 (60.9)	4.42	0.87
The opportunities to interact with other families.	3 (4.7)	6 (9.4)	9 (14.1)	22 (34.4)	24 (37.5)	3.91	1.15

As shown in Table 5.20, 35.9% ($n = 23$) of the caregivers were satisfied, and 56.3% ($n = 36$) were extremely satisfied with “professionals working together in the team.” Furthermore, 25% ($n = 16$) of the caregivers were satisfied, and 60.9% ($n = 39$) were extremely satisfied with “receiving the services needed.” With respect to “the services provided by the team”, 23.4% ($n = 15$) were satisfied, and 61% ($n = 39$) were extremely satisfied; while 23.4% ($n = 15$) were satisfied, and 57.8% ($n = 37$) were extremely satisfied with “the amount of time provided for treatment.” “The opportunities to interact with other families” ($M = 3.91$, $SD = 1.15$) received a lower mean score; however, with a large standard deviation, implying that caregivers had a wider range of opinions on this item.

Table 5.21 presents the results for the “Effects of working together in a team” for the caregiver participants.

Table 5.21

Means and standard deviations for caregivers' perceptions of the effects of working together in a team

Effects of working together in a team items	Mean	SD	N
Parents get all the information needed from professionals.	4.45	0.80	64
Children are able to receive all the services from one place.	4.41	0.87	64

Effects of working together in a team items	<i>Mean</i>	<i>SD</i>	<i>N</i>
Children feel safe because all services are provided in one place.	4.42	0.75	64
Parents become more experienced in making decisions.	4.52	0.59	64
Parents improve their abilities in taking care of their children.	4.78	0.45	64
Children and families have a better chance of coping in their community.	4.56	0.59	64
The quality of life of children and families can be successfully improved.	4.70	0.49	64
Total	4.55	0.46	

As shown in Table 5.21, the mean scores for the “Effects of working together” were high, ranging from 4.41 to 4.78. This implies that caregivers perceived the effects of collaboration in teams to be positive. The item related to “parents improve[ing] their abilities in taking care of their children” presented with the highest mean score ($M = 4.78$, $SD = 0.45$). Three items, although rated positive, presented with lower mean scores, and these were with respect to “children are able to receive all services from one place” ($M = 4.41$, $SD = 0.87$), “children feel[ing] safe because all services are provided in one place” ($M = 4.42$, $SD = 0.75$) and “parents get all information needed from professionals” ($M = 4.45$, $SD = 0.80$). The overall mean for the “Effects of working together in a team” sub-domain was 4.55, with a standard deviation of 0.46.

Table 5.22 presents the results for the “Effectiveness of working together in a team” for the caregiver participants.

Table 5.22

Means and standard deviations for caregivers’ perceptions of the effectiveness of working together in a team (n = 64)

Effectiveness of working together in a team items	Extremely effective	Highly effective	Moderate	Less effective	Not at all effective	<i>Mean</i>	<i>SD</i>
	<i>N (%)</i>	<i>N (%)</i>	<i>N (%)</i>	<i>N (%)</i>	<i>N (%)</i>		
Team effectiveness.	40 (62.5)	19 (29.7)	4 (6.3)	1 (1.6)	0	1.47	0.69
Effectiveness of teaming between parent and professionals.	42 (65.6)	19 (29.7)	2 (3.1)	1 (1.6)	0	1.41	0.64

Note. The scores in this sub-domain were not reversed. The items were scored on a scale of 1= *extremely effective* to 5 = *not at all effective*.

As illustrated in Table 5.22, 62.5% ($n = 40$) of caregivers indicated that the team was “extremely effective”, 29.7% ($n = 19$), “highly effective”; while 1.6% ($n = 1$) reported that the team was “less effective.” The mean score was 1.47 and standard deviation was 0.69. Furthermore, 65.6% ($n = 42$) of caregivers perceived parent-professional collaboration to be “extremely

effective”, 29.7% ($n = 19$), “highly effective”; while 1.6% ($n = 1$) reported that the team was “less effective.” The mean score was 1.41 and standard deviation was 0.64. A low mean score (≤ 2) imply that the caregivers perceived collaboration in the team to be effective.

5.4.6. *Correlation among domains and between demographic variables and domains in CECI-C(R) for caregiver participants*

Spearman’s rho test was used to establish the correlation coefficient for the association among domains and between demographic variables and domains in the CECI-C(R). A positive correlation coefficient indicates a positive relationship, while a negative correlation coefficient indicates a negative relationship. Thus, values of around .10 indicate a weak correlation, values around .30 indicate a moderate correlation, and values around .50 indicate a strong correlation (Field, 2013). The p -value was set at .10, due to the small sample size.

5.4.7. *Correlation between caregivers’ perceptions of collaboration with age and educational level*

The Spearman’s rho results indicate that there is no statistically significant association between age and educational level with caregivers’ perceptions of the “understanding”, “advantages”, “difficulties”, “factors influencing collaboration”, and the “outcomes of collaboration”.

5.4.8. *Correlation between caregivers’ perceptions of collaboration with levels of involvement and willingness to be involved in teams*

Table 5.23 presents the Spearman’s rho results for caregivers’ perceptions of the understanding, advantages, difficulties, factors influencing, outcomes of collaboration, and levels of involvement and willingness to participate in a team.

Table 5.23

Correlation between caregivers’ perceptions of the domains of the CECI-C(R), and levels of involvement and willingness to be involved in the team

Domains	Levels of involvement	p -value	Willingness to be involved in the team	p -value
Understanding of collaboration	$r_s(62) = .112$	.380	$r_s(62) = .002$	.987
Advantages of collaboration	$r_s(61) = .178$	.164	$r_s(61) = .182$	.154
Difficulties with collaboration	$r_s(62) = -.366^{**}$	.003	$r_s(62) = .010$	.937
Factors influencing collaboration	$r_s(62) = .000$	.999	$r_s(62) = .112$	.376

Domains	Levels of involvement	<i>p</i> -value	Willingness to be involved in the team	<i>p</i> -value
Outcomes of collaboration				
Satisfaction with collaboration	$r_s(62) = .250^*$	.047	$r_s(62) = -.016$	.899
Effects of collaboration	$r_s(62) = .162$	.202	$r_s(62) = .018$	.885
Effectiveness of collaboration	$r_s(62) = .279^*$	.025	$r_s(62) = .348^{**}$	.005

* $p < .05$, ** $p < .01$

As displayed in Table 5.23, there is a moderate negative correlation between caregivers' "levels of involvement in the team" and their perception of the "Difficulties with collaboration" ($r_s(62) = -.366, p = .000 < .01$). High scores on the "Difficulty" domain are associated with low "involvement" scores, implying that caregivers who perceived greater difficulties with collaboration were less involved in the team or vice versa. Furthermore, there is a weak to moderate positive correlation between caregivers' "levels of involvement in the team" and "satisfaction with collaboration" ($r_s(62) = .250, p = .047 < .05$) as well as caregivers' perceptions of the "effectiveness of collaboration" ($r_s(62) = .279, p = .025 < .05$). High scores on "Satisfaction with collaboration" and "Effectiveness of collaboration" sub-domains are associated with high "involvement" scores, implying that caregivers who were significantly more involved in the team perceived greater satisfaction and team effectiveness and vice versa. There is no statistically significant correlation between "levels of involvement in the team" and the "Understanding", "Advantages", "Factors influencing collaboration", and "Effects of collaboration".

There is a moderate positive correlation between caregivers' "willingness to work in a team" and their perception of the "Effectiveness of collaboration" ($r_s(62) = .348, p = .005 < .01$), implying that caregivers who perceived high team effectiveness were significantly more willing to work in a team and vice versa. There is no statistically significant correlation between caregivers' "willingness to be involved in a team" and their perception on the "understanding", "advantages", "difficulties", "factors influencing collaboration", "satisfaction", and "effects" of collaboration.

5.4.9. *Correlation between caregivers' perceptions of advantages, difficulties, factors influencing collaboration, and satisfaction, effects, and effectiveness of collaboration in teams*

Table 5.24 presents the Spearman's rho results for the correlation between caregivers' perceptions of the advantages, difficulties and factors influencing collaboration, and the satisfaction, effects, and effectiveness of collaboration.

Table 5.24

Correlation between caregivers' perceptions of advantages, difficulties, factors influencing collaboration, and satisfaction, effects, and effectiveness of collaboration in the team

Domains	Satisfaction with collaboration	Effects of collaboration	Effectiveness of collaboration
Advantages of collaboration	$r_s(61) = .419^{**}$ ($p = .001$)	$r_s(61) = .519^{**}$ ($p = .000$)	$r_s(61) = .334^{**}$ ($p = .007$)
Difficulties with collaboration	$r_s(62) = -.118$ ($p = .355$)	$r_s(62) = -.107$ ($p = .402$)	$r_s(62) = -.191$ ($p = .132$)
Factors influencing collaboration			
Organizational	$r_s(62) = .182$ ($p = .149$)	$r_s(62) = .395^{**}$ ($p = .001$)	$r_s(62) = .259^*$ ($p = .039$)
Interpersonal	$r_s(62) = .416^{**}$ ($p = .001$)	$r_s(62) = .593^{**}$ ($p = .000$)	$r_s(62) = .375^{**}$ ($p = .002$)

* $p < .05$, ** $p < .01$

As displayed in Table 5.24, there is a moderate positive correlation between caregivers' perceptions of the "satisfaction with collaboration" and "advantages of collaboration" ($r_s(61) = .419$, $p = .001 < .01$) as well as "interpersonal factors influencing collaboration" ($r_s(62) = .416$, $p = .001 < .01$). High scores on the "Advantages" domain and "Interpersonal factors" sub-domain are associated with high "satisfaction" scores. This imply that caregivers who are more satisfied with collaboration perceived significantly greater advantages and agreed significantly more with the interpersonal factors influencing collaboration and vice versa. There is no statistically significant correlation between caregivers' perceptions of the "satisfaction with collaboration" and "difficulties with collaboration," as well as "organizational factors influencing collaboration".

There is a strong positive correlation between caregivers' perceptions of the "effects of collaboration" and "advantages" ($r_s(61) = .519$, $p = .000 < .01$), as well as "interpersonal factors influencing collaboration" ($r_s(62) = .593$, $p = .000 < .01$). Furthermore, there is a moderate positive correlation between caregivers' perceptions of the "effects of collaboration" and "organizational factors influencing collaboration" ($r_s(62) = .395$, $p = .001 < .01$). High scores on the "Advantages" domain and "Organizational factors" and "Interpersonal factors" sub-domains were associated with high "effect" scores. This imply that caregivers who perceived positive effects for collaboration also perceived significant advantages and strongly agreed with the organizational and interpersonal factors influencing collaboration in teams and vice versa. There is no statistically significant correlation between caregivers' perceptions of the "effects of collaboration" and "difficulties with collaboration".

There is a moderate positive correlation between caregivers’ perceptions of the “effectiveness of collaboration” and the “advantages” ($r_s(61) = .334, p = .007 < .01$), “organizational factors” ($r_s(62) = .259, p = .039 < .05$), as well as “interpersonal factors influencing collaboration” ($r_s(62) = .375, p = .002 < .01$). High scores on the “Advantages” domain and “Organizational factors” and “Interpersonal factors” sub-domains were associated with high “effectiveness” scores. This imply that caregivers who perceived high team effectiveness also perceived high advantages, and strongly agreed with the organizational and interpersonal factors influencing collaboration in teams and vice versa. There is no statistically significant correlation between caregivers’ perceptions of the “Effectiveness of collaboration” and “Difficulties with collaboration”.

5.5. Comparison between professional and caregiver perspectives

The professional and caregiver measures have 52 items in common. Cohen’s d was used to determine the effect size for each item (Field, 2013). The effect size refers to the strength of the relationship between two variables based on the difference in mean scores (Field, 2013). These suggestions for interpreting the effect size will be used: $d = 0.2$ (small effect), $d = 0.5$ (medium effect), $d = 0.8$ (large effect) (Field, 2013). According to Rosenthal, Rosnow, & Rubin (2000), a small sample size can lead to a failure to detect a true effect. Therefore, for caregiver-professional comparison, the effect size for all items was included even when the p -value was not significant. The p -value was set at .10, due to the small sample size.

5.5.1. Understanding of collaboration

In the “Understanding of collaboration” domain, the professional and caregiver questionnaires had seven items in common. The mean scores, standard deviations, p -values, and effect size for these items are presented in Table 5.25.

Table 5.25
Means and standard deviations for understanding of collaboration for professionals and caregivers

Understanding of collaboration items	Professionals (34)		Caregivers (64)		Total M (Total SD)	p-value	d
	M	SD	M	SD			
Working together in a team is necessary to provide quality services for young children.	4.91	0.29	4.59	0.61	4.70 (.48)	.001***	0.74

Understanding of collaboration items	Professionals (34)		Caregivers (64)		Total M (Total SD)	p-value	d
	M	SD	M	SD			
Finding resources such as information and support services are important for providing effective services for young children.	4.85	0.36	4.64	0.52	4.71 (.68)	.019***	0.51
Parents should be included in the team providing services to young children.	4.91	0.29	4.58	0.79	4.70 (.68)	.003***	0.64
The needs of the family should be considered first when working together in teams for young children.	4.47	0.79	4.14	1.13	4.26 (1.02)	.086*	0.37
Working together in a team requires commitment of all involved for the best results.	4.94	0.24	4.64	0.55	4.74 (.48)	<.000***	0.80
Working together effectively requires open communication (e.g. all information is shared).	4.76	0.61	4.67	0.68	4.70 (.65)	.501	0.14
Decision-making should involve all team members.	4.47	0.75	4.48	0.71	4.48 (.72)	.929	0.02

Note. Correlations in bold indicate a medium effect (>.50) or large effect (>.80), d = Cohen's d (effect size).
 * $p < .10$, ** $p < .05$, *** $p < .01$

As shown in Table 5.25, the means scores for the professionals were higher than the caregivers' mean scores for most items. There is a statistically significant difference between professional and caregiver ratings for the items related to collaboration requiring "commitment" ($p = < .000$), indicating a large effect size ($d = 0.80$), and "finding resources" are important for collaboration ($p = .019$), indicating a medium effect size ($d = 0.51$). In addition, there is a statistically significant difference on professional and caregiver ratings for the items "working together in a team is necessary to provide quality services for young children" ($p = .001$), indicating a medium to large effect size ($d = 0.74$); "parents should be included in the team" ($p = .003$), indicating a medium effect size ($d = 0.64$); and "the needs of the family should be considered first" ($p = .086$), indicating a small effect size ($d = 0.37$). The latter findings imply that professionals have a significantly greater understanding of collaboration when compared to caregivers for these items. Additionally, there was consensus between professionals ($M = 4.47$, $SD = 0.75$) and caregivers ($M = 4.48$, $SD = 0.71$) on "decision-making should involve all team members."

5.5.2. Advantages of collaboration

For the “Advantages of collaboration” domain, the professional and caregiver measures had nine items in common. The mean scores, standard deviations, p -values, and effect size for the professional and caregiver comparison are presented in Table 5.26.

Table 5.26

Means and standard deviations for the advantages of collaboration for professionals and caregivers

Advantages of collaboration items	Professionals (34)		Caregivers (64)		Total M (Total SD)	p-value	d
	M	SD	M	SD			
Benefit young children and their families.	4.85	0.36	4.66	0.51	4.72 (.47)	.029*	0.47
Help to make the best use of resources such as materials and equipment required for the child.	4.76	0.43	4.63	0.49	4.67 (.47)	.149	0.31
Help to provide many services (e.g. speech-language therapy, physiotherapy) effectively.	4.82	0.39	4.71	0.46	4.75 (.43)	.217	0.26
Provide efficient (quick) services to the needs of children and families.	4.82	0.39	4.58	0.61	4.66 (.56)	.017*	0.51
Help parents to access the services (e.g. speech-language therapy, occupational therapy) needed.	4.85	0.44	4.72	0.55	4.85 (.44)	.922	0.26
Help professionals (parents) to develop skills in working together with parents (professionals) to identify needs.	4.76	0.43	4.67	0.54	4.70 (.50)	.386	0.18
Help parents to improve their abilities in taking care of their children.	4.72	0.67	4.70	0.58	4.71 (.61)	.855	0.04
Help parents to connect with other families to share experiences.	4.59	0.61	4.66	0.51	4.63 (.54)	.559	0.12
Improve the quality of life of children and families.	4.71	0.58	4.70	0.46	4.70 (.50)	.980	0.01

Note. Correlations in bold indicate a medium effect ($>.50$), d = Cohen’s d (effect size).

* $p < .05$

As displayed in Table 5.26, the mean scores for the professionals were statistically significant and higher than the caregivers for two items. These were related to collaboration “benefit[s] young children and their families” ($p = .029$), indicating a medium to large effect size ($d = 0.47$), and that collaboration provides “efficient services to the needs of children and their families” ($p = .017$), indicating a medium effect size ($d = 0.51$). This implies that professionals perceived the latter two items as significant advantages of collaboration, when compared to caregivers. There was consensus between professionals ($M = 4.72$, $SD = 0.67$) and caregivers ($M = 4.70$, $SD = 0.58$) on the item related to collaboration “helping parents to improve their abilities in

taking care of their children.” Furthermore, professionals ($M = 4.71$, $SD = 0.58$) and caregivers ($M = 4.70$, $SD = 0.46$) agreed that collaboration “improve[s] the quality of life of children and families.”

5.5.3. *Difficulties with collaboration*

For the “Difficulties with collaboration” domain, the professional and caregiver measures had one item in common. The mean scores, standard deviations, p -values, and effect size for the professional and caregiver comparison are presented in Table 5.27.

As displayed in Table 5.27, the mean scores for the professionals and caregivers were fairly similar. Both the professionals ($M = 2.47$, $SD = 0.10$) and caregivers ($M = 2.34$, $SD = 1.17$) perceived that there was agreement between them on the services to be provided.

Table 5.27

Means and standard deviations for difficulties with collaboration for professionals and caregivers

Difficulties with collaboration items	Professional (34)		Caregiver (64)		Total M (Total SD)	p-value	d
	M	SD	M	SD			
Lack of agreement between parents and professionals on the services to be provided.	2.47	0.10	2.34	1.17	2.39 (1.11)	.592	0.11

Note. d = Cohen’s d (effect size).

* $p < .10$

5.5.4. *Factors influencing collaboration*

The professional and caregiver questionnaires had nine items in common for the “Organizational factors” sub-domain and eighteen items in common for the “Interpersonal factors” sub-domain. The mean scores, standard deviations, p -values, and effect size for the professional and caregiver comparison on the organizational and interpersonal factors are presented in Table 5.28 and Table 5.29 respectively.

Table 5.28

Means and standard deviations for the organizational factors influencing collaboration for professionals and caregivers

Organizational factors items	Professionals (34)		Caregivers (64)		Total M (Total SD)	p-value	d
	M	SD	M	SD			
Time for working together in a team	4.41	0.57	4.52	0.80	4.48 (.72)	.50	0.14
Sharing of resources such as equipment for child treatment	4.26	0.71	4.72	0.55	4.56 (.64)	.002***	0.69
Sharing of information	4.71	0.52	4.61	0.63	4.64 (.60)	.45	0.16
Ensuring information is kept confidential	4.71	0.58	4.38	1.08	4.49 (.94)	.051*	0.42
Leadership in teams	3.91	1.06	3.75	1.32	3.80 (1.23)	.54	0.13
Opportunities for team training on teamwork	4.47	0.66	4.34	0.89	4.39 (.82)	.47	0.15
Professional availability	4.79	0.41	4.48	0.87	4.59 (.76)	.019**	0.51
Number of patients requiring services from teams	4.35	0.85	4.48	0.71	4.44 (.76)	.42	0.17
Professional expertise	4.56	0.56	4.67	0.56	4.63 (.56)	.35	0.20

Note. Correlations in bold indicate a medium effect (>.50) or large effect (>.80), d = Cohen's d (effect size).

* $p < .10$, ** $p < .05$, *** $p < .01$

As shown in Table 5.28, the mean scores for the professionals were higher than the caregivers for two items related to “professional availability” ($p = .019$) and “confidentiality of information” ($p = .051$), both indicating a medium effect size of $d = 0.51$ and 0.42 respectively. This implies that professionals, when compared to caregivers, perceived the above organizational factors to be significantly important for collaboration. The mean score for caregivers was higher than the professionals for the item on the “sharing of resources” ($p = .002$), indicating a medium effect size ($d = 0.69$). This implies that caregivers, when compared to professionals, perceived the sharing of resources to be significantly important for collaboration.

Table 5.29 presents the results for the “Interpersonal factors influencing collaboration” for the professional and caregiver participants.

Table 5.29
Means and standard deviations for the interpersonal factors influencing collaboration for professionals and caregivers

Interpersonal factors items	Professionals (34)		Caregivers (64)		Total M (Total SD)	p-value	d
	M	SD	M	SD			
Knowing how to work together in a team	4.53	0.51	4.56	0.53	4.55 (.52)	.77	0.06
Knowledge of services (e.g. occupational therapy)	4.65	0.60	4.70	0.46	4.68 (.51)	.61	0.11
Expertise in providing services to young children	4.50	0.56	4.67	0.47	4.61 (.51)	.135	0.32
Commitment to working together in a team	4.76	0.43	4.59	0.53	4.65 (.50)	.088*	0.37
Beliefs in including families in the team providing services for young children	4.71	0.46	4.22	1.05	4.39 (.92)	.002***	0.68
Trusting relationship amongst team members	4.68	0.59	4.56	0.53	4.65 (.56)	.76	0.06
Mutual respect amongst team members	4.88	0.41	4.80	0.41	4.83 (.42)	.33	0.21
Mutual understanding amongst team members	4.85	0.44	4.58	0.59	4.67 (.56)	.013**	0.54
Open communication	4.88	0.33	4.58	0.64	4.68 (.57)	.002***	0.66
Availability of all information	4.68	0.53	4.70	0.46	4.69 (.48)	.80	0.05
Equality in teamwork	4.50	0.71	4.53	0.73	4.52 (.72)	.84	0.04
Showing concern for family needs	4.47	0.56	4.53	0.69	4.51 (.65)	.66	0.09
Showing understanding for family concerns	4.65	0.54	4.50	0.69	4.55 (.64)	.28	0.23
Professionals do not criticize parent's decisions	4.44	0.79	4.08	0.90	4.20 (.87)	.05*	0.42
Quick response to family needs	4.38	0.70	4.42	0.77	4.41 (.74)	.80	0.05
Professionals use language that can be understood	4.76	0.43	4.67	0.47	4.70 (.46)	.33	0.21
Respect of different cultures	4.82	0.39	4.34	0.91	4.51 (.80)	<.000***	0.77
Family's (professional's) honesty to professionals (families)	4.71	0.46	4.77	0.46	4.74 (.46)	.54	0.13
Parent participation in teamwork	4.71	0.45	4.77	0.53	4.76 (.50)	.78	0.06

Note. Correlations in bold indicate a small effect (>.30), medium effect (>.50) or large effect (>.80), *d* = Cohen's *d* (effect size).

p* < .10, *p* < .05, ****p* < .01

As displayed in Table 5.29, the mean scores for the professionals were higher than the caregivers for six items. These included “commitment to working together in a team” (*p* = .088), with a small effect size (*d* = 0.37); “beliefs in including families in the team” (*p* = .002), with a

medium effect size ($d = 0.68$); “mutual understanding” ($p = .013$), with a medium effect size ($d = 0.54$); “open communication” ($p = .002$), with a medium effect size ($d = 0.66$); “professionals do not criticize parent’s decisions” ($p = .05$), with a small effect size ($d = 0.42$); and “respect of different cultures” ($p < .000$), with a medium to large effect size ($d = 0.77$). These findings imply that professionals, more than caregivers, perceived the above interpersonal factors to be significantly important for collaboration.

5.5.5. *Outcomes of collaboration*

In the “Outcomes of collaboration” domain, the “Effects of collaboration” and “Effectiveness of collaboration” sub-domains had four and two items, respectively, in common in the professional and caregiver questionnaires. The mean scores and standard deviations for the “effects of collaboration” and “effectiveness of collaboration” for professional and caregiver comparison are presented in Table 5.30 and Table 5.31 respectively.

Table 5.30
Means and standard deviations for the effects of collaboration for professionals and caregivers

Effects of collaboration items	Professionals (34)		Caregivers (64)		Total M (Total SD)	p-value	d
	M	SD	M	SD			
Parents become more experienced in making decisions.	4.35	0.69	4.52	0.59	4.46 (.63)	.23	0.26
Parents improve their abilities in taking care of their children.	4.47	0.66	4.78	0.45	4.67 (.55)	.018*	0.52
Children and families have a better chance of coping in their community.	4.53	0.66	4.56	0.59	4.55 (.51)	.80	0.05
The quality of life of children and families can be successfully improved.	4.56	0.61	4.70	0.49	4.65 (.54)	.24	0.25

Note. Correlations in bold indicate a medium effect ($>.50$), $d =$ Cohen’s d (effect size).

* $p < .05$

Table 5.30 illustrates that the mean score for the caregivers was higher than the professionals for the item on “parents improve[ing] their abilities in taking care of their children” ($p = .018$), with a medium effect size ($d = 0.52$). This implies that caregivers, more than professionals, strongly perceived that collaboration significantly improved their abilities in taking care of their children.

Table 5.31 presents the results for the “Effectiveness of collaboration” for the professional and caregiver participants.

Table 5.31
Means and standard deviations for the effectiveness of collaboration for professionals and caregivers

Effectiveness of collaboration items	Professionals (34)		Caregivers (64)		Total M (Total SD)	p-value	d
	M	SD	M	SD			
Team effectiveness	2.41	0.74	1.47	0.69	1.80 (.84)	<.001*	1.33
Parent-professional effectiveness	2.59	0.86	1.41	0.64	1.82 (.91)	<.001*	1.64

Note. Correlations in bold indicate a large effect (>.80). Mean scores were not reversed (1 = very effective, 2 = effective), *d* = Cohen’s *d* (effect size).

**p* < .01

As illustrated in Table 5.31, the mean scores for the caregivers were higher than the professionals for “team effectiveness” ($p < .001$), with a large effect size ($d = 1.33$), and for “parent-professional effectiveness” ($p < .001$), with a large effect size ($d = 1.64$). This implies that caregivers perceived team and parent-professional collaboration to be significantly more effective than professionals.

5.5.6. *Association between professionals and caregivers on the understanding, advantages, difficulties, factors influencing and outcomes of collaboration*

The Independent samples *t*- test was conducted to understand the difference in mean scores for professional and caregiver perceptions of the “understanding”, “advantages”, “difficulties”, “factors influencing collaboration”, and the “outcomes of collaboration”. Cohen’s *d* was used to determine the effect size for significant results (Field, 2013). Table 5.32 presents the results of the Independent samples *t*-test. The *p*-value was set at .10, due to the small sample size.

Table 5.32

Independent t- test results for comparison on professional and caregiver perceptions of the domains of collaboration

Domains	Professionals (34)		Caregivers (64)		t(df)	df	p-value	d
	M	SD	M	SD				
Understanding of collaboration	4.50	0.25	4.29	0.42	2.974*	92.76	.004	0.61
Advantages of collaboration	4.77	0.35	4.66	0.35	1.466	94	.146	0.31
Difficulties with collaboration	2.89	0.90	2.63	1.05	1.252	95	.213	0.27
Factors influencing collaboration								
-Organizational factors influencing collaboration	4.46	0.36	4.44	0.52	.246	96	.806	0.04
-Interpersonal factors influencing collaboration	4.65	0.30	4.55	0.42	1.465	84.93	.147	0.27
Outcomes of collaboration								
-Effects of collaboration	4.48	0.54	4.64	0.42	-1.658	96	.101	0.33
-Effectiveness of collaboration	3.50	0.71	4.56	0.57	-8.037*	96	.000	1.64

Note. The mean scores for the items in the effectiveness of collaboration sub-domain were not reversed, $t = t$ -test statistic, $df =$ degrees of freedom, $d =$ Cohen's d (effect size).

* $p < .01$

With respect to the “Understanding of collaboration”, the Levine’s Test for equality of variances, $p = .001$ indicates that the assumption of homogeneity of variances is not equal for the professional and caregiver sample; therefore equal variances are not assumed. As displayed in Table 5.32, there is a statistically significant difference between professionals’ and caregivers’ perceptions of the “understanding of collaboration” ($t(92.76) = 2.974, p = .004 < .01$). Professionals have a better understanding of collaboration than caregivers. The effect size is $d = 0.60$, indicating a medium effect size. Furthermore, there is a statistically significant difference between professionals’ and caregivers’ perceptions of the “effectiveness of collaboration” ($t(96) = -8.037, p = .000 < .01$). Caregivers perceive collaboration to be more effective than professionals. The effect size, $d = 1.65$, indicates a large effect size.

In addition, the results show that there is no statistically significant difference between professionals’ and caregivers’ perceptions of the “advantages of collaboration” ($t(94) = .147, p = .146$), “difficulties with collaboration” ($t(95) = 1.252, p = .213$), “organizational factors influencing collaboration” ($t(96) = .246, p = .806$), “interpersonal factors influencing collaboration” ($t(95) = 1.465, p = .147$), and “effects of collaboration” ($t(96) = -1.658, p = .101$).

5.6. Summary

This chapter presents the results of the professionals' and caregivers' perceptions of collaboration in services for young children. Descriptive results for the professional and caregiver measures were presented. Furthermore, the professional and caregiver demographic variables were correlated with the domains of the questionnaire. In addition, correlation among domains in each questionnaire was conducted. Finally, a comparison between professionals' and caregivers' perspectives on the common items in the CECI-P(R) and CECI-C(R) was presented.

CHAPTER 6 DISCUSSION

6.1. Introduction

This chapter discusses the results presented in Chapter 5. The main aim of this study was to compare professional and caregiver perceptions of collaboration in ECI services with respect to the following components: understanding, advantages, difficulties, factors influencing collaboration, and outcomes of collaboration. In relation to these components, important similarities and differences concerning professional and caregiver perceptions are discussed. The discussions occur in relation to three areas, namely. family-centered practices, interpersonal skills of team members, and organizational variables, as depicted in Figure 6.1.

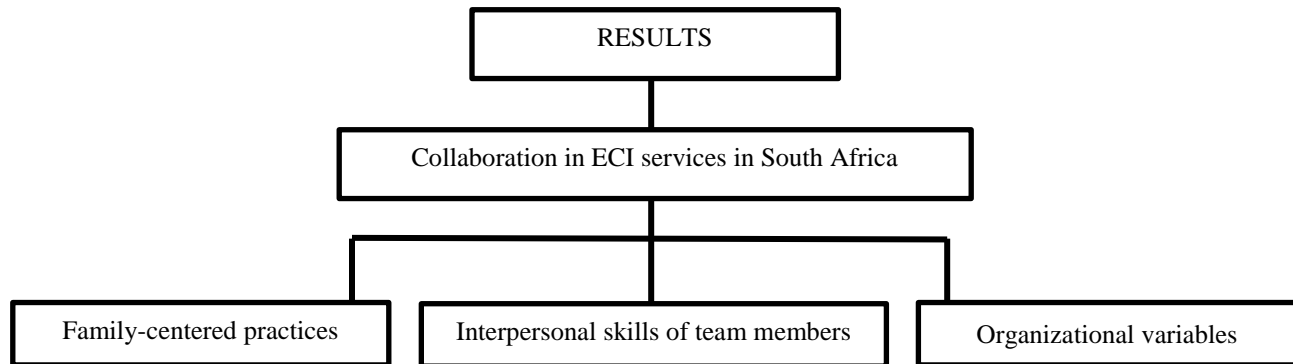


Figure 6.1 Schematic representation of the discussion.

6.2. Collaboration in ECI services in South Africa

Overall, the findings of this study show that professionals and caregivers both perceived collaboration as important and necessary when providing services for young children and their families. They both had positive perceptions of collaboration in terms of understanding collaboration, advantages of collaboration, difficulties with collaboration, factors influencing collaboration, and the outcomes of collaboration. These similarities are important as it demonstrates the possibility of caregivers and professionals having shared views of collaboration. A shared view on collaboration is essential in working collaboratively (D'Amour et al., 2005) and could potentially ensure the provision of quality services to young children and their families.

Similarities of perceptions as well as statistically significant differences in professionals' and caregivers' perceptions of understanding, advantages, difficulties, factors influencing collaboration, and the outcomes of collaboration are discussed. These are discussed in relation to family-centered practices, interpersonal skills of team members, and organizational variables.

6.2.1. *Family-centered practices*

The results of this study show that both professionals and caregivers acknowledged that families should be included in the team providing services to young children, which is consistent with family-centered practices (Harbin et al., 2000; Stepan et al., 2002). Including families as integral members in an ECI team requires a partnership relationship between professionals and families (Dunst & Dempsey, 2007; Edelman, 2004; Zwarenstein et al., 2009). Professional beliefs on including families as partners in ECI teams were evident in both the "Understanding of collaboration" domain and in their "Self-assessment of collaboration". This was further confirmed by the findings in the "Interpersonal factors" sub-domain where professionals' beliefs on including families in the team was rated statistically and clinically higher when compared to the caregiver findings (Table 5.29).

A closer analysis of the caregiver findings show that whilst caregiver beliefs on including families in the team was rated positively, it was rated lower in comparison to other items in the "Understanding of collaboration" domain and "Interpersonal factors" sub-domain. These trends may suggest that some caregivers may not consider their role in the team to be as important as that of professionals. Caregivers perceived the opinions of professionals to be highly valuable and important for successful parent-professional collaboration (Table 5.13). These findings are similar to those in the Crais et al. (2006) and Yang (2010) studies. The lesser importance given to their own involvement in teams by caregiver, in comparison to the professionals, may be a reflection of the medical model approach (Rowe & Moodley, 2013) which values professionals as the experts knowing what is best for the child and family.

Caregiver beliefs about the importance of their own involvement in teams might also be a historical remnant of South Africa's apartheid legacy which played a major part in the disempowerment of Black families in the healthcare system (Coovadia et al., 2009). Similarly, results in the "Understanding of collaboration" domain (Table 5.25) show that even though

caregivers rated the prioritizing of their needs quite positively, it was lower in comparison to the professionals' perceptions. However, the overall high rating in line with family-centered care is a welcoming finding, since it may be reflective of the changing nature of the service delivery in the healthcare system in South Africa. Since 1997, the democratic government in South Africa has promoted the concept of *Batho Pele*, a Sesotho saying which means "People First" for all public service departments and service providers (Department of Public Service and Administration, 1997). At the heart of the *Batho Pele* initiative are the eight key principles of consultation, service standards, redress, access, courtesy, information, transparency, and value for money. Many of these principles, for example, consultation (defined for service providers as interact with, listen and learn from the people you serve), and information (public servants are encouraged to spend some extra time with people who need a better explanation or special assistance because they cannot understand) are consistent with the values inherent within family-centered care.

Caregiver empowerment is essential for successful parent-professional collaboration in South Africa (Rowe & Moodley, 2013), and can be facilitated and strengthened by the skills and knowledge of other team members (D'Amour et al., 2005). The current study revealed that professionals had a significantly better understanding of collaboration compared to caregivers (Table 5.32). In contrast, Yang (2010) found no difference between professionals' and parents' understanding of collaboration. Hence, in South Africa, it is proposed that professionals can use their knowledge and skills to empower caregivers collaborating in ECI services. Especially professionals with greater years of experience, who have recognized the benefits of collaboration, as seen in the current study (Table 5.11), can assert a positive influence on caregivers.

Whilst professionals have reported that they are encouraging caregivers to be part of the team (Table 5.3), the caregiver results suggest that further work may be necessary to improve the alignment of caregivers' perspectives with professionals. James and Chard (2010) found that through greater participation in collaboration in the team, parents became more empowered. Yang (2010) found similar results as reported by service directors. With greater participation, caregivers may perceive fewer difficulties with collaboration, as revealed in the current study (Table 5.23). This may further encourage caregivers to participate in collaboration in ECI teams.

Caregiver participation in collaboration in ECI teams includes their role as key decision-makers for the child and family (Bailey et al., 2012; Harbin et al., 2000; Moeller et al., 2013; Madsen, 2009; Stepan et al., 2002). Caregivers perceived that all team members should be involved in decision-making in the team (Table 5.13). This finding suggests that caregivers have recognized the importance of families as equal partners in collaboration. Such findings are embraced and may indicate greater empowerment of caregivers within ECI services in healthcare settings. This may be indicative of the movement in healthcare from a medical model of service delivery towards a more social model of healthcare (Khoury, 2015; UNICEF, 2012). However, while involving all team members in decision-making was rated positively, it was rated lower in comparison to the other items in the “Understanding of collaboration” domain for caregivers as well as professionals. This may suggest that some professionals and caregivers may still believe that decision-making should not involve all team members and could possibly still perceive professionals as experts. This may be as a result of the remnants of the medical model approach (Rowe & Moodley, 2013) which provided little autonomy to caregivers in the decision-making process. This may have been confounded by caregivers having low levels of literacy, poor education, socio-economic status, unemployment, lack of empowerment, and language barriers (Rowe & Moodley, 2013). Whilst caregivers in the current study were literate, only 59% of them had a Grade 12 education and 64.1% were unemployed.

Professionals, in the current study, have recognized the need to rely on each other in the team for language translation, which some reported in the open-ended question in the “Advantages of collaboration” domain. Such mutual dependency (D’Amour et al., 2005) is crucial in order to ensure that the information transfer between professionals and families is accurate. When professionals and caregivers do not share the same language, collaboration can be impeded (Ramklass, 2009). Whilst South Africa presents with eleven official languages (Rowe & Moodley, 2013), it is reported that 80% of the professionals provide intervention to young children in English, followed by Afrikaans, with little or no knowledge of other official languages (Bornman et al., 2010; Penn, 2007). Similarly, in this study, the majority of professionals provided ECI in English (79.4%) or Afrikaans (44.1%).

Caregivers in the current study were cognizant of the challenges experienced by professionals with regards to the diverse languages spoken by families, and some respondents,

therefore, suggested the use of translators in their response to the open-ended question in the “Difficulties with collaboration” domain. Whilst all ECI services may not employ translators or interpreters, Penn (2007) reports that informal interpreters (e.g. nurses, cleaning assistants, receptionists, as well as family members) are currently used in some healthcare services in South Africa. However, Barratt et al. (2012) rather suggests the training of more professionals to be fluent in an African language. Caregivers in South Africa reportedly prefer health personnel to address them in their home language (Penn, 2007).

Furthermore, the cultural diversity of caregivers poses a challenge for professionals (Talay-Ongan, 2001; Tomasello et al., 2010; Wesley et al., 1997). The literature contends that professionals are required to provide services that are culturally sensitive to family diversity (Paul & Roth, 2011; Woods et al., 2011). In a study conducted in South Africa, Ramklass (2009) found that community service physiotherapists had difficulties communicating across cultural barriers, and the professionals themselves suggested training in cultural competence for improved interactions. Peck et al. (2010) agree and suggest that training is required for understanding the culture, customs and beliefs of diverse populations, a component which is essential for collaboration and for delivering family-centered care. Whilst professionals in the current study reported in their self-assessment that they considered the cultural backgrounds of caregivers, the caregivers perceived that professionals were not always aware of the family’s culture (as reported in the “Difficulties with collaboration” domain).

Despite the challenges experienced by caregivers collaborating in ECI services in South Africa, 82% of them reported that they were highly involved in the team and 95% were willing to be involved in the team. This is a positive indication for family-centered practices (Bailey et al., 2012; Moeller et al., 2013; Madsen, 2009). More caregivers were willing to be involved than were actually involved in the ECI team, similar to findings in the Yang (2010) study. A possible reason for this disparity reported by caregivers is that work commitments render it difficult for them to be actively involved in the team.

In this study, however, only 14% of the caregivers worked full time, 60% were unemployed, and 26% worked as casual workers. In contrast, internationally, 60% of mothers who raise children with disabilities are employed full-time (DeVore & Bowers, 2006). Nevertheless,

scheduling appointments with full-time employed caregivers can be challenging (Ziviani et al., 2013) since these caregivers do not want to miss hours of paid work (Warfield, 2001), which is necessary due to the multiple medical and therapy appointments required for the child (Meijer et al., 2003; Paul & Roth, 2011). Unemployed caregivers also struggle to attend multiple appointments, due to cost implications, especially related to transport, which can consume about 5% of the families budget for one return trip (Saloojee et al., 2006). Hence, parent-professional collaboration may be affected even though caregivers may be extremely willing to be involved.

Professionals in the current study reported that poor team member participation can impede successful collaboration in ECI services, on which several scholars in the field of ECI concur (Allen et al., 2002; Anderson-Butcher & Ashton, 2004; Barnes et al., 2008). Other factors influencing successful collaboration in ECI services includes the interpersonal relationships between team members (Espe-Sherwindt, 2008).

6.2.2. *Interpersonal skills of team members*

The interpersonal skills of team members have the potential to influence collaboration in ECI services (Dinnebeil et al., 1999). Both professionals and caregivers perceived that it was essential for team members to know how to collaborate as well as have knowledge of the services available. Further, both groups recognized the value of sharing information so that it is available to all team members, and realized that the demands of collaboration require that the work should be equally shared. When work is shared, team members feel valued as well as there is symmetry in power in relationships, which is indicative of a true partnership relationship (D'Amour et al., 2005).

Successful collaboration requires a partnership relationship between professionals and parents. In this relationship, parents and professionals are regarded as equal partners in the team (D'Amour et al., 2005). Equal partnership demands open and honest communication (Briggs, 1997; Buljac-Samardzic et al., 2011; Choi & Pak, 2007). Whilst professionals and caregivers in the current study acknowledge that open communication is essential for collaboration (Table 5.25), two professionals reported in the open-ended question in the “Difficulties with collaboration” domain that there is poor communication between team members.

Lack of communication between professionals and the caregivers could be a potential reason for caregivers feeling despondent and perceiving a lack of progress in their child, as reported by a caregiver; whilst another described that there is repeating of activities even though the child is competent in performing the specific activity (see open-ended question, Section 5.4.3.1). Therefore, it is not surprising that professionals reported poor attendance from caregivers (see open-ended question, Section 5.3.4.1). These findings are similar to the findings in the Saloojee et al. (2006) study.

Furthermore, the literature has highlighted the need for communication to be in a language that is understood by caregivers and for that language to be simple. Studies have found that when professionals use discipline-specific jargon, collaboration is impeded (Nijhuis et al., 2007; O'Neil et al., 2008). Hence, communication with caregivers should be jargon-free (Blu-Banning et al., 2004). Whilst professionals in the current study agree that the use of jargon-free language is crucial when collaborating with caregivers, some (11.76%), in their self-assessment of collaboration, acknowledged that they did not use simple language when communicating with caregivers.

Efficient communication systems allows for information sharing (Briggs, 1997; Buljac-Samardzic et al., 2011; Choi & Pak, 2007) and is critical for successful collaboration (D'Amour et al., 2005), which both professionals and caregivers in the current study agree about (Table 5.28). These findings are supported by scholars in the field of ECI (Dinnebeil et al., 1999; Yang et al., 2013; Ziviani et al., 2011). Furthermore, literature searches conducted by Doyle (2008) and Sloper (2004) validate that information sharing is crucial for successful parent-professional collaboration. Information requested by parents in the Ziviani et al. (2013) study included newsletters on the services and resources available. Professionals in the current study strongly perceived that gaining and sharing such information is essential for providing effective ECI services (Table 5.25).

Time is also an essential resource for establishing successful interpersonal relationships in collaboration (Doyle, 2008; Nijhuis et al., 2007; Sloper, 2004; Yang et al., 2013). In the current study, professionals, similar to caregivers, had varied opinions on whether there was sufficient time for collaboration in their current ECI services (Table 5.5 and 5.17). However, both agreed that the time factor was important for successful collaboration in ECI teams (Table 5.28). However, a

caregiver response to the open-ended question in the “Difficulties with collaboration” domain was that sometimes professionals do not have time to listen to what caregivers are saying. This is similar to the finding in the O’Neil et al. (2008) study where professionals did not provide emotional support due to time constraints.

Whilst professionals may struggle to provide the necessary support for families, due to time constraints, families, themselves, can rely on each other for support (Ziviani et al., 2013). In the current study, the item on inter-family support experiences was rated positively; however, it received a lower score compared to other items in the domain for professionals and caregivers (Table 5.26). This may suggest that professionals and caregivers agree that inter-family support experiences are lacking.

Mutual respect is generally displayed when team members support each other. Mutual respect is essential when collaborating in ECI services (Blu-Banning et al., 2004; Espe-Sherwindt, 2008), especially for group cohesion (Keen, 2007; Mickan & Rodger, 2005). When there is mutual respect, families and professionals feel mutually valued (Carpenter, 1997; Woods et al., 2011). Both professionals and caregivers in the current study regarded mutual respect to be highly important for collaboration (Table 5.29), similar to findings in the literature (Moran et al., 2007; Nijhuis et al., 2007; Sloper, 2004; Yang et al., 2013).

Whilst mutual respect between team members is recognized as important for collaboration, studies have shown that parents have reported dissatisfaction with their interpersonal relationships with professionals (Lea, 2006; Pridham et al., 2006). In the Lea (2006) study, the adolescent mothers reported that professionals were disrespectful, and did not consider their concerns to be important, because of judgements based on their age. Similar findings were found in a study conducted by Pridham et al. (2006), with mothers in a low birth-weight program. However, the finding of the current study shows that professionals, in comparison to caregivers, strongly perceived that it was essential not to criticize the decisions of caregivers. There was a statistically significant difference between professional and caregiver rating on this item (Table 5.29). The caregivers’ response to this item could be related to the lack of empowerment of families in South Africa.

Furthermore, in the current study, the majority (92%) of caregivers were satisfied with the collaboration between professionals (Table 5.20). Caregivers believed that through the expertise and collaboration between professionals they were able to improve their abilities in taking care of their children. Furthermore, caregivers believed that collaboration improved their knowledge and provided them with ideas to deal with problems (see open-ended question, Section 5.4.2.1). However, James and Chard (2010) argues that caregiver expertise should be valued, as caregivers are knowledgeable in many areas.

Professionals, though, were more satisfied working with families (97.1%) compared to working with other professionals (70.6%). Yang (2010) and Yang et al. (2013) showed similar findings for parents and professionals respectively. Perhaps the findings from professionals may suggest that the interpersonal relationships between professionals require strengthening, and that this may lead to increased satisfaction with collaboration between professionals. The current study showed that professionals and caregivers who strongly perceived interpersonal factors to be important for collaboration were also more satisfied with collaboration (Tables 5.12 & 5.24).

Furthermore, in contrast to professionals, the caregivers perceived the team and parent-professional collaboration to be highly effective (Table 5.31). This was similar to the parent responses in the Yang (2010) study. Professional findings suggest that perhaps the complexities of family-centered care may not be fully realized (James & Chard, 2010). Whilst many professionals believe in family-centered principles, translating those principles into practice may be difficult (Crais et al., 2006) and in this regard professionals rely on the organization for support, training, and resources (Yeboah-Antwi et al., 2013).

6.2.3. *Organizational variables*

In South Africa, the transdisciplinary model is preferred over the interdisciplinary and multidisciplinary models (Bornman & Uys, 2005; Swanepoel et al., 2007). However, the transdisciplinary approach is not always practiced in ECI (Uys & Samuels, 2010; Youngwerth & Twaddle, 2011). This was evident in the findings of the current study which showed that the majority of professionals engaged in interdisciplinary (58.8%) teaming, followed by transdisciplinary (35.3%) collaboration. The paucity in transdisciplinary teaming in South Africa

can be attributed to a lack of professional competence (Fordham et al., 2011; Tomasello et al., 2010) and training (Khouzam et al., 2003; Ziviani et al., 2013) in the approach.

Training in the transdisciplinary approach is crucial in South Africa due to the shortage of health professionals specialized in providing intervention to young children and their families (Samuels et al., 2012). Training in collaboration was considered essential by both professionals and caregivers in the current study (Table 5.28). Whilst training of professionals may in part be the responsibility of the organization, one professional in her response to the open-ended question in the “Difficulties with collaboration” domain, stated that the lack of training at an undergraduate level is a contributing factor to the difficulties experienced with collaboration in ECI services in South Africa.

In recognition of the value of the transdisciplinary approach, in South Africa there is an intensive two year Master’s program in the Field of ECI that emphasizes this collaborative team approach (Eloff et al., 2006; Samuels et al., 2012) in which one of the professional participants is currently involved. Interestingly, in some international countries, such as Ireland, there is no training program to ensure a consistent level of professional competency when providing services to young children (James & Chard, 2010). Additionally, the current study shows that the majority of professionals do attend workshops and seminars (82.4%), followed by in-service training (50%) in order to improve their skills in providing services for young children.

Whilst training is essential, professionals in the current study reported in the open-ended question in the ‘Advantages of collaboration’ domain that engaging in the collaboration process itself helped them to learn from one another and implement skills from other disciplines, resulting in an improvement in their professional skills. Whilst proponents of collaboration have identified training in collaboration to be essential (Batorowicz & Shepherd, 2008; Bruder & Dunst, 2005; Campbell et al., 2009), the findings of the current study suggest that practical experience in collaborating in services for young children is equally important for developing team member skills.

It is well acknowledged in the literature that professional expertise is essential when delivering services to young children and their families (Batorowicz & Shepherd, 2008; Briggs,

1997; Ziviani et al., 2013), which was also recognized by professionals and caregivers in the current study (Table 5.29). However, the sharing of expertise, central to transdisciplinary teaming, may pose as a challenge for some team members. Cumming and Wong (2012) found in their study that team members working in transdisciplinary teams had difficulty imparting practical expertise. Similarly, in the current study, a professional participant in the open-ended question response in the “Difficulties with collaboration” domain expressed dissatisfaction with “professionals overstepping their scope of practice.” Such findings are important, because professionals’ beliefs have been identified as a potential influence on whether they use or adopt practices (Kucukarslan et al., 2011; McWilliam, 1999). The literature shows that whilst many professionals have expressed beliefs that align with recommended practices (King et al., 1998; McWilliam, 2000), such as the transdisciplinary approach to collaboration, they do not always conduct their day-to-day practices in a manner that reflects those beliefs (McWilliam, 2000). Hence, it is essential for organizations to hire professionals with appropriate expertise in collaborating with families which is essential when delivering ECI services.

Literature highlights that team members engaging in transdisciplinary collaboration help caregivers to easily access multiple services, and in this regard caregivers have shown increased satisfaction with services (Corter et al., 2008; Moran et al., 2007; Moore, 2008; Ziviani et al., 2013). Professionals (Table 5.4) and caregivers (Table 5.16) in the current study concur that collaboration assisted caregivers in accessing the services required for their children. However, in South Africa, caregivers of children with disabilities have also reported dissatisfaction with services, due to the challenges in accessing services. This includes the unavailability of services as well as confusion about accessing the services available (Saloojee et al., 2006). These findings are similar to findings in the O’Neil et al. (2008) study.

In relation to the access to services, the findings of the current study shows that ECI is generally provided by interdisciplinary as well as multidisciplinary teams. As such, members comprising the team can emanate from different institutions, for example, a clinic and hospital, due to the lack of specialized personnel working in one institution (Samuels et al., 2012). Hence, caregivers receiving ECI services may have to attend therapy in different settings, as affirmed by caregivers in the current study who provided a positive rating to this item “children are able to receive all the services from one place”; though they rated it lower in comparison to other items in

the domain (Table 5.21). In this regard, it is plausible that caregivers would perceive their children as not being safe (rated positive, but lower in comparison to the other items in the domain) if they are required to attend ECI services in different settings (Table 5.21).

Furthermore, caregiver challenges with the access to services can be related to limited resources, such as personnel and time, which have plagued health services, especially public institutions (Pillay, 2009), in South Africa for many years (Coovadia et al., 2009; Rowe & Moodley, 2013). These trends are also seen internationally (Sloper, 2004; Van Eyk & Baum, 2002). Researchers in South Africa advocate the transdisciplinary model to address the challenges of personnel shortages, finance and time (Bornman & Uys, 2005; Swanepoel et al., 2007). The professionals and caregivers in the current study recognized that resources, including the availability of personnel, are essential for successful collaboration in ECI services in South Africa (Table 5.28).

In services where there are limited resources, the sharing of resources is essential and when there is a pooling of resources team members express increased satisfaction (Eva, 2002; Patel et al., 2008; Moore, 2008; Xyrichis & Ream, 2008). Researchers have also highlighted that when resources are not shared amongst team members, it is considered a grave barrier to collaboration (Doyle, 2008; Sloper, 2004). Remarkably, the item on the sharing of resources was rated positive but lower when compared to other items in the domain which may suggest that professionals in the current study may not have perceived the sharing of resources to be highly important for collaboration (Table 5.28). This is similar to the Yang et al. (2013) professional and Yang (2010) parent results. However, the caregivers strongly perceived the sharing of resources to be essential for collaboration.

Scholars in the field of ECI assert that teams who do not receive support from their organizations in relation to human, time and financial resources, are severely handicapped (Barnes et al., 2008; Bose & Hinojosa, 2008; Briggs, 1997; Mickan & Rodger, 2005). In this regard, collaboration in ECI services can be viewed from a systems perspective, which is not only dependent on the team members but also on the organization in which the ECI service is embedded (Bronfenbrenner, 1979). In the current study, professionals with greater years of experience concur

that factors related to the organization have the potential to influence collaboration in ECI services in South Africa (Table 5.11).

6.3. Summary

This chapter discussed significant results of the study with respect to professionals' and caregivers' perceptions on the understanding, advantages, difficulties, factors influencing collaboration, and the outcomes of collaboration in ECI services in South Africa. These components were discussed within the ambit of family-centered practices, interpersonal skills of team members, and organizational variables. Pertinent results of the study show that communication, respect, availability of resources and consideration of cultural, linguistic, and historical factors are essential for collaboration. Additionally, the transdisciplinary model has been highlighted as essential for collaboration in ECI services in South Africa. The findings of this study adds to the body of literature, and the difference in perceptions are validation for the importance of understanding the perspectives of professionals as well as caregivers (Harbin et al., 2000; King & Meyer, 2006) in teams providing services to young children.

CHAPTER 7

CONCLUSION

7.1. Introduction

This chapter presents a summary of the research findings and conclusions regarding professional and caregiver perceptions on collaboration in ECI services in South Africa. The clinical implications for the study are deliberated. This is followed by an evaluation of the strengths and limitations of the study. Finally, the chapter concludes with recommendations for future research.

7.2. Summary of the findings

This study focussed on comparing professional and caregiver perceptions on the understanding, advantages, difficulties, factors influencing, and outcomes of collaboration in ECI services in South Africa. Overall, the results of this study showed that professionals and caregivers have a good understanding of collaboration, perceived positive advantages and outcomes to collaboration and are satisfied with collaboration in teams.

In addition, to the positive findings for professional and caregiver perceptions of collaboration, the results of this study show that both groups presented with similar positive perceptions for most items in each domain. This may indicate that both caregivers and professionals have similar positive perspectives on collaboration in ECI services and view collaboration as important. This has positive indications for ECI service delivery as the translation of these positive perceptions into practice may be easier to facilitate (Kucukarslan et al., 2011; McWilliam, 1999). Hence, it is envisaged that more collaboration in ECI services is possible due to these positive perceptions.

The current study also revealed that there are significant differences between professional and caregiver perceptions of collaboration. Firstly, the results show that professionals have a better understanding of collaboration in comparison to the caregivers. This finding is in contrast to the Yang (2010) study which found no significant difference between service providers' and parents' understanding of collaboration. In relation to interpersonal factors, professionals, more than caregivers, recognized that commitment, open communication, and mutual understanding are

essential for collaboration. Furthermore, professionals with greater years of experience recognized the influence of organizational factors (e.g. professional availability) on collaboration in ECI teams. Importantly, professionals with greater years of experience acknowledged that collaboration benefits young children and their families and is necessary to provide quality and efficient services to the needs of children and families.

Secondly, with respect to family-centered practices, professionals, in comparison to caregivers, strongly believed that the parent should be an integral member of the team. However, the findings may suggest that prioritizing the needs of the family was not considered highly important from both the professional and caregiver perspectives. In addition, the caregivers may not have perceived their involvement in the team to be highly important since it was rated the lowest in the “Understanding of collaboration” domain.

Nevertheless, the findings of the current study show that caregivers who were highly involved in the team were also willing to be involved in the team. Caregivers who were less involved in the team perceived more difficulties with collaboration; whilst caregivers who were more involved in the team perceived greater team effectiveness and showed greater satisfaction with collaboration. This can be seen from the caregivers’ responses, where they strongly affirmed that by collaborating in the team, they were able to improve their abilities in taking care of their children.

Overall, caregivers, compared to professionals, perceived team and parent-professional collaboration to be effective. Professionals perceived team collaboration as more effective than parent-professional collaboration. These differences in perception between professionals and caregivers underscore the need to gather both professional and caregiver perspectives on collaboration in services for young children. This will increase the reliability of data obtained (Ziviani et al., 2013), and provide a better understanding of the facilitators and barriers to collaboration in ECI services.

Parent-professional collaboration involves being non-judgemental towards parental decisions (Blu-Banning et al., 2004). The findings of the current study showed that professionals strongly acknowledged the importance of being non-judgemental towards caregiver decisions in

parent-professional collaboration. Parent-professional collaboration also involves considering and understanding the cultural background of parents (Peck et al., 2010). In the current study, professionals acknowledged the importance of respecting different cultures. Caregivers have also highlighted the need for professionals to become more aware of different cultures. Therefore, although professionals strongly believe that they considered the cultural background of caregivers, some caregivers did not perceive this. Hence, in this area, professionals' beliefs do not seem to translate into their practice (Dinnebeil et al., 1996; McWilliam, 2000).

Thirdly, as argued by Guralnick (2008), team collaboration within different ECI systems will vary in different contexts, depending on the cultural factors, political factors, societal commitment, and resources available. In South Africa, a general lack of resources is well acknowledged (Ebersöhn & Eloff, 2002; Pillay, 2009; Popich et al., 2006). In this regard, both the professionals and caregivers, in the current study, considered the availability of resources to be highly important for collaboration. Importantly, a lack of human resources has the potential to influence the nature of collaboration (Doyle, 2008; Moran et al., 2007; Ziviani et al., 2013). As supported by the literature, the lack of human resources combined with the lack of training (Fordham et al., 2011; Uys & Samuels, 2010) in the collaborative approach could be reasons for team members in the current study engaging mostly in interdisciplinary, as opposed to transdisciplinary, teaming.

7.3. Clinical implications of the study

An important clinical implication of this study is that similar positive perceptions towards collaboration were found in professionals and caregivers in poorly-resourced settings. As such, professionals and caregivers share positive perceptions on the importance of collaboration in ECI services as well as its benefits. Hence, caregivers and professionals can work together towards collaboration in ECI services. The working together of professionals and caregivers in ECI teams is essential, particularly, since many of the caregivers attending public hospitals are disempowered. Collaboration may have a positive outcome for caregivers in terms of informing them of their child's health, being provided with opportunities to voice their opinions, and increasing their expectations of healthcare services, and thereby empowering caregivers (Saloojee et al., 2009).

The CECI-C(R) was translated and adapted to accommodate caregivers from an African language group and living in a poorly-resourced setting. This tool may be a useful starting point for measuring collaboration in poorly-resourced settings.

This study also highlights evidence of differences in caregiver and professional perceptions of collaboration in ECI teams in South Africa, which are similar to some international studies (Lea, 2006; Yang, 2010). As team members, we need to fully understand and discuss these differences in order to ensure that we provide effective services for young children. In this regard, the CECI-P(R) and CECI-C(R) can be used as a discussion tool to identify strengths and weaknesses, and determine areas of satisfaction and effectiveness of the collaboration including family-centered practices. This would be an excellent platform to gain the opinion of caregivers using their expertise to find solutions to the challenges identified.

In addition, the findings of this study show that interpersonal, family-centered, and organizational, variables have the potential to influence collaboration. Efforts in collaboration should encourage commitment, open communication, and mutual understanding between team members. Importantly, in harmony with family-centered practices, caregiver involvement and expertise in the team should be encouraged and recognized. Since professionals have a better understanding of collaboration, it is important that they use their knowledge to help and support caregivers. In this regard, professionals should ensure that they prioritize the needs of the family, that they allot time to listen to the needs of caregivers, and that they are respectful of the different cultures and languages. In addition, for successful collaboration, team members need to lobby continuously for resources, including human, financial, and equipment. Organizational support is also essential.

Furthermore, it is vital for organizations to identify measures through which to retain professionals, as greater years of experience has been correlated with higher satisfaction and more positive perceptions of team effectiveness. In addition, the organization should support regular in-service programs, workshops and seminars which can assist in improving professionals' experience with family-centered practices and collaboration. This is particularly so for transdisciplinary teaming which is essential for providing services to young children and their families.

7.4. Evaluation of the study

7.4.1. *Strengths*

This study adds to the body of research on collaboration in ECI teams from the perspective of professionals and caregivers internationally. This is an initial study of perceptions of professionals and caregivers in the South African context. The strength of this study was the involvement of both the professional and, especially, caregiver perspectives on collaboration in ECI teams. Including the caregiver perspective was essential, since the parent is considered an integral member of the team providing services to young children (Blu-Banning et al., 2004). Moreover, in South Africa, the inclusion of these caregivers' perceptions was important, since they represent families from a Black ethnic background, a historically marginalized group that were disempowered for many decades, and thereby lacked autonomy in voicing their opinion as consumers of healthcare services (Coovadia et al., 2009; Rowe & Moodley, 2013).

The CECI-P(R) and CECI-C(R) were adapted from the professional (CECI-P) (Yang et al., 2013) and parent/caregiver (CECI-C) (Yang, 2010) questionnaires developed and validated within an Australian context. Meticulous care was taken in adapting the caregiver measures, which involved a comprehensive process of face and content validation. Malmgreen's (2005) five-step procedure for validating a tool from another English-speaking country was used. Six panel reviews were used for this process, and caregivers were included in the panel reviews for the CECI-C(R). The caregiver measure was translated into Setswana, which is a dominant African language spoken in Pretoria. The translation process of the measure was rigorous and was based on the translation process outlined by Peña (2007), and involved obtaining linguistic, functional, metric, and cultural equivalence.

A further strength of the study was that the CECI-P(R) and CECI-C(R) demonstrated high internal consistency. The Cronbach's alpha for the professional sample was .90 and for the caregiver sample .89 (Field, 2013). This indicates that these measures have the potential to provide reliable data on collaboration if used in the South African context.

Furthermore, this study included caregivers who were competent in the language that the survey was presented in, that is, Setswana. Additionally, the caregiver measures were conducted by a trained research assistant, competent in Setswana. The benefits of using a trained research

assistant were both costly and time-consuming. However, the advantages of this method of data collection outweighs the potential disadvantages (Saloojee et al., 2009), especially in poorly-resourced settings, and when language and literacy levels can serve as a potential barrier. The procedural integrity of the face-to-face group interviews with the research assistant was maintained through the use of a script. Procedural integrity was determined using the tape recorded interviews and a checklist. This process resulted in a 99% procedural reliability rating. A high score was expected, as the procedure was scripted.

Therefore, along with contributing to the literature on ECI teams in the South African context, this study was validated carefully, maintained procedural integrity, internal consistency reliability, and took into account the historical and contextual factors which make the South Africa situation unique.

7.4.2. *Limitations*

This study comprises a relatively small sample size for the professional ($n = 34$) and caregiver ($n = 64$) participants, and is therefore limited in terms of the generalizability of the results. A small sample size can lead to a failure to detect a true effect (Rosenthal et al., 2000). Furthermore, factor analysis was not conducted due to the small sample size (Nunnally, 1978).

The second issue relates to the distribution of the professional measures. The professional measures were hand-delivered to a coordinator (a manager of the rehabilitation service who was also involved in the ECI team) from each institution. The coordinator was then required to distribute and collect the measures from all professionals working in ECI teams. Thus, it is uncertain whether all professionals on the ECI team were accessed.

Whilst the research assistant was trained to conduct the interviews in Setswana, she was not a professional interpreter. When professional interpreters are used, there is better communication with participants from varied language backgrounds, there are less errors in communication, and participants are able to comprehend information better when compared to using informal interpreters (Karliner, Jacobs, Chen, & Mutha, 2006).

Additionally, high positive ratings were obtained from both the professionals and caregivers. This may suggest that response bias could have been introduced in terms of the Hawthorne effect (Maxwell & Satake, 2006; McMillan & Schumacher, 2006). This implies that professionals and caregivers may have responded positively in order to provide socially acceptable answers, to be viewed favourably, or to avoid embarrassment that may reveal a lack of knowledge on collaboration. However, caregivers were informed that there were no right or wrong answers to the items in the survey, that their responses would remain confidential, that they would not be identified in any results, and that they could withdraw from the study with no negative consequences and that the services they receive would not be affected. Furthermore, the research assistant was from the same cultural and linguistic background of the caregivers, and this created a comfortable environment for the caregivers. Thus, whilst measures were implemented to reduce the Hawthorne effect for caregivers, response bias in surveys cannot be totally avoided (Maxwell & Satake, 2006; McMillan & Schumacher, 2006).

Lastly, caregiver perceptions could have been influenced by the number of professionals involved in the team. However, information on the number of professionals involved in the team providing services to the child was not requested from the caregivers.

7.5. Recommendations for future research

Recommendations for future research that have emanated from the study include the following:

- Further reliability and validity testing of the CECI-P(R) and CECI-C(R) is necessary. Therefore, a replication of this study with a larger number of professional and caregiver participants is warranted. In addition, professional participants should be expanded to include other team members, for example, nurses, doctors, and assistants involved in service delivery for young children. Caregiver participants from other African language groups could also be included after translating the CECI-C(R).
- A shortened version of the CECI-P(R) and CECI-C(R) questionnaires could be developed, following reliability and validity testing, including factor analysis, test-retest reliability, construct validity (convergent and discriminant validity), and concurrent validity.

- Furthermore, qualitative research such as focus groups, observations and in-depth interviews can provide a richer understanding of the issues raised by the professionals and caregivers in the study. It would also facilitate a greater understanding of professionals' and especially caregivers' perceptions of collaboration, specifically with respect to the barriers and facilitators to collaboration, family- centered practices, and caregivers' expectations of collaboration.
- A study investigating collaboration across different contexts such as rural, public institutions, and private practice may expose the different challenges posed by each context with regards to the access to services or the influence of resources (finance, human, and equipment) on collaboration experienced by the caregiver, professional, and organization.
- Additional biographical and service information should be obtained in order to determine further correlation with collaboration. For example, ascertaining income levels, as well as identifying the number of team members involved in the ECI service for each child may have a potential influence on, especially, caregivers' perceptions of collaboration.
- Future studies should consider correlating the perceptions of collaboration with the different service delivery models, that is, multidisciplinary, interdisciplinary, and transdisciplinary.
- Comparing team member perceptions and actual practices would be valuable, using a mixed methods approach. In addition to completing a survey questionnaire, qualitative observations of how team members collaborate in ECI services would provide rich information on the translation of perceptions into practice.

7.6. Summary

This chapter summarized the significant findings identified in this study. Clinical implications from the results were highlighted. Furthermore, the study was evaluated in terms of its strengths and limitations. Finally, recommendations for future research on team collaboration in ECI services were proposed.

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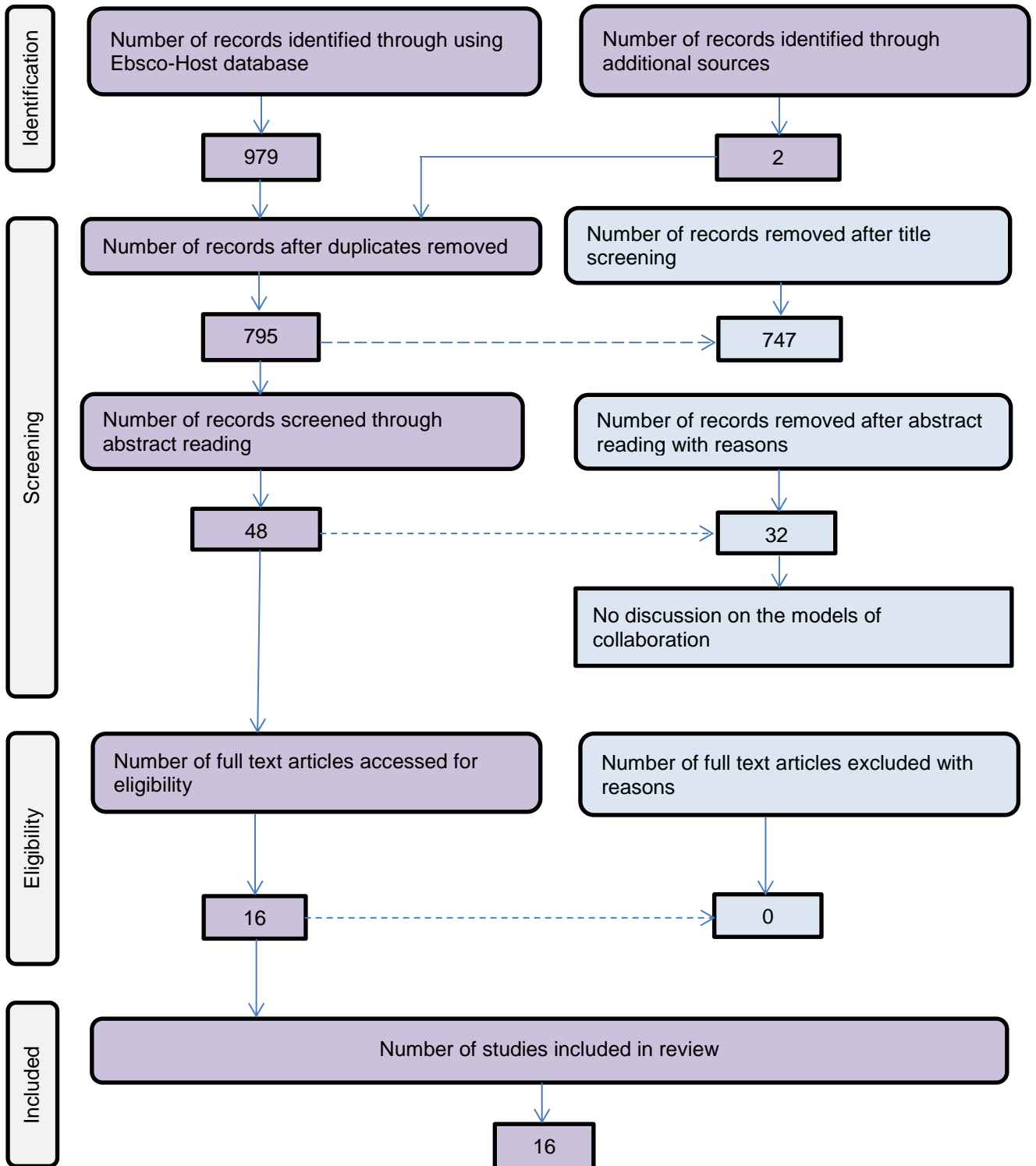
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Appendices

Appendix A

Prisma flow diagram for identifying models of collaboration in ECI



Appendix B

Studies on the models of collaboration in early childhood intervention

Author	Aim of study/article	Models of collaboration	Discussion on models/ Main conclusions of study	Application to current study
Allen et al. (1997)	To describe the collaborative models in paediatric rehabilitation.	Multidisciplinary, interdisciplinary, transdisciplinary	Collaboration is necessary to support children with disabilities. Developing experience, equality in teamwork, and preparation is important for collaboration. Power differences need to be eliminated. Interdisciplinary and transdisciplinary models involve a family- centered approach and are considered more beneficial than the multidisciplinary model.	Transdisciplinary, interdisciplinary and family- centered models are important when providing rehabilitation for children. Experience, equality in teamwork, and preparation are important for collaboration.
Allen et al. (2002)	To determine the extent to which inter-agency service delivery teams implement family-centered practices.	Interagency, family-centered	Inter-agency teams as opposed to non- team members were more likely to adopt and implement family-centered practices. Support, time, context, policy and procedures play an important role with respect to the adoption of family-centered practices.	Support, time, context, policy and procedures have the potential to influence the adoption of family-centered practices.
Anderson-Butcher & Ashton (2004)	To explore the role of intra-organizational, interagency, inter-professional, family-centered and community collaborations in addressing the co-occurring needs of children, youths, and families.	Intra-organizational, interagency, inter-professional, family-centered, and community collaboration	Communities and schools may be involved in several models of collaboration simultaneously. Developing partnerships in collaboration is important to meet the needs of children and families and is beneficial to all stakeholders. Family- centered practice feeds into and benefits all levels of collaboration. Collaboration is influenced by policy, resources, and time.	Various models of collaboration may be implemented simultaneously. Family- centered collaboration is central to all models of collaboration. Collaboration is influenced by the context in terms of policy, resources, and time.
Atkins-Burnett & Allen-Meares (2000)	Article discusses current and emerging early childhood intervention practice in the light of its evolution in the past decade.	Relationship-based, multidisciplinary, transdisciplinary, family-centered	Family- centered and transdisciplinary approaches are important in early childhood intervention. In these models commitment, trust, time, and relationship- building is required. Parent-child, parent-professional, child-professional and inter-professional relationships are important. Professional training in the relationship-based approach specifically in terms of understanding cultural values is important.	Family- centered and transdisciplinary models are essential in early childhood intervention. Central to these models is relationship- building, commitment, trust, time, and understanding cultural values.
Batorowicz & Shepherd (2008)	To develop a scale to test the quality of transdisciplinary	Transdisciplinary, interdisciplinary, multidisciplinary	The intensity of collaboration is greater with transdisciplinary than in interdisciplinary or multidisciplinary teams. Transdisciplinary teams are beneficial and provide high levels	Greater collaboration in transdisciplinary teams compared to interdisciplinary or multidisciplinary

Author	Aim of study/article	Models of collaboration	Discussion on models/ Main conclusions of study	Application to current study
	teamwork.		of satisfaction. The Team Decision Making Questionnaire (TDMQ) was considered a reliable and valid tool for measuring transdisciplinary teaming.	teams. Transdisciplinary teams are beneficial and provide high levels of satisfaction.
Bell et al. (2009)	To evaluate the transdisciplinary model of collaboration in early intervention services in a community setting.	Transdisciplinary, interdisciplinary, multidisciplinary	Transdisciplinary model preferred over interdisciplinary and multidisciplinary models. Benefits of the transdisciplinary model includes decreased waiting times for children and families requiring intervention and increased attendance to early intervention services.	Transdisciplinary model can improve the effectiveness of services through decreasing waiting times for intervention and increasing children and family attendance in early intervention services.
Davis, Barnhill, & Saeed (2008)	To describe treatment models for patients with combined mental disabilities and developmental disabilities.	Multidisciplinary, family- centered	The multidisciplinary and family- centered approaches are interdependent and important for children with developmental disabilities and comorbid mental disorders. Multidisciplinary approach is beneficial for maximizing resources. Support and training in collaboration is necessary. Staff turnover considered a barrier to collaboration.	Multidisciplinary and family centered approaches are interdependent. Multidisciplinary approach is beneficial for maximizing resources. Support and training in collaboration is necessary.
Frost, Robinson, & Anning (2005)	To describe the role of social workers in multidisciplinary teams and relations with external agencies.	Multidisciplinary, Interagency	Social workers experienced challenges with multidisciplinary and interagency collaboration, which included the lack of alignment of goals and understanding of different roles.	For multidisciplinary and interagency collaboration, mutual goals and understanding of roles is necessary.
McAllister & Thomas (2007)	To describe the experiences of an Early Head Start Program in adopting and implementing an infant mental health approach in its work with families in the community.	Transdisciplinary, relationship- based	The relationship-based, transdisciplinary approach as well as using an ecological framework was beneficial. These approaches require team member expertise, support, self-reflection and understanding child needs and parent challenges in addressing those needs.	Relationship-building, transdisciplinary teaming and an ecological approach requires expertise, support, self-reflection, and understanding the child needs and parent challenges in addressing those needs.
Nicholson et al. (2000)	To understand the multidisciplinary collaborative approach to healthcare practice and its benefits.	Multidisciplinary, interdisciplinary, transdisciplinary	Model depends on the context, goals of the work and organizational structure. Benefits of these models far outweigh the challenges. Transdisciplinary model which represents the highest level of integration between team members is embraced most predominantly by programs serving children with disabilities.	The model implemented will vary depending on the context which includes the organizational structure.
Parrish et al. (2013)	To describe a self-study method to facilitate collaboration between service delivery agencies	Inter-organizational, community collaboration	The self- study method, which involved service providers educating themselves on community development principles, was not successful in establishing collaboration between service delivery agencies and the community. Some of the	Successful inter-organizational, community collaboration requires communication, trust, and a strong interest and involvement in

Author	Aim of study/article	Models of collaboration	Discussion on models/ Main conclusions of study	Application to current study
	and a small rural community.		barriers to collaboration included lack of communication, decreased levels of trust, and low levels of investment in the collaboration process.	collaboration.
Peck et al. (2010)	To explore the perceptions of students enrolled in physical and occupational therapy programs, and faculty members on a structured based community project.	Inter-professional, community collaboration	Successful collaboration requires efforts from all team members including the community partner. Important components for success include using the skills of all members and communication. The influence of the community environment and the importance of understanding customs, cultures, and beliefs were highlighted as important for collaboration.	Successful collaboration requires the efforts of all team members, communication, use of team member expertise, understanding of customs, cultures and beliefs, and an understanding of the environment and community.
Pridham et al. (2006)	To explore the feasibility, usefulness, and outcomes of a pilot program to support mothers in developing competencies for managing their very low birth weight infants in partnership with their primary care clinician.	Interdisciplinary, interagency, family-centered	Strengthening interdisciplinary and interagency collaboration is important for aiding families with premature infants. Findings of the pilot program showed increased communication between professionals, and family-professional relationships improved due to setting specific goals and focussing on the concerns of the parents. Importantly, although the mothers indicated that program was helpful, they felt that professionals did not provide the interpersonal conditions for collaboration.	Parent perspectives are important when evaluating collaboration. Collaboration can assist in improving communication and family-professional relationships through establishing goals that address the priorities of parents. However, interpersonal skills are fundamental to collaboration.
Silverman et al. (2010)	To describe a teacher education program for facilitating collaboration between early childhood teachers and child disability health care in inclusive practice using a transdisciplinary approach.	Transdisciplinary, multidisciplinary, family-centered, relationship-based	Teacher education programs which incorporate educational experiences, family-centered approach, and collaboration can provide the knowledge and skills for the successful implementation of inclusive education. Specifically the findings revealed that the transdisciplinary model was considered to be an effective model for teacher education due to the increased collaboration, communication and cooperation between team members.	The family-centered and transdisciplinary models have shown to be successful in implementing inclusive education.
Stepans et al. (2002)	To explore nurse's role on the transdisciplinary assessment team.	Transdisciplinary, multidisciplinary, interdisciplinary	The transdisciplinary model considered to be an effective model. Involvement of the family member in the transdisciplinary team is essential. Training in the transdisciplinary approach is necessary. Professional expertise can be strengthened through participation in transdisciplinary teaming.	Although the transdisciplinary model is considered beneficial in improving team member expertise, training in the approach is necessary.
Van Eyk & Baum (2002)	To describe findings of a research project that evaluated collaboration between healthcare agencies.	Interagency, Multidisciplinary	Collaboration across health care agencies and disciplines were important. Components important for collaboration include equality in teamwork, open communication, commitment, trust, supportive leadership, mutually agreed goals and resources.	Collaboration requires equality in teamwork, open communication, commitment, trust, resources, mutual goals, and leadership.

Appendix C
CECI-P(R)

PROFESSIONAL QUESTIONNAIRE

QUESTIONNAIRE INFORMATION AND INSTRUCTIONS

Thank you for taking the time to complete this questionnaire.

Please make sure that you answer ALL the questions.

Place a cross ☒ in the box of your choice.

This survey is about how professionals collaborate in teams that provide services for young children between 0-6 years of age. The team can include the Speech-Language Therapist, Occupational Therapist, Physiotherapist, Doctor, Parent etc. For the purpose of this study, **collaboration** refers to the working together of professionals and parent in the team delivering services for young children toward a common goal. The **Parent** may refer to the biological parent, the person caring for the child or the person attending services with the child requiring intervention for his/her development.

There are no right or wrong answers. All your answers will be kept confidential.

Section A: Biographical information

1. What is your profession?

<input type="checkbox"/>	Occupational Therapist
<input type="checkbox"/>	Nurse
<input type="checkbox"/>	Speech-Language Therapist
<input type="checkbox"/>	Doctor
<input type="checkbox"/>	Physiotherapist
<input type="checkbox"/>	Dietician
<input type="checkbox"/>	Social worker

Other: please specify: _____

2. How old are you?

<input type="checkbox"/>	20-30
<input type="checkbox"/>	31-40
<input type="checkbox"/>	41-50
<input type="checkbox"/>	51-60
<input type="checkbox"/>	61+

3. What is your highest educational qualification?

<input type="checkbox"/>	Diploma
<input type="checkbox"/>	Bachelor's degree
<input type="checkbox"/>	Honour's degree
<input type="checkbox"/>	Master's degree
<input type="checkbox"/>	PhD qualification

Other: Please specify _____

4. What is your home language?

<input type="checkbox"/>	English	<input type="checkbox"/>	Setswana	<input type="checkbox"/>	Sepedi
<input type="checkbox"/>	Afrikaans	<input type="checkbox"/>	Sesotho	<input type="checkbox"/>	SiSwati
<input type="checkbox"/>	isiZulu	<input type="checkbox"/>	Xitsonga	<input type="checkbox"/>	isiNdebele
<input type="checkbox"/>	isiXhosa	<input type="checkbox"/>	Tshivenda	<input type="checkbox"/>	Other: Please specify: _____

5. What language/s are you proficient in for each of these skills? Place a cross ☒ in the appropriate columns.

	LANGUAGE PROFICIENCY		
	Speak	Read	Write
English			
Afrikaans			
isiZulu			
isiXhosa			
Setswana			
Sesotho			
Xitsonga			
Tshivenda			
Sepedi			
SiSwati			
isiNdebele			
Other: Please specify			

6. What language/s do you provide intervention in?
-

7. How many years of experience do you have in providing intervention to young children between 0-6 years of age?

<input type="checkbox"/>	< 5 years
<input type="checkbox"/>	5 -10 years
<input type="checkbox"/>	11-15 years
<input type="checkbox"/>	16 -20 years
<input type="checkbox"/>	≥ 21 years

8. How long have you been providing intervention to young children between 0-6 years, **at your current workplace?**

_____ **months** _____ **years**

9. What training did you receive in relation to intervention for young children between 0-6 years?

<input type="checkbox"/>	None
<input type="checkbox"/>	In-service training
<input type="checkbox"/>	Workshops/seminars
<input type="checkbox"/>	Postgraduate course

Other: Please specify _____

10. If you selected **“postgraduate course”** in question 9, then please indicate the type of course?

<input type="checkbox"/>	Diploma
<input type="checkbox"/>	Masters in ECI/ECD
<input type="checkbox"/>	PhD in ECI/ECD

Other: Please specify _____

Section B: Service information

11. Do you provide intervention in a team?

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No

12. If yes to question 11, how often do you provide intervention in a team?

- Daily
- Weekly
- Monthly

Other: please specify _____

13. In what setting is your team providing services for young children?

- Hospital
- Clinic

Other: please specify _____

14. What is the composition of your team providing a service to young children? (Please cross all members currently on the team):

- Occupational Therapist
- Nurse
- Speech-Language Therapist
- Doctor
- Physiotherapist
- Dietician
- Social worker
- Parent/ Caregiver

Other: please specify: _____

15. Please complete by placing a cross in the appropriate column

<i>In your service ...</i>	Yes	No	Sometimes
Is the parent an essential member of the team?			
Do team members work independently with separate treatment plans?			
Do team members work independently within their profession specific roles but have joint treatment plans?			
Do team members share, integrate expertise and collaborate from the beginning to produce a single intervention plan?			

Thank you for completing this section!

Section C: Collaboration in teams providing services for young children

Domain one: Component of Collaboration

In the following statements, please circle the number which best describes how you perceive collaboration in teams providing services to young children and families.

	Do you think that.....	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	Working together in a team is necessary to provide quality services for young children.	1	2	3	4	5
2.	Finding resources such as information and support services are important for providing effective services for young children.	1	2	3	4	5
3.	Parents should be included in the team providing services to young children.	1	2	3	4	5
4.	The needs of the family should be considered first when working together in teams for young children.	1	2	3	4	5
5.	Working together in a team requires commitment of all involved for the best results.	1	2	3	4	5
6.	Working together effectively requires open communication (e.g. all information is shared).	1	2	3	4	5
7.	Clear and shared goals are needed for all team members to work together.	1	2	3	4	5
8.	Decision-making should involve all team members.	1	2	3	4	5
9.	To work together effectively in a team takes a lot of time.	1	2	3	4	5

Domain two: Self- Assessment on Collaboration

In this section, please rate your efforts on collaboration in the team by circling the number that best represents your answer.

	I (am).....	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
10.	Believe in working together in a team and its resulting outcomes.	1	2	3	4	5
11.	Know the other members involved in the team providing a service for young children.	1	2	3	4	5
12.	Have knowledge of the services provided by other professionals.	1	2	3	4	5
13.	Respect the other professionals' opinions.	1	2	3	4	5
14.	Respect parents as partners and full team members.	1	2	3	4	5
15.	Can't trust the decisions made by parents.	1	2	3	4	5
16.	Use jargon-free language when talking to parents.	1	2	3	4	5
17.	Willing to provide information to parents when they request.	1	2	3	4	5
18.	Encourage parents to be an active member, not just a listener.	1	2	3	4	5
19.	Consider the ethnic background of the children and families.	1	2	3	4	5

Domain three: Advantages of Collaboration

This section is to obtain your views about the advantages of collaboration in service delivery for young children. For each statement in the table, please circle the number which best represents your answer.

	Do you think by working together in a team CAN.....	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
20.	Benefit young children and their families.	1	2	3	4	5
21.	Help to make the best use of resources such as materials and equipment required for the child.	1	2	3	4	5
22.	Help to provide many services (e.g. Speech-Language Therapy, Physiotherapy) effectively.	1	2	3	4	5
23.	Help make service delivery more cost-effective.	1	2	3	4	5
24.	Help professionals learn from each other and improve their professional skills.	1	2	3	4	5
25.	Help professionals in their teamwork skills.	1	2	3	4	5
26.	Provide efficient services to the needs of children and families.	1	2	3	4	5
27.	Help parents to access the services (e.g. Speech-Language Therapy, Occupational Therapy) needed.	1	2	3	4	5
28.	Help professionals to develop skills in working together with parents to identify needs.	1	2	3	4	5
29.	Help parents to improve their abilities in taking care of their children.	1	2	3	4	5
30.	Help parents to connect with other families to share experiences.	1	2	3	4	5
31.	Improve the quality of life of children and families.	1	2	3	4	5

32. Are there any other benefits of working together in teams that you would like to tell us? **(Please fill in your responses below)**

Domain Four: Difficulties with Collaboration

This part aims to understand the difficulties you encountered when working collaboratively in your team. For each statement in the table, please circle the number which best represents your answer.

	Difficulties when working together in a team	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
33.	Inadequate funding to support the working together of team members.	1	2	3	4	5
34.	Insufficient members for teamwork.	1	2	3	4	5
35.	Insufficient time to work together in a team.	1	2	3	4	5
36.	Lack of agreement between parents and professionals on the services to be provided.	1	2	3	4	5
37.	Insufficient understanding of the different professional roles.	1	2	3	4	5
38.	Absence of a common language between professionals in teamwork.	1	2	3	4	5
39.	Lack of shared service delivery strategies between professionals.	1	2	3	4	5
40.	Parents disclose insufficient information.	1	2	3	4	5
41.	Parents do not know how to get involved in working together in a team.	1	2	3	4	5
42.	Language barriers of parents from different cultural backgrounds hinder communication.	1	2	3	4	5

43. Are there other particular difficulties to working together in a team you would like to tell us? ***(Please fill in your response below)***

Domain Five: Factors Influencing Collaborative Relationships

Below is a list of factors that could influence the relationships in a team providing a service to young children. Please circle the number to indicate how important each factor is for working together effectively in a team.

Organizational Factors	How important is it for working effectively in a team?				
	Extremely Unimportant	Unimportant	Moderate	Important	Extremely Important
44. Time for working together in a team	1	2	3	4	5
45. Sharing of resources such as equipment for child treatment	1	2	3	4	5
46. Sharing of information	1	2	3	4	5
47. Ensuring information is kept confidential	1	2	3	4	5
48. Leadership in teams	1	2	3	4	5
49. Opportunities for team training on teamwork	1	2	3	4	5
50. Professional availability	1	2	3	4	5
51. Number of patients requiring services from teams	1	2	3	4	5
52. Professional expertise	1	2	3	4	5

How important is it for working effectively in a team?					
Interpersonal Factors	Extremely Unimportant	Unimportant	Moderate	Important	Extremely Important
53. Knowing how to work together in a team	1	2	3	4	5
54. Knowledge of services (e.g. Occupational Therapy)	1	2	3	4	5
55. Expertise in providing services to young children	1	2	3	4	5
56. Commitment to working together in a team	1	2	3	4	5
57. Beliefs in including families in the team providing services for young children	1	2	3	4	5
58. Trusting relationship amongst team members	1	2	3	4	5
59. Mutual respect amongst team members	1	2	3	4	5
60. Mutual understanding amongst team members	1	2	3	4	5
61. Open communication	1	2	3	4	5
62. Availability of all information	1	2	3	4	5
63. Equality in teamwork	1	2	3	4	5
64. Professional's confidence in working together in a team	1	2	3	4	5
65. Showing concern for family needs	1	2	3	4	5
66. Showing understanding for family concerns	1	2	3	4	5
67. Professionals do not criticize parent's decisions	1	2	3	4	5
68. Quick response to family needs	1	2	3	4	5
69. Professionals use language that can be understood	1	2	3	4	5
70. Respect of different cultures	1	2	3	4	5
71. Family's honesty to professionals	1	2	3	4	5
72. Parent participation in teamwork	1	2	3	4	5

73. Are there any other factors you would like to tell us? (Please fill in your response below)

Domain six: Outcomes of Collaboration

This section aims to understand what outcomes you have perceived from your experiences with collaboration in service delivery for young children. For each statement, please circle the number which best represents your answer.

	How satisfied are you with.....	Extremely dissatisfied	Dissatisfied	Moderate	Satisfied	Extremely satisfied
74.	Working together with other professionals in the team.	1	2	3	4	5
75.	Working together with families.	1	2	3	4	5
76.	The time devoted for working together in the team.	1	2	3	4	5

	Do you think by working together in a team.....	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
77.	The shared goal of service delivery is attained.	1	2	3	4	5
78.	Parents are able to access comprehensive services more easily.	1	2	3	4	5
79.	Parents save time by getting all services from one place.	1	2	3	4	5
80.	Parents become more experienced in making decisions.	1	2	3	4	5
81.	Parents improve their abilities in taking care of their children	1	2	3	4	5
82.	Parents have more opportunities to interact with each other to share experiences.	1	2	3	4	5
83.	Children and families have a better chance of coping in their community.	1	2	3	4	5
84.	The quality of life of children and families can be effectively improved.	1	2	3	4	5

85. Are there any other outcomes of working together in a team you would like to tell us? ***(Please fill in your response below)***

Place a cross ☒ in the box of your choice:

86. How effective do you think your team is in working together in the service delivery for young children?

- Extremely effective Highly effective Moderately effective Less effective Not at all effective

87. How effective do you think the working together between parents and professionals are?

- Extremely effective Highly effective Moderately effective Less effective Not at all effective

Thank you for completing this questionnaire.

Appendix D
CECI-C(R) (Setswana)

CECI-C(R) Setswana was included in the survey pack. The CECI-C(R) English is presented below the Setswana version as reference.

DIPOTSOLOTSO TSA BATLHOKOMEDI

TSHEDIMOSETSO YA DIPOTSOLOTSO LE DITAELO

Re leboga fa o kgonne go tsaya nako ya go araba dipotsolotso tse.

Tsweetswee, netefatsa gore o ARABA dipotso tse tsothle.
Thala sefapano ka mo lebokosong le o le itlhophetseng.

Tlhotlhomiso e, ke ka ga maitemogelo a gago a go dira mmogo le diporofešenale mo setlhopheng se se neelang ngwana wa gago ditirelo/thuso. Setlhopha se se ka nna le Moalafi wa Puo, Moalafi wa Diikatiso, Mofisioterapi, Ngaka, jalojalo. Motsadi kgotsa motlhokomedi wa ngwana ke leloko le le botlhokwa la setlhopha. Ka jalo, ditshwaelo tsa gago di botlhokwa thata mme di tla re thusa go tokafatsa ditirelo tsa rona tsa go thusa bana ba bannye.

Ga go na dikarabo tse di nepagetseng le tse di phoso. Dikarabo tsa gago e tla na sephiri.

A. Tshedimosetso ka ga motsadi

1. O tsalana jaang le ngwana yo o amogelang ditirelo/thuso gore a gole?

<input type="checkbox"/>	Mme
<input type="checkbox"/>	Rre/ Ntate
<input type="checkbox"/>	Mmemogolo/Nkoko
<input type="checkbox"/>	Rremogolo/Ntatemogolo
<input type="checkbox"/>	Rakgadi/Mmane/Mmamogolo
<input type="checkbox"/>	Malome/Rangwane/Ramogolo
<input type="checkbox"/>	Motlhokomedi/Motlhokomedimogolo

Tse dingwe: Tsweetswee tlhalosa _____

2. O na le bana ba ba kae ka fa lapeng?

3. O mokae/ O wa mmala ofe?

<input type="checkbox"/>	Montsho
<input type="checkbox"/>	Lekhalate
<input type="checkbox"/>	MoIntia/MoAsia
<input type="checkbox"/>	Mosweu

Tse dingwe: Tsweetswee tlhalosa _____

4. O na le mengwaga e mekae?

<input type="checkbox"/>	Ka fa tlase ga 15
<input type="checkbox"/>	15-19
<input type="checkbox"/>	20-30
<input type="checkbox"/>	31-40
<input type="checkbox"/>	41-50
<input type="checkbox"/>	51-60
<input type="checkbox"/>	61+

5. Puo ya kwa lapeng/ gae ke efe?

<input type="checkbox"/>	English	<input type="checkbox"/>	Setswana	<input type="checkbox"/>	Sepedi
<input type="checkbox"/>	Afrikaans	<input type="checkbox"/>	Sesotho	<input type="checkbox"/>	SiSwati
<input type="checkbox"/>	isiZulu	<input type="checkbox"/>	Xitsonga	<input type="checkbox"/>	isiNdebele
<input type="checkbox"/>	isiXhosa	<input type="checkbox"/>	Tshivenda	<input type="checkbox"/>	Tse dingwe: Tsweetswee tlhalosa

6. Ke polelo e feng e o kgonang go e bala le go e tlhaloganya?

<input type="checkbox"/>	English	<input type="checkbox"/>	Setswana	<input type="checkbox"/>	Sepedi
<input type="checkbox"/>	Afrikaans	<input type="checkbox"/>	Sesotho	<input type="checkbox"/>	SiSwati
<input type="checkbox"/>	isiZulu	<input type="checkbox"/>	Xitsonga	<input type="checkbox"/>	isiNdebele
<input type="checkbox"/>	isiXhosa	<input type="checkbox"/>	Tshivenda	<input type="checkbox"/>	Tse dingwe: Tsweetswee tlhalosa

7. Maemo a gago a lenyalo ke afe?

<input type="checkbox"/>	Nyetswe
<input type="checkbox"/>	Ga ke ise ke nyalwe
<input type="checkbox"/>	Atlhogane
<input type="checkbox"/>	Tlhadilwe

Tse dingwe: Tsweetswee tthalosa _____

8. Maemo a a kwa godimo a dithuto tse o di weditseng/ ithutileng ke afe?

<input type="checkbox"/>	Kereiti 10 go ya kwa tlase
<input type="checkbox"/>	Kereiti 12
<input type="checkbox"/>	Setifikeiti sa nakwana
<input type="checkbox"/>	Dipoloma
<input type="checkbox"/>	Dikirii
<input type="checkbox"/>	Onase
<input type="checkbox"/>	Masetase
<input type="checkbox"/>	Bongaka

Tse dingwe: Tsweetswee tthalosa _____

9. Maemo a tsa go thapiwa/tiro ke afe?

<input type="checkbox"/>	Leruri
<input type="checkbox"/>	Nakwana/Matogo
<input type="checkbox"/>	Ga ke dire

Tse dingwe: Tsweetswee tthalosa _____

B. Tshedimosetso ka ngwana le ditirelo (thuso) tse a di amogelang

10. Dinyaga tsa ngwana wa gago yo ga jaanong a amogelang ditirelo/thuso di kae (Sekao: Kalafi ya Puo, Diikatiso tsa Kalafi) go mo thusa go gola?

	Ka fa tlase ga ngwaga o le 1r
	Ngwaga o le 1
	Dingwaga di le 2
	Dingwaga di le 3
	Dingwaga di le 4
	Dingwaga di le 5
	Dingwaga di le 6

11. Ngwana ke mong?

	Mosimane
	Mosetsana

12. Bogole ba ngwana ke eng kgotsa o na le bolwetse bo bo feng?

13. A ga jaanong ngwana wa gago o amogela ditirelo/thuso (Sekao: Kalafi ya Puo, Diikatiso tsa Kalafi) go tswa mo go diporofesenaleng tse di fetang bongwe kwa bookelong/klilining?

	Ee
	Nnyaa

14. Ke nako e e kanakang ngwana wa gago a ntse a amogela ditirelo/thuso (Sekao: Kalafi ya Puo, Diikatiso tsa Kalafi) go tokafatsa kgolo ya gagwe?

_____ **dikgwedi** _____ **dingwaga**

15. Ke nako e e kanakang o ntse o tla mo ditirelong/thusong e le ngwana wa gago?

_____ **dikgwedi** _____ **dingwaga**

Re leboga fa o feditse karolo e!

C. Go dira mmogo mo setlhopheng se se neelang ngwana wa gago ditirelo/thuso

Mo dipegelong tse di latelang, tswetswee sekeletsa nomoro e e tlhalosang go tlhaloganya ga gago botoka ka ga go dira mmogo ka ditlhophha tse di neelang bana ba bannye.ditirelo/thuso.

Karolo ya ntlha: Karolo ya go dira mmogo mo ditlhopheng

	A o akanya gore.....	Gana thata	Gana	Magareng	Dumela	Dumela thata
1.	Go dira mmogo mo setlhopheng go botlhokwa go neela bana ba ba nnye ditirelo tsa boleng.	1	2	3	4	5
2.	Go bona metswedi jaaka tshedimosetso le ditirelo tsa tshegetso go botlhokwa go neela bana ba ba nnye ditirelo tse di nonofileng.	1	2	3	4	5
3.	Batsadi ba tshwanetse go akarediwa mo setlhopheng se se neelang bana ba bannye ditirelo.	1	2	3	4	5
4.	Ditlhokego tsa lelapa di tshwanetse go rekegelwa pele fa go direlwa bana ba bannye mmogo ka ditlhophha.	1	2	3	4	5
5.	Fa go dirwa mmogo jaaka setlhophha, go tlhokega boikemisetsa jwa batho botlhe ba ba amegang go bona dipelo tse dintle.	1	2	3	4	5
6.	Dikakanyo tsa baporofesenele ka ga go dira mmogo mo setlhopheng di botlhokwa gore go nne le dikgolagano tse di atlegileng le batsadi.	1	2	3	4	5
7.	Go dira mmogo ka katlego go a tlhokega gore go nne le kgolagano e e sa fitlhegang. (Sekao, tshedimosetso yotlhe e a abelanwa).	1	2	3	4	5
8.	Go tsaya ditshwetso go tshwanetse ga akaretsa maloko otlhe a setlhophha.	1	2	3	4	5
9.	Go dira mmogo ka nonofo mo setlhopheng, go tsaya nako e ntsi.	1	2	3	4	5

Thala ka mo bokosong e o itlhophetseng yone:

10. O amana go le kanakang le setlhophha se se neelang ngwana wa gago ditirelo/thuso?

1. Godimo 2. Magareng 3. Tlase 4. Gope

11. O ikemiseditse go le kanakang go dira mo setlhopheng?

1. Godimo 2. Magareng 3. Tlase 4. Gope

Karolo ya bobedi: Mosola wa go dira mmogo mo setlhopheng

Karolo e ke ya go bona kakanyo ya gago ka mosola wa go dira mmogo mo setlhopheng se se neelang ngwana wa gago ditirelo/thuso.

	O akanya e kete go dira mmogo mo setlhopheng GO KA.....	Gana thata	Gana	Magareng	Dumela	Dumela thata
12.	Tswela bana ba bannye le malapa a bona mosola.	1	2	3	4	5
13.	Neela ditirelo tsa ka bonako (Sekao: Kalafi ya Puo, Diikatiso tsa Kalafi) tsa ditlhokego tsa bana le malapa.	1	2	3	4	5
14.	Thusa go dirisa metswedi sentle ka botlalo jaaka didiriso le didiriswa tse di tlhokelwang ngwana.	1	2	3	4	5
15.	Thusa go neela ditirelo tse dintsi ((Sekao: Kalafi ya Puo, Kalafi ya Fisio), ka nonofo.	1	2	3	4	5
16.	Thusa batsadi go fitlhelela ditirelo (Sekao: Kalafi ya Puo, Diikatiso tsa Kalafi) tse di tlokegang.	1	2	3	4	5
17.	Thusa batsadi go aga bokgoni jwa go dira mmogo le diporofesenele go kgona go lemoga ditlhokego.	1	2	3	4	5
18.	Thusa batsadi go tokafatsa bokgoni jwa bone jwa go tlhokomela Bana	1	2	3	4	5
19.	Thusa batsadi go nna le seabe mo dithulaganyong tsa ditirelo tse di neelwang ngwana.	1	2	3	4	5
20.	Thusa batsadi go ikgolaganya le batsadi ba bangwe go abelana ka maitemogelo a bone. .	1	2	3	4	5
21.	Tokafatsa boleng jwa botshelo jwa bana le ba lelapa.	1	2	3	4	5

22. A go na le mesola e mengwe ya go dira mmogo mo ditlhopheng e o ratang go re tlotlela ka yone? (Tsweetswee, tlatsa dikarabo tsa gago fa tlase)

Karolo ya boraro: Mathata a go dira mmogo mo setlhopheng

Mo karolong e, re rata go tlhaloganya mathata a o kileng wa nna le maitemogelo a one fa o dira mmogo le diporofesenele mo setlhopheng se se neelang ngwana wa gago ditirelo/thuso. Tsweetswee sekeletsa nomoro e e tlhalosang sentle karabo ya gago boemong jwa pegelo nngwe le nngwe ka mo tafoleng .

	Mathata a fa lo dira mmogo mo setlhopheng	Gana thata	Gana	Magareng	Dumela	Dumela thata
23.	Nako e e khutswane go dira mmogo mo setlhopheng.	1	2	3	4	5
24.	Tlhokego ya tumalano magareng ga batsadi le diporofesenele ka ga ditirelo tse di tshwanetseng go neelwa.	1	2	3	4	5
25.	Diporofesenele ga di buisane sentle le batsadi.	1	2	3	4	5
26.	Diporofesenele ga di supe kgatlhego fa batsadi ba nna le seabe/tsaya karolo mo setlhopheng.	1	2	3	4	5
27.	Diporofesenele di tlhoka kutlwisiso ya ditlhokego tsa lelapa.	1	2	3	4	5
28.	Diporofesenele ga di itse go tshwharagana le dikgotlhano- tse di leng mo magareng ga maloko a setlhopha.	1	2	3	4	5
29.	Diporofesenele di tlhoka kitso ya setso sa lelapa.	1	2	3	4	5
30.	Go thata go sala morago ditaelo tse di tswang mo diporofesenaleng tse di farologaneng.	1	2	3	4	5
31.	Mathata a go se tlhaloganye se se buang ke diporofesenele.	1	2	3	4	5

32. A go sa ntse go na le mathata a mangwe a a rileng a go dira mmogo mo setlhopheng a o ratang go re tlotlela ka ona?
(Tsweetswee, tlatsa karabo ya gago fa tlase)

Karolo ya bone: Mabaka a a tlhotlheletsang botsalano mo setlhopheng

Fa tlase go tlhagelela lenaane la mabaka a a ka amang botsalano mo setlhopheng se se neelang bana ba bannye ditirelo/thuso. Tsweetswee sekeletsa nomoro go supa botlhokwa jwa lebaka lengwe le lengwe mo go direng mmogo ka nonofo mo setlhopheng.

Mabaka a thulaganyo	Go botlhokwa jang go dira ka nonofo mo setlhopheng?				
	Ga go botlhokwa gotlhelele	Ga go botlhokwa	Magareng	Botlhokwa	Botlhokwa thata
33. Nako ya go dira mmogo mo setlhopheng	1	2	3	4	5
34. Go abelana ka metswedi jaaka didiriswa tsa go alafa ngwana	1	2	3	4	5
35. Go abelana tshedimosetso	1	2	3	4	5
36. Go netefatsa gore tshedimosetso e nna sephiri	1	2	3	4	5
37. Boeteledipele mo ditlhopheng	1	2	3	4	5
38. Ditšhono tsa go katisa setlhopho maleba le tirisano mmogo.	1	2	3	4	5
39. Go nna teng ga seporofešenale.	1	2	3	4	5
40. Palo ya balwetsi ba ba tlhokang ditirelo/thuso go tswa mo ditlhopheng.	1	2	3	4	5
41. Bokgoni jwa boporofešenale.	1	2	3	4	5

Mabaka a botsalano le batho ba bangwe	Go botlhokwa jang go dira ka nonofo mo setlhopheng?				
	Ga go botlhokwa gotlhelele	Ga go botlhokwa	Magareng	Botlhokwa	Botlhokwa thata
42. Go itse gore o dirisana jang le batho bangwe mo setlhopheng	1	2	3	4	5
43. Kitso ya ditirelo (Sekao:Diikatiso tsa Kalafi)	1	2	3	4	5
44. Botswerere jwa go neela bana ba bannye ditirelo.	1	2	3	4	5
45. Maikemisetso a go dira mmogo mo setlhopheng.	1	2	3	4	5
46. Ditumelo tsa go akaretsa malapa mo setlhopheng se se neelanang ka ditirelo tsa bana ba bannye.	1	2	3	4	5
47. Botsalano jo bo tshepagalang magareng ga maloko a setlhopha.	1	2	3	4	5
48. Tlotlano magareng ga maloko a setlhopha.	1	2	3	4	5
49. Go tshaloganyana magareng ga maloko a setlhopha.	1	2	3	4	5
50. Puisano e e lokologileng	1	2	3	4	5
51. Go nna teng ga tshedimisetso yotlhe	1	2	3	4	5
52. Tekatekano mo tirisano mmogong	1	2	3	4	5
53. Tshepagalo ya diporofesene go batsadi	1	2	3	4	5
54. Go supa go tshwenyegela ditlhokego tsa lelapa	1	2	3	4	5
55. Go bontsha go tshaloganya maleba le dilo tse di tlhobaetsang ba lelapa	1	2	3	4	5
56. Diporofesene ga di tshwaye phoso ditshwetso tse di tserweng ke batsadi	1	2	3	4	5
57. Tsibogelo ya ditlhoko tsa lelapa ka bonako	1	2	3	4	5
58. Diporofesene di dirisa puo e e tshaloganyegang	1	2	3	4	5
59. Tlotlo ya ditso tse di farologaneng	1	2	3	4	5
60. Go nna le seabe ga go tsaya karolo ga batsadi mo tirisano mmogong	1	2	3	4	5

61. A go na le mabaka a mangwe a o ratang go a re bolelela? (Tweetswee, tlatsa karabo ya gago fa tlase)

Karolo ya bothano: Dipoelo tsa go dira mmogo mo ditlhopheng

Karolo e e rata go tlhologanya dikakanyo tsa gago go tswa mo maitemogelong a gago a go dira mmogo mo setlhopheng fa lo neela ngwana wa gago ditirelo/thuso. Tsweetswee sekeletsa nomoro e e emelang karabo ya gago sentle mo pegelong nngwe le nngwe.

	O kgotsofetse go le kanakang ka	Ga ke a kgotsofala gotlhelele	Ga ke a kgotsofala	Magareng	Kgotsofetse	Kgotsofetse thata
62.	Ditirelo (Sekao, Kalafi ya Puo, Diikatiso tsa Kalafi) tse di neetsweng ke setlhopho.	1	2	3	4	5
63.	Diporofesenele di dira mmogo mo setlhopheng.	1	2	3	4	5
64.	Bogolo ba nako e e neetsweng ya kalafi.	1	2	3	4	5
65.	Go amogela ditirelo tse di tlhokegang (Sekao, Kalafi ya Puo, Diikatiso tsa Kalafi).	1	2	3	4	5
66.	Tšhono ya go ikgolaganya/buisana le malapa a mangwe.	1	2	3	4	5

	O akanya gore ka go dira mmogo mo setlhopheng	Gana thata	Gana	Magareng	Dumela	Dumela thata
67.	Batsadi ba bona tshedimose tso yotlhe e e tlhokegang go tswa go diporofesenele.	1	2	3	4	5
68.	Bana ba kgona go amogela ditirelo tso tle mo lefelong le le lengwe.	1	2	3	4	5
69.	Bana ba ikutlwa ba bolokese gile ka gone ditirelo tso tle di neelwa mo lefelong le le lengwe.	1	2	3	4	5
70.	Batsadi ba nna le maitemogelo a mantsi fa go tsewa ditshwetso.	1	2	3	4	5
71.	Batsadi ba tokafatsa bokgoni jwa bona jwa go tlhokomela bana ba bona.	1	2	3	4	5
72.	Bana le malapa ba na le tšhono e e botoka ya go kgona go kgotlelela go ithusa mo setšhabeng sa bona.	1	2	3	4	5
73.	Boleng jwa botshelo jwa bana le jwa malapa bo ka tokafadiwa ka katlego.	1	2	3	4	5

74. A go na le dipoele tse dingwe tsa go dira mmogo mo setlhopheng tse o ratang go re bolelela ka tsona? (Tsweetswee tlatsa karabo ya gago fa tlase)

Thala *ka mo bokosong e o itlhophetseng yone:*

75. O bona e kete setlhopho sa gago se nonofile go le kanakang mo go direng mmogo mo ditirelong tse ba di neelang ngwana wa gago?

- Nonofile thatathata
 Nonofile thata
 Nonofile magareng
 Nonofile ga nnye
 Ga ba a nonofa gotlhelele

76. O akanya nonofo ya go dira mmogo magareng ga batsadi le diporofesenele e ntse jang?

- Nonofile thatathata
 Nonofile thata
 Nonofile magareng
 Nonofile ga nnye
 Ga ba a nonofa gotlhelele

CECI-C(R) (English)

CAREGIVER QUESTIONNAIRE

QUESTIONNAIRE INFORMATION AND INSTRUCTIONS

Thank you for taking the time to complete this questionnaire.

Please make sure that you answer ALL the questions.

Place a cross ☒ in the box of your choice.

This survey is about your experience of working together with professionals in the team that is providing a service for your child. The team can include the Speech-Language Therapist, Occupational Therapist, Physiotherapist, Doctor, etc. The parent or caregiver for the child is an important member of the team. Therefore, your opinion is very important and will help us to improve our services for young children.

There are no right or wrong answers. All your answers will be kept confidential.

A. Information about the parent

1. How are you related to the child receiving services for his/her development?

<input type="checkbox"/>	Mother
<input type="checkbox"/>	Father
<input type="checkbox"/>	Grandmother
<input type="checkbox"/>	Grandfather
<input type="checkbox"/>	Aunt
<input type="checkbox"/>	Uncle
<input type="checkbox"/>	Guardian/ Primary caregiver

Other: Please specify _____

2. How many children do you have in your house?

3. What is your race?

<input type="checkbox"/>	Black
<input type="checkbox"/>	Coloured
<input type="checkbox"/>	Indian/Asian
<input type="checkbox"/>	White

Other: Please specify _____

4. How old are you?

<input type="checkbox"/>	less than 15
<input type="checkbox"/>	15-19
<input type="checkbox"/>	20-30
<input type="checkbox"/>	31-40
<input type="checkbox"/>	41-50
<input type="checkbox"/>	51-60
<input type="checkbox"/>	61+

5. What is your home language?

<input type="checkbox"/>	English	<input type="checkbox"/>	Setswana	<input type="checkbox"/>	Sepedi
<input type="checkbox"/>	Afrikaans	<input type="checkbox"/>	Sesotho	<input type="checkbox"/>	SiSwati
<input type="checkbox"/>	isiZulu	<input type="checkbox"/>	Xitsonga	<input type="checkbox"/>	isiNdebele
<input type="checkbox"/>	isiXhosa	<input type="checkbox"/>	Tshivenda	<input type="checkbox"/>	Other: Please specify: _____

6. What other languages are you able to read and understand?

<input type="checkbox"/>	English	<input type="checkbox"/>	Setswana	<input type="checkbox"/>	Sepedi
<input type="checkbox"/>	Afrikaans	<input type="checkbox"/>	Sesotho	<input type="checkbox"/>	SiSwati
<input type="checkbox"/>	isiZulu	<input type="checkbox"/>	Xitsonga	<input type="checkbox"/>	isiNdebele
<input type="checkbox"/>	isiXhosa	<input type="checkbox"/>	Tshivenda	<input type="checkbox"/>	Other: Please specify: _____

7. What is your marital status?

- | | |
|--------------------------|---------------|
| <input type="checkbox"/> | Married |
| <input type="checkbox"/> | Never married |
| <input type="checkbox"/> | Separated |
| <input type="checkbox"/> | Divorced |

Other: Please specify _____

8. What is the highest level of education you have completed?

- | | |
|--------------------------|------------------------|
| <input type="checkbox"/> | Grade 10 or lower |
| <input type="checkbox"/> | Grade 12 |
| <input type="checkbox"/> | Short-term certificate |
| <input type="checkbox"/> | Diploma |
| <input type="checkbox"/> | Bachelor's degree |
| <input type="checkbox"/> | Honour's degree |
| <input type="checkbox"/> | Master's degree |
| <input type="checkbox"/> | PhD qualification |

Other: Please specify _____

9. What is your employment status?

- | | |
|--------------------------|-------------------------|
| <input type="checkbox"/> | Full time |
| <input type="checkbox"/> | Part time/Casual worker |
| <input type="checkbox"/> | Unemployed |

Other: Please specify _____

B. Information about the child and the services he/she is receiving

10. What is the age of your child currently attending services (e.g. Speech-Language Therapy, Occupational Therapy) to help with his/her development?

<input type="checkbox"/>	Less than 1 year
<input type="checkbox"/>	1 year
<input type="checkbox"/>	2 years
<input type="checkbox"/>	3 years
<input type="checkbox"/>	4 years
<input type="checkbox"/>	5 years
<input type="checkbox"/>	6 years

11. What is his/her gender?

<input type="checkbox"/>	Boy
<input type="checkbox"/>	Girl

12. What is his/her disability or diagnosis?

13. Is your child currently receiving services (e.g. Speech-Language Therapy, Occupational Therapy) from more than one professional at the hospital/clinic?

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No

14. How long has your child been receiving services (e.g. Speech-Language Therapy, Occupational Therapy) to improve his/her development?

_____ **months** _____ **years**

15. How long have you been attending the services with your child?

_____ **months** _____ **years**

Thank you for completing this section!

C. Working together in the team providing a service for your child

In the following statements, please circle the number which best describes your understanding about working together in teams that provide services to young children.

Domain one: Component of working together in teams

	Do you think.....	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	Working together in a team is necessary to provide quality services for young children.	1	2	3	4	5
2.	Finding resources such as information and support services are important for providing effective services for young children.	1	2	3	4	5
3.	Parents should be included in the team providing services to young children.	1	2	3	4	5
4.	The needs of the family should be considered first when working together in teams for young children.	1	2	3	4	5
5.	Working together in a team requires commitment of all involved for the best results.	1	2	3	4	5
6.	Professional's opinions about working together in a team are important for successful interaction with parents.	1	2	3	4	5
7.	Working together effectively requires open communication (e.g. all information is shared).	1	2	3	4	5
8.	Decision-making should involve all team members.	1	2	3	4	5
9.	To work together effectively in a team takes a lot of time.	1	2	3	4	5

Place a cross in the box of your choice:

10. How involved are you in the team providing a service for your child?

1. High 2. Medium 3. Low 4. None

11. How willing are you to work in a team?

1. High 2. Medium 3. Low 4. None

Domain two: Advantages of working together in a team

This section is to obtain your views about the advantages of working together in the team providing a service to your child. For each statement in the table, please circle the number which best represents your answer.

	Do you think working together in a team CAN.....	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
12.	Benefit young children and their families.	1	2	3	4	5
13.	Provide quick services (e.g. Speech-Language Therapy, Occupational Therapy) to the needs of children and families.	1	2	3	4	5
14.	Help to make the best use of resources such as materials and equipment required for the child.	1	2	3	4	5
15.	Help to provide many services (e.g. Speech-Language Therapy, Physiotherapy) effectively.	1	2	3	4	5
16.	Help parents to access the services (e.g. Speech-Language Therapy, Occupational Therapy) needed.	1	2	3	4	5
17.	Help parents to develop skills in working together with professionals to identify needs.	1	2	3	4	5
18.	Help parents to improve their abilities in taking care of their children.	1	2	3	4	5
19.	Help parents to participate in the planning of services provided to the child.	1	2	3	4	5
20.	Help parents to connect with other families to share experiences.	1	2	3	4	5
21.	Improve the quality of life of children and families.	1	2	3	4	5

22. Are there any other benefits of working together in teams that you would like to tell us? **(Please fill in your response below)**

Domain three: Difficulties with working together in a team

In this section, we would like to understand the difficulties you may have experienced when working together with professionals on the team providing a service to your child. For each statement in the table, please circle the number which best represents your answer.

	Difficulties when working together in a team	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
23.	Insufficient time to work together in a team.	1	2	3	4	5
24.	Lack of agreement between parents and professionals on the services to be provided.	1	2	3	4	5
25.	Professionals do not communicate well with parents.	1	2	3	4	5
26.	Professionals show no interest to parent involvement in the team.	1	2	3	4	5
27.	Professionals lack of understanding of family needs.	1	2	3	4	5
28.	Professionals do not know how to deal with disagreements between team members.	1	2	3	4	5
29.	Professionals lack of awareness of the family's culture.	1	2	3	4	5
30.	Difficult to follow instructions from different professionals.	1	2	3	4	5
31.	Difficulty in understanding what professionals say.	1	2	3	4	5

32. Are there other particular difficulties to working together in a team you would like to tell us? **(Please fill in your response below)**

Domain Four: Factors influencing relationships in a team

Below is a list of factors that could affect the relationships in a team providing a service to young children. Please circle the number to indicate how important each factor is for working together effectively in a team.

Organizational Factors	How important is it for working effectively in a team?				
	Extremely Unimportant	Unimportant	Moderate	Important	Extremely Important
33. Time for working together in a team	1	2	3	4	5
34. Sharing of resources such as equipment for child treatment	1	2	3	4	5
35. Sharing of information	1	2	3	4	5
36. Ensuring information is kept confidential	1	2	3	4	5
37. Leadership in teams	1	2	3	4	5
38. Opportunities for team training on teamwork	1	2	3	4	5
39. Professional availability	1	2	3	4	5
40. Number of patients requiring services from teams	1	2	3	4	5
41. Professional expertise	1	2	3	4	5

Interpersonal Factors	How important is it for working effectively in a team?				
	Extremely Unimportant	Unimportant	Moderate	Important	Extremely Important
42. Knowing how to work together in a team	1	2	3	4	5
43. Knowledge of services (e.g. Occupational Therapy)	1	2	3	4	5
44. Expertise in providing services to young children	1	2	3	4	5
45. Commitment to working together in a team	1	2	3	4	5
46. Beliefs in including families in the team providing services for young children	1	2	3	4	5
47. Trusting relationship amongst team members	1	2	3	4	5
48. Mutual respect amongst team members	1	2	3	4	5
49. Mutual understanding amongst team members	1	2	3	4	5
50. Open communication	1	2	3	4	5
51. Availability of all information	1	2	3	4	5
52. Equality in teamwork	1	2	3	4	5
53. Professional's honesty to parents	1	2	3	4	5
54. Showing concern for family needs	1	2	3	4	5
55. Showing understanding for family concerns	1	2	3	4	5
56. Professionals do not criticize parent's decisions	1	2	3	4	5
57. Quick response to family needs	1	2	3	4	5
58. Professionals use language that can be understood	1	2	3	4	5
59. Respect of different cultures	1	2	3	4	5
60. Parent participation in teamwork	1	2	3	4	5

61. Are there any other factors you would like to tell us? **(Please fill in your response below)**

Domain five: Outcomes of working together in teams

This section aims to understand your views from your experiences of working together in the team providing a service for your child. For each statement, please circle the number which best represents your answer.

	How satisfied are you with.....	Extremely Dissatisfied	Dissatisfied	Moderate	Satisfied	Extremely Satisfied
62.	The services (e.g. Speech-Language Therapy, Occupational Therapy) provided by the team.	1	2	3	4	5
63.	Professionals working together in the team.	1	2	3	4	5
64.	The amount of time provided for treatment.	1	2	3	4	5
65.	Receiving the services needed (e.g. Speech-Language Therapy, Occupational Therapy).	1	2	3	4	5
66.	The opportunities to interact with other families.	1	2	3	4	5

	Do you think by working together in a team.....	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
67.	Parents get all the information needed from professionals.	1	2	3	4	5
68.	Children are able to receive all the services from one place.	1	2	3	4	5
69.	Children feel safe because all services are provided in one place.	1	2	3	4	5
70.	Parents become more experienced in making decisions.	1	2	3	4	5
71.	Parents improve their abilities in taking care of their children.	1	2	3	4	5
72.	Children and families have a better chance of coping in their community.	1	2	3	4	5
73.	The quality of life of children and families can be successfully improved.	1	2	3	4	5

74. Are there any other outcomes of working together in a team you would like to tell us? **(Please fill in your response below)**

Place a cross in the box of your choice:

75. How effective do you think your team is in working together in the service delivery for your child?
- Extremely effective Highly effective Moderately effective Less effective Not at all effective
76. How effective do you think the working together between parents and professionals are?
- Extremely effective Highly effective Moderately effective Less effective Not at all effective

Appendix E

Letter of consent for professional to participate in the study



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
Faculty of Humanities

Professional informed consent letter

Date: _____

Dear: _____

Request for participation in study

I am a Ph.D. student at the University of Pretoria. In partial fulfilment for the requirements for this degree, I am conducting a study. The aim of the study is to determine professionals' and caregivers' perceptions of collaboration in teams providing a service to young children between 0-6 years of age.

Research topic: Team collaboration in early childhood intervention services in South Africa: Professional and family perspectives.

Rationale for the study: It is well-established that intervention for young children with developmental problems requires a holistic approach which cannot be implemented by individual professionals. Accordingly, a team approach with the parent or caregivers being crucial member of the team is recommended. Collaboration between professionals and the parent is essential to successful interventions with these children. Many factors may influence collaboration including, language barriers, lack of experience in collaborating, challenges of the organization, limited resources. The aim of this study is therefore to describe and compare professionals' and parents' perceptions of collaboration in teams providing services for young children between 0-6 years, in South Africa.

What is expected of me as a participant?

You will be requested to complete a survey. This survey is about collaboration between professionals and the parent in teams providing a service to young children between 0-6 years. The survey should take about 45 minutes to complete. There are no right or wrong answers.

What are the benefits and risks for participating?

There is no direct benefit or financial gain to participating in this research. However, the information gathered from you and other professionals will provide valuable information that may assist teams to improve collaboration in services for young children between 0-6 years, in South Africa. There are no risks involved should you take part in this study.

What are my rights as a participant in this study?

Your participation in this research is voluntary. You have the right to withdraw from the study at any time. You also have the right to refuse to participate without any negative consequences. Your responses are confidential.

How will the data be stored and who has access to the data?

The information will be stored for a period of 15 years at the University of Pretoria, CAAC. The results will be available in a thesis and scientific paper. If you would like to have access to the results, it will be made available to you, upon request, following the completion of the study.

Who can be contacted if I have any further questions?

For further information and questions about this research project, you are welcome to contact the researcher - Thilen Kyarkanaye - at Cell: [REDACTED] or e-mail: [REDACTED]

Thank you in advance for your time and cooperation

Yours sincerely,



Thilen Kyarkanaye
Researcher



Dr. S. Dada
Supervisor

REPLY SLIP

I, _____

- agree to participate in the study as outlined above
- would like a link to the thesis on completion

Participant signature: _____ Date: _____

Participant e-mail: _____

Thank you in advance for your time and co-operation

Yours sincerely

Thilen Kyarakanaye

Ph.D. student

Appendix F

Letter of consent for caregiver to participate in the study



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
Faculty of Humanities

Parent informed consent letter

Date: _____

Dear Parent

Request for participation in study

I am a Ph.D. student at the University of Pretoria. In partial fulfillment for the requirements for this degree, I am conducting a study. The aim of the study is to determine professionals' and caregivers' perceptions of collaboration in teams providing a service to young children between 0-6 years of age.

Research topic: Team collaboration in early childhood intervention services in South Africa: Professional and family perspectives.

Background

Many young children with disabilities and delays in their development attend early intervention services. Early intervention services are services that help with the development of young children between 0-6 years of age, such as helping the child with talking, crawling, and walking. Early intervention services are often available at hospitals and clinics. These services are usually provided by a team of professionals and the parent is considered to be an important member of the team. The aim of this study is to understand the experiences of both professionals and parents/caregivers of these early intervention services.

What is expected of me as a participant?

You will be requested to complete a survey. This survey is about your experience in working together with professionals in early intervention services for your child. A trained assistant who speaks Setswana will read the questions in the survey. The assistant will also read the possible answer options. You will select the answer of your choice and mark it on your survey questionnaire. This should take about 40 minutes to complete. There are no right or wrong answers.

What are the benefits and risks for participating?

There is no direct benefit or financial gain to participating in this research. However, the information gathered from you and other parents will be valuable for improving services for children and families. There are no risks involved should you take part in this study.

What are my rights as a participant in this study?

Your participation in this research is voluntary. You have the right to withdraw from the study at any time. You also have the right to refuse to participate without any negative consequences. Your responses are confidential.

How will the data be stored and who has access to the data?

The information will be stored for a period of 15 years at the University of Pretoria, CAAC Department. The results will be available in a thesis and scientific paper. If you would like to have access to the results, it will be made available to you, upon request, following the completion of the study.

Who can be contacted if I have any further questions?

For further information and questions about this research project, you are welcome to contact the researcher - Thilen Kyarkanaye - at Cell: [REDACTED] or e-mail: [REDACTED]

Thank you in advance for your time and cooperation

Yours sincerely,



Thilen Kyarkanaye
Researcher



Dr. S. Dada
Supervisor

REPLY SLIP

I, _____

- agree to participate in the study as outlined above
- would like a link to the thesis on completion

Participant signature: _____ Date: _____

Participant e-mail: _____

Thank you in advance for your time and co-operation

Yours sincerely

Thilen Kyarakanaye

Ph.D. student

Appendix G

Letter of consent for caregiver to participate in the study (Setswana)



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
Faculty of Humanities

Lekwalotetla la batsadi

Letlha: _____

Motsadi yo o rategang

Kopo ya go tsaya karolo mo dithutong tse

Ke moithuti wa dithuto tsa bongaka (Ph.D.) mo Yunibetsing ya Pretoria. Go araba bontlhabongwe jwa ditlhokego tsa dikirii e, ke dira dipatlisiso. Maikaelelo a dipatlisiso tse ke go tlhomamisa maitemogelo a go dirisana mmogo ga ditlhopha tsa diporofesenale le batlhokomedi fa ba neela ditirelo/thuso go bana ba bannye ba ba mo magareng ga dinyaga tsa 0-6.

Sethogo sa patlisiso: Tirisano mmogo ka ditsereganyo tsa pele mo Africa Borwa. Maitemogelo a diporofesenale le ba malapa.

Lemorago

Bana ba le bantsi ba bannye ba ba golofetseng le ba ba bonya mo kgotlong ba tsenela ditirelo tsa ditsereganyo kgotsa ba bona thuso ya ditsereganyo. Ditirelo tsa ditsereganyo ke ditirelo tse di thusang kgolo ya bana ba bannye ba ba mo magareng ga dinyaga tsa 0-6, jaaka go thusa ngwana go bua, go gagaba le go tsamaya. Ditsereganyo tsa ka pele ka gale di bonwa kwa bookelong le kwa ditlilining. Ka gale ditirelo tse di neelwa ke setlhopha sa diporofesenale mme motsadi o kaiwa jaaka leloko le le botlhokwa la setlhopha se. Maikaelelo a dipatlisiso tse ke go tlhaloganya maitemogelo a diporofesenale le batsadi/batlhokomedi ba ditirelo tsa ditsereganyo tsa ka pele.

Go solofelwa eng mo go nna jaaka motsayakarolo?

O tlile go kopiwa go tlatsa tekanyetso. Tekanyetso e e maleba le maitemogelo a gago fa o dira mmogo le diporofesenale ka nako ya go neela ditirelo tsa ditsereganyo tsa ngwana wa gago. Mothusi yo o katisitsweng yo o buang Setswana o tla go buisetsa dipotso tse di leng mo ditekanyetsong. Gape mothusi o tla go buisetsa dikarabo tse e ka mngang tsona tse o ka di tlhophang. O tla tlhophahlela karabo e o tlhophetseng mme wa e tshwaya mo dipotsolotsong tsa tekanyetso ya gago. Seno se ka tsaya metsotso e le 40 go e wetsa (fetsa go e tlatsa). Ga go na karabo e e siameng le e fosagetseng.

Dipoelo le ditekeletso tsa go tsaya karolo ke dife?

Ga go na dipoelo tse di tlhamaletseng kgotsa dipoelo tsa madi fa o tsere karolo mo ditlhotlhomisong tse. Le fa go ntse jalo, tshedimosetso e e kokoantsweng go tswa mo go wena le batsadi ba bangwe e tšile go nna botlhokwa go thusa go tokafatsa ditirelo tsa bana le malapa. Ga go na ditekeletso dipe fa o ka tsaya karolo mo dithutong/dipatlisisong tse.

Ditshiamelo tsa me ke dife jaaka motsayakarolo mo dithutong/dipatlisisong tse?

Go tsaya karolo mo dipatlisisong tse ke boithaopi. O na le tshiamelo ya go ikogela kwa morago mo dithutong/dipatlisisong tse nako nngwe le nngwe. Gape o na le ditshiamelo tsa go gana go tsaya karolo kwa ntle ga ditlamorago dipe. Dikarabo/ditsibogelo tsa gago ke sephiri.

Dinewa/data e e tla bolokwa jang mme ke mang yo o tla e fitlhelelang dinewa/data e?

Tshedimosetso e e tla bolokwa nako ya mengwaga e e 15 kwa CAAC kwa Yunibesithing ya Pretoria ka mo Lefapheng la CAAC. Dipholo di tla bonwa ka mo thesising le ka mo pampiring ya bonetetshi. Fa o batla go fitlhelela dipholo tse, o tla di neelwa, fa o di kopa morago ga go wetsa dithuto tse.

Nka ikgolaganya le mang fa ke sa ntse ke na le dipotso?

Fa o sa ntse o batla tshedimosetso e nngwe gape le fa o sa ntse o na le dipotso ka ditlhotlhomiso tsa porojeke e, o letleletswe go ikgolaganya le motlhotlhomisi - Thilen Kyarkanaye – mo Seleng: [REDACTED] kgotsa e-mail: [REDACTED]

Ke go lebogela kwa pele malebana le nako le tirisano mmogo ya gago.

Ka boikokobesto,



Thilen Kyarkanaye
Motlhotlhomisi



Dr. S. Dada
Motlhokomedi

Appendix H

Letter of consent for expert panel member to participate in the study: Face Validity



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
Faculty of Humanities

Expert Panel Member Informed Consent Letter

Date: _____

Dear Panel Member

Request for participation in study

I am a Ph.D. student at the University of Pretoria. In partial fulfilment for the requirements for this degree, I am conducting a study. The aim of the study is to determine professionals' and caregivers' perceptions of collaboration in teams providing a service to young children between 0-6 years of age.

Research topic: Team collaboration in early childhood intervention services in South Africa: Professional and family perspectives.

Rationale for the study: The aim of this study is to adapt an existing professional and a caregiver instrument for the South African context. The adapted instruments will then be used to describe and compare the perceptions of collaboration of professionals and caregivers in current team-based services for young children in South Africa.

What is expected of me as a panel member?

If you agree to participate, you will be required to comment on the structure and content of the items in the instruments. This should take 30 -45 minutes to complete.

What are the potential benefits and risks?

There is no direct benefit or financial gain to participating in this research. However, the information gathered from you and other expert reviewers will be valuable for establishing an appropriate measuring instrument for the South African context. There are no risks involved should you take part in this study.

What are my rights as a participant in this study?

Your participation in this research is voluntary. You have the right to withdraw from the study at any time. You also have the right to refuse to participate without any negative consequences. Your responses are confidential.

How will the data be stored and who has access to the data?

The information will be stored for a period of 15 years at the University of Pretoria, CAAC Department. The results will be available in a thesis and scientific paper. If you would like to have access to the results, it will be made available to you, upon request, following the completion of the study.

Who can be contacted if I have any further questions?

For further information and questions about this research project, you are welcome to contact the researcher - Thilen Kyarakanaye - at Cell: [REDACTED] or e-mail: [REDACTED]

Thank you in advance for your time and cooperation.

Yours sincerely,



Thilen Kyarakanaye
Researcher



Dr. S. Dada
Supervisor

Appendix I

Letter of consent for caregiver to participate in the study: Face Validity



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
Faculty of Humanities

Parent Panel Informed Consent Letter

Date: _____

Dear Parent

Request for participation in study

I am a Ph.D. student at the University of Pretoria. In partial fulfillment for the requirements for this degree, I am conducting a study. The aim of the study is to determine professionals' and caregivers' perceptions of collaboration in teams providing a service to young children between 0-6 years of age.

Research topic: Team collaboration in early childhood intervention services in South Africa: Professional and family perspectives.

Background of study

Many young children with disabilities and delays in their development attend early intervention services. Early intervention services are services that help with the development of young children between 0-6 years of age, such as helping the child with talking, crawling and walking. Early intervention services are often available at hospitals and clinics. These services are usually provided by a team of professionals and the parent is considered to be an important member of the team. The aim of this study is to understand the experiences of both professionals and parents/caregivers of these early intervention services.

What is expected of me as an expert parent member?

You would be required to read each question in the questionnaire. You would then be required to comment on the presentation of the questionnaire and whether the questions are easy to understand.

What are the benefits and risks for participating?

There is no direct benefit or financial gain. However, the information gathered from you and other parents will be important in helping to develop a questionnaire that is appropriate for parents receiving early childhood intervention services in South Africa. There are no risks should you take part in this study.

What are my rights as a participant in this study?

Your participation in this research is voluntary. You have the right to withdraw from the study at any time. You also have the right to refuse to participate without any negative consequences. Your responses are confidential.

How will the data be stored and who has access to the data?

The information will be stored for a period of 15 years at the University of Pretoria, CAAC Department. The results will be available in a thesis and scientific paper. If you would like to have access to the results, it will be made available to you, upon request, following the completion of the study.

Who can be contacted if I have any further questions?

For further information and questions about this research project, you are welcome to contact the researcher - Thilen Kyarakanaye - at Cell: [REDACTED] or e-mail: [REDACTED]

Thank you in advance for your time and cooperation.

Yours sincerely,



Thilen Kyarakanaye
Researcher



Dr. S. Dada
Supervisor

Appendix J

Letter of consent for expert panel member to participate in the study: Content Validity



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
Faculty of Humanities

Expert Panel Member Informed Consent Letter

Date: _____

Dear Panel Member

Request for participation in study

I am a Ph.D. student at the University of Pretoria. In partial fulfilment for the requirements for this degree, I am conducting a study. The aim of the study is to determine professionals' and caregivers' perceptions of collaboration in teams providing a service to young children between 0-6 years of age.

Research topic: Team collaboration in early childhood intervention services in South Africa: Professional and family perspectives.

Rationale for the study: The aim of this study is to adapt an existing professional and a caregiver instrument for the South African context. The adapted instruments will then be used to describe and compare the perceptions of collaboration of professionals and caregivers in current team-based services for young children in South Africa.

What is expected of me as a panel member?

If you agree to participate, you will be required to comment on the relevance of the content of the items in the instruments. This should take 30-45 minutes to complete.

What are the potential benefits and risks?

There is no direct benefit or financial gain to participating in this research. However, the information gathered from you and other expert reviewers will be valuable for establishing an appropriate measuring instrument for the South African context. There are no risks involved should you take part in this study.

What are my rights as a participant in this study?

Your participation in this research is voluntary. You have the right to withdraw from the study at any time. You also have the right to refuse to participate without any negative consequences. Your responses are confidential.

How will the data be stored and who has access to the data?

The information will be stored for a period of 15 years at the University of Pretoria, CAAC Department. The results will be available in a thesis and scientific paper. If you would like to have access to the results, it will be made available to you, upon request, following the completion of the study.

Who can be contacted if I have any further questions?

For further information and questions about this research project, you are welcome to contact the researcher - Thilen Kyarkanaye - at Cell: [REDACTED] or e-mail: [REDACTED]

Thank you in advance for your time and cooperation.

Yours sincerely,



Thilen Kyarkanaye
Researcher



Dr. S. Dada
Supervisor

Appendix K

Letter of consent for caregiver to participate in the study: Content Validity



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
Faculty of Humanities

Parent Panel Informed Consent Letter

Date: _____

Dear Parent

Request for participation in study

I am a Ph.D. student at the University of Pretoria. In partial fulfillment for the requirements for this degree, I am conducting a study. The aim of the study is to determine professionals' and caregivers' perceptions of collaboration in teams providing a service to young children between 0-6 years of age.

Research topic: Team collaboration in early childhood intervention services in South Africa: Professional and family perspectives.

Background of study

Many young children with disabilities and delays in their development attend early intervention services. Early intervention services are services that help with the development of young children between 0-6 years of age, such as helping the child with talking, crawling and walking. Early intervention services are often available at hospitals and clinics. These services are usually provided by a team of professionals and the parent is considered to be an important member of the team. The aim of this study is to understand the experiences of both professionals and parents/caregivers of these early intervention services.

What is expected of me as an expert parent member?

You would be required to read each question in the questionnaire. You would then be required to indicate the importance of each question for teams in early childhood intervention services.

What are the benefits and risks for participating?

There is no direct benefit or financial gain. However, the information gathered from you and other parents will be important in helping to develop a questionnaire that is appropriate for parents receiving early childhood intervention services in South Africa. There are no risks should you take part in this study.

What are my rights as a participant in this study?

Your participation in this research is voluntary. You have the right to withdraw from the study at any time. You also have the right to refuse to participate without any negative consequences. Your responses are confidential.

How will the data be stored and who has access to the data?

The information will be stored for a period of 15 years at the University of Pretoria, CAAC Department. The results will be available in a thesis and scientific paper. If you would like to have access to the results, it will be made available to you, upon request, following the completion of the study.

Who can be contacted if I have any further questions?

For further information and questions about this research project, you are welcome to contact the researcher - Thilen Kyarkanaye - at Cell: [REDACTED] or e-mail: [REDACTED]

Thank you in advance for your time and cooperation.

Yours sincerely,



Thilen Kyarkanaye
Researcher



Dr. S. Dada
Supervisor

Appendix L

Permission obtained from the Gauteng Department of Health



GAUTENG PROVINCE
 HEALTH
 REPUBLIC OF SOUTH AFRICA

OUTCOME OF PROVINCIAL PROTOCOL REVIEW COMMITTEE (PPRC)

Researcher's Name (Principal investigator)	Thilendree Kyarkanaye
Organization / Institution	University of Pretoria
Research Title	A profile of effective practitioners in early childhood intervention in South Africa: A focus on practice- based evidence
Contact number	Address: N/A Contact no: N/A Cell: [REDACTED] Email: [REDACTED]
Protocol number	GP 2015RP54 856
Date submitted	06/03/2015
Date reviewed	March 2015
Outcome	APPROVED
Date resubmitted	N/A
Date of second review	N/A
Final outcome	APPROVED

It is a pleasure to inform that the Gauteng Health Department has approved your research on "Protocol Title: A profile of effective practitioners in early childhood intervention in South Africa: A focus on practice- based evidence. The Provincial Protocol Review Committee kindly requests that you to submit a report after completion of your study and present your findings to the Gauteng Health Department.

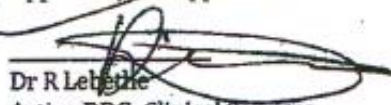
Recommended



Dr B Ikalafeng (on behalf of PPRC)

Date 2015/05/11

Approves / not approves


 Dr R Lethebe
 Acting DDG: Clinical Services

Date 11 05 2015

Appendix M

Permission to conduct study at the institution



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
Faculty of Humanities

RESEARCH REQUEST TO CONDUCT STUDY AT INSTITUTION

Date: _____

Address: _____

Re: Request to conduct research at institution.

I am a Ph.D. student at the University of Pretoria. In partial fulfillment for the requirements for this degree, I am required to conduct a research study. I would like to request your permission for the professionals and a sample of parents involved in services for young children to participate in this study by completing a questionnaire.

Research Topic: Team collaboration in early childhood intervention services in South Africa: Professional and family perspectives

Rationale for the study: It is well-established that intervention for young children with developmental problems requires a holistic approach which cannot be implemented by individual professionals. Accordingly, a team approach with the parent or caregivers being crucial member of the team is recommended. Collaboration between professionals and the parent is essential to successful interventions with these children. Many factors may influence collaboration including, language barriers, lack of experience in collaborating, challenges of the organization, limited resources. The aim of this study is therefore to describe and compare professionals' and parents' perceptions of collaboration in teams providing services for young children between 0-6 years, in South Africa.

Requirements from the site:

The research site will be required to provide the researcher with permission to firstly use the site for this research. In addition the researcher would seek permission from professionals e.g. occupational therapists, speech therapists and physiotherapists providing intervention services to children (0-6 years) to consent to participate in the study. Parents bringing their young children for these services will also be asked to consent to participate in this study.

Participants:

Once consent has been obtained, the participant will be requested to complete the survey. All professionals within the team providing a service to young children between 0-6 years will be requested to complete the professional survey individually, in a time that is suitable to them.

The parents will be requested to complete the caregiver survey, on the day of receiving services for their child's development. The parents will complete the survey through a structured face to face group interview with the researcher and a trained assistant competent in Setswana. The survey should take approximately 40 minutes to complete.

Potential benefits and risks

There is no direct benefit or financial gain to participating in this research. However, the information gathered from the participants will provide valuable information that may assist teams to improve collaboration in services for young children between 0- 6 years, in South Africa. Feedback on the results will be made available to the participants and research site on their request. There are no risks involved should the participants take part in this study.

Participants rights

Participation in this study is voluntary. Participants have the right to refuse to participate without any negative consequences. Participants have the right to withdraw from the study at any time. All data will be destroyed should the participant wish to withdraw from the study. Furthermore, there will be no identifying information in any publications and all information will be treated with confidentiality.

Data Storage

The data will be stored for a period of 15 years at the University of Pretoria, CAAC Department. The results will be available in a thesis and scientific paper.

For further information and questions about this research project, you are welcome to contact the researcher

Please inform me in writing of your decision. Thank you in advance for your time and co-operation.

Yours sincerely,



Thilen Kyarakanaye
Researcher
Cell: [REDACTED]
e-mail: [REDACTED]



Dr. S. Dada
Supervisor
[REDACTED]

Appendix N

Procedural script (Setswana)

Introduction

Dumelang. Lebitso la ka ke [REDACTED]. Ke motlotlo thata gore le dumetse go tseya karolo mo dithutong tse. Ka ge lengwalo la ditumellano lengwetswe, maikaelelo a dithuto tse ke go tlhaloganya maitemogelo a batsadi ka go dira mmogo le sethlopha sa di porofesenale sese neelanang ka diterelo ka bana. Tsedimosetso e ore fang yone wena le batsadi ba bangwe e tlile go re thusa go kaonafatsa ditirelo mo go bana bannye le ba malapa a bone. Ke tlile go dira dipotsolotso ka leleme la Setswana mme e ka tsaya metsotso e le 40 go ka e fetsa.

Biographical information

Ke tlile go le butsisa dipotso tse di mmalwa maelana le wena. Ke kopa le mpolelele/ lo ntsibise ge le tlhoka gore ke buseletsa kgotsa ke tlhalose e ngwe le e ngwe ya di potso tsa lona.

Service information

Ke tlile go le botsa dipotso tse mmalwa mabapi le ditirelo tse wena le ngwana le di amogelang tsa kgolo ya ngwana , ke kopa le mpolelele/ lo ntsibise ge le tlhoka ke buseletse kgotsa ke tlhalose engwe ya dipotso.

CECI-C(R)

Jaanong, ke tlile go buisa karolo ngwe le ngwe mo dipotsolotsong. Morago ga karolo ngwe le ngwe, ke batla le ngwale mo fatshe dikarabo tsa lona. Gopolang gore ga gona karabo e e nepagetseng kgotsa e e phoso. Utlwelang karolo ngwe le ngwe sentle. Ge le tlhoka gore ke buseletse ke kopa le mpotse.

Conclusion

Re fitlhile mo bofelong. Re lebogela go tseya karolo mo dithutong tse. Re nale mpho nyana ya go bontsha ditebogo. Ge o tlhoka tshedimosetso, re kopa o re letsetse mo dinomorong tse di kwadilweng mo lengwalong la ditumelano.

Appendix O

Inter-rater reliability checklist for procedural script for CECI-C(R)

Area	Yes	No
Assistant introduced herself		
Purpose of the study was stated		
Role of the assistant was stated		
Instructions for each section was read according to the questionnaire		
Items were read exactly as presented in the questionnaire		
Questions were asked in a sequential order		
Clarification provided without giving answers		
Parent/caregiver was given sufficient time to answer		
Parent/caregiver was given an opportunity to ask any questions		
Parent/caregiver was thanked for participation		

Appendix P

Professional evaluation criteria for CECI-P(R)

The table below presents the criteria for evaluating the questionnaires. First review the questionnaires. Then rate the measure according to the criteria listed below. Please highlight the items on the questionnaire that needs to be revised. Alternatively, list the section and the items that should be revised, in the comments section below.

		Agree	Somewhat agree	Disagree
No	Criteria	1	2	3
1	The instructions for completing the questionnaire is clear			
2	Items in the questionnaire are clear			
3	Items are brief enough (the literature suggests not more than 20 words and no more than 3 to 4 commas)			
4	There are no leading items (leading items are those that by their content, structure or wording pushes the respondent towards a certain answer)			
5	The items are written in simple language			
6	Items are specific (They are not too general, too complex or ambiguous)			
7	All items are numbered			
8	There are no technical terms or jargon used			
9	There are no spelling or grammatical errors			
10	Survey has a professional appearance, both in terms of layout and printing			

Comments/suggestions to improve the questionnaire:

Thank you very much for you time and effort!

Appendix Q

Parent evaluation criteria for CECI-C(R)

INSTRUCTIONS

Dear Parent

First complete the questionnaire. Then rate the questionnaire according to the criteria listed below.

Please circle the number of the item on the **questionnaire** that needs to be revised. You are welcome to make comments on the questionnaire itself.

		Agree	Somewhat agree	Disagree
No	Criteria	1	2	3
1	The instructions for completing the questionnaire are clear.			
2	The questions are clear			
3	The questions are short			
4	The questions are written in simple language.			
5	Each question asks for specific information.			
6	Each question addresses one issue at a time.			
7	The length of the questionnaire is satisfactory.			
8	The questionnaire has a professional appearance in terms of the layout and printing.			

Comments/suggestions to improve the questionnaire:

Thank you very much for your time and effort!

Appendix R

Ethics approval obtained from the Research Ethics Committee of the Faculty of Humanities of the University of Pretoria



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Humanities
Office of the Deputy Dean

6 December 2012

Dear Prof Bornman

Project: A profile of effective practitioners in early childhood
intervention in South Africa: a focus on practice-based
evidence
Researcher: T Kyarkanaye
Supervisor: Dr S Dada
Department: Centre for Augmentative and Alternative Communication
Reference number: 22302809

I am pleased to be able to tell you that the above application was **approved** by the Postgraduate Committee on 13 November 2012 and by the Research Ethics Committee on 29 November 2012. Data collection may therefore commence.

Please note that this approval is based on the assumption that the research will be carried out along the lines laid out in the proposal. Should the actual research depart significantly from the proposed research, it will be necessary to apply for a new research approval and ethical clearance.

The Committee requests you to convey this approval to the researcher.

We wish you success with the project.

Sincerely



Prof Elsabé Taljard
Acting Chair: Research Ethics Committee
Faculty of Humanities
UNIVERSITY OF PRETORIA
e-mail: elsabe.taljard@up.ac.za

Appendix S

CECI-C(R) (Setswana): Alternate words and phrases used by assistant

Note: *The alternate words/phrases are presented in quotes and the text in blue print is the English translation of the alternate word/phrase.*

ITEM	ALTERNATE WORDS/PHRASES
Section A	
2. O na le bana ba ba kae ka fa lapeng?	“Ba botlhe ka mo ntlong” (All in the house)
6. Ke polelo e feng e o kgonang go e bala le go e tthaloganya?	“Tlatsa dipolelo tse tsothe tse o kgonang go dibala le go ditlhaloganya” (Tick all the languages that you can read and understand)
9. Leruri	“Permanent”
Section B	
12. Bogole ba ngwana ke eng kgotsa o na le bolwetse bo bo feng?	“Go ya ka dingaka” (According to the doctor)
14. Ke nako e e kanakang ngwana wa gago a ntse a amogela ditirelo/thuso (Sekao: Kalafi ya Puo, Diikatiso tsa Kalafi) go tokafatsa kgolo ya gagwe?	“Kwala dikgwedi le dingwaga” (Write the months and the year)
15. Ke nako e e kanakang o ntse o tla mo ditirelong/thusong e le ngwana wa gago?	“Kwala dikgwedi le dingwaga” (Write the months and the year)
Section C	
1. Go dira mmogo mo setlhopheng go botlhokwa go neela bana ba ba nnye ditirelo tsa boleng.	“Ditirelo ke service” (Ditirelo is service)
2. Go bona metswedi jaaka tshedimotsetso le ditirelo tsa tshegetso go botlhokwa go neela bana ba ba nnye ditirelo tse di nonofileng.	“Metswedi ke diresource” (Metswedi is resources)
3. Batsadi ba tshwanetse go akarediwa mo setlhopheng se se neelang bana ba banye ditirelo.	akarediwa → “ke part”
6. Dikakanyo tsa baporofesenale ka ga go dira mmogo mo setlhopheng di botlhokwa gore go nne le dikgolagano tse di atlegileng le batsadi.	Dikakanyo → “ideas”
7. Go dira mmogo ka katlego go a tlhokega gore go nne le kgolagano e e sa fitlhegang. (Sekao, tshedimotsetso yotlhe e a abelanwa).	“Tshedimotsetso yotlhe e abelanwa magareng ga batsadi le diprofesenale” (All information is shared between the parent and professionals)
19. Thusa batsadi go nna le seabe mo dithulaganyong tsa ditirelo tse di neelwang ngwana.	“Batsadi ba nna le seabe mo dithulaganyong tsa ditirelo ka ngwana wa gago” (The parents must be involved in the decisions about the services given to your child)
Instruction Mo karolong e, re rata go tthaloganya mathata a o kileng wa nna le maitemogelo a one fa o dira mmogo le diporofesenale mo setlhopheng se se neelang ngwana wa gago ditirelo/thuso. Tsweetswee sekeletsa nomoro e e tthalosang sentle karabo ya gago boemong jwa pegelo nngwe le nngwe ka mo tafoleng .	“Karolo e e ka mathata a fa lo dira mmogo le setlhopha sa diporofesenale. Ge o se na mathata, itlile gonna wa gana kgotsa wa gana thata. Ge o nale mathata itlile gonna dumela kgotsa dumela thato. Ge o se sure itlile gonna magareng” (This part is about your difficulties when working with the team. If you do not have difficulty, it will be gana or gana thata. If you are having difficulty then it will be dumela or dumela thata. If uncertain then it will be magareng)
27. Diporofesenale di tlhoka kutlwisiso ya ditlhokego tsa lelapa.	“Diporofesenale ditlhoka kutlwisiso ya dilo tse lelapa di senang tsana” (The professional needs to understand the things the family don’t have)
28. Diporofesenale ga di itse go tshwaragana le dikgotlhan- tse di leng mo magareng ga maloko a setlhopha.	“Diporofesenale ga di itse go tshwaraganya le go se utlwane magareng ga maloko a setlhopha” (The professional do not know how to solve disagreements between team members)
30. Go thata go sala morago ditaelo tse di tswang mo	“Mathata a go sala marago ditaelo go tswa go

ITEM	ALTERNATE WORDS/PHRASES
diporofešenaleng tse di farologaneng.	diporofesenale tse difarologaneng ka gonne ba fa ditaelo tse difarologaneng” (Difficulty in following instructions from different professionals because they are giving different instructions)
31. Mathata a go se tshaloganye se se buang ke diporofešenale.	“Example ba dirisa polelo ya boporofesenale” (Example using professional language)
35. Go abelana tshedimosetso.	tshedimosetso → “information”
36. Go netefatsa gore tshedimosetso e nna sephiri.	tshedimosetso → “information” sephiri → “confidential”
37. Boeteledipele mo ditlhopheng	“Go botlhokwa gore gonne teng ga boeteledipele mo ditlhopheng” (Do you think it is important to have a leader in the team)
38. Ditšhono tsa go katisa setlhopha maleba le tirisanommogo	Ditšhono → “the chance” katisa → “train” tirisanommogo → “perekisano”
40. Palo ya balwetsi ba ba tlhokang ditirelo/thuso go tswa mo ditlhopheng.	Palo → “number”
41. Bokgoni jwa boporofešenale	“Ba tshwanetse go itse diporofesenale tsa bona sekao: kitso ka speech /OT/ physio” (They must know their profession e.g. skills in speech/OT/physio)
44. Botswerere jwa go neela bana ba banye ditirelo.	Botswerere → “Bokgoni”
46. Ditumelo tsa go akaretsa malapa mo setlhopheng se se neelanang ka ditirelo tsa bana ba banye.	Ditumelo → “Beliefs”
47. Botsalano jo bo tshepagalang magareng ga maloko a setlhopha.	Botsalano → “trust”
48. Tlotlano magareng ga maloko a setlhopha.	Tlotlano → “Tlhomphano”
52. Tekatekano mo tirisanommogong	Tekatekano → “Relekana” (we must be equal)
54. Go supa go tshwenyegela ditlhokego tsa lelapa	Supa → “bontsha” tshwenyegela → “worry”
56. Diporofešenale ga di tshwaye phoso ditshwetso tse di tserweng ke batsadi	Phoso → “blame” ditshwetso → “decision”
58. Diporofešenale di dirisa puo e e tshaloganyegang Ge ba balela ga ba dirisi puo ya seporofesenale ba dirisa puo e e thaloganyegang	“When they speak, they don’t use the professional language, they use simple language”
59. Tlotlo ya ditso tse di farologaneng	Tlotlo → “tlhomphano”
70. Batsadi ba nna le maitemogelo a mansi fa go tsewa ditshwetso.	Maitemogelo → “experience”

Appendix T
Codebook: CECI-P(R)

QUESTION	DESCRIPTION	VALUE LABEL			
Cover page	Institution (Hospital/Clinic)	Each institution was assigned with a number code. Seven institutions were coded.			
Section A: Biographical information					
A1	Profession	1 2 3 4	Occupational Therapist Nurse Speech-Language Therapist Doctor	5 6 7 Qualitative	Physiotherapist Dietician Social worker Other
A2	Age	1 2 3	20-30 31-40 41-50	4 5	51-60 61+
A3	Highest educational qualification	1 2 3	Diploma Bachelor's degree Honour's degree	4 5 Qualitative	Master's degree PhD qualification Other
A4	Home language	1 2 3 4 5 6	English Afrikaans isiZulu isiXhosa Setswana Sesotho	7 8 9 10 11 Qualitative	Xitsonga Tshivenda Sepedi SiSwati isiNdebele Other
A5	Language proficiency	English Afrikaans isiZulu isiXhosa Setswana Sesotho Xitsonga Tshivenda Sepedi SiSwati isiNdebele Other	Speak A1 B1 C1 D1 E1 F1 G1 H1 I1 J1 K1 Qualitative	Read A2 B2 C2 D2 E2 F2 G2 H2 I2 J2 K2 Qualitative	Write A3 B3 C3 D3 E3 F3 G3 H3 I3 J3 K3 Qualitative
A6	Language for intervention	Qualitative coding: as reported by participant			
A7	Years of experience	1 2 3	< 5 years 5 -10 years 11-15 years	4 5	16 -20 years ≥ 21 years
A8	Length of experience at current workplace	1 2 3	< 5 years 5 -10 years 11-15 years	4 5	16 -20 years ≥ 21 years
A9	Training	1	None	4	Postgraduate

QUESTION	DESCRIPTION	VALUE LABEL			
		2 3	In-service training Workshops/ seminars	Qualitative	course Other
A10	Postgraduate course	1 2	Diploma Masters in ECI/ECD	3 Qualitative	PhD in ECI/ECD Other
Section B: Service information					
B11	Team intervention	1	Yes	2	No
B12	Frequency of intervention	1 2	Daily Weekly	3 Qualitative	Monthly Other
B13	Setting	1 2 3	Hospital Clinic Other		
B14	Composition of team	1 2 3 4 5	Occupational Therapist Nurse Speech-Language Therapist Doctor	6 7 8 9 Qualitative	Physiotherapist Dietician Social worker Parent/ Caregiver Other
B15	Type of team intervention	Parent involvement Multidisciplinary Interdisciplinary Transdisciplinary	Yes A1 B1 C1 D1	No A2 B2 C2 D2	Sometimes A3 B3 C3 D3
Section C: Perception of collaboration in services for young children					
C1-C31 C33-C42 C44-C72 C74-C84		Strongly disagree Disagree Neutral	1 2 3	Agree Strongly agree	4 5
C32,C 43, C73, C85	Open-ended questions	Qualitative coding: as reported by participant			
C86, C87	Team effectiveness, parent-professional effectiveness	1 2 3	Extremely effective Highly effective Moderately effective	4 5	Less effective Not at all effective

Appendix U
Codebook: CECI-C(R)

QUESTION	DESCRIPTION	VALUE LABEL			
Cover page	Institution (Hospital/Clinic)	Each institution was assigned with a number code. Seven institutions were coded.			
Section A: Information about the parent					
A1	Relationship to child	1 2 3 4 5	Mother Father Grandmother Grandfather Aunt	6 7 Qualitative	Uncle Guardian/ Primary caregiver Other
A2	No of children in the house	Qualitative			
A3	Race	1 2 3	Black Coloured Indian/Asian	4 Qualitative	White Other
A4	Age	1 2 3 4	less than15 15-19 20-30 31-40	5 6 7	41-50 51-60 61+
A5	Home language	1 2 3 4 5 6	English Afrikaans isiZulu isiXhosa Setswana Sesotho	7 8 9 10 11 Qualitative	Xitsonga Tshivenda Sepedi SiSwati IsiNdebele Other
A6	Language proficiency	English Afrikaans isiZulu isiXhosa Setswana Sesotho Xitsonga Tshivenda Sepedi SiSwati isiNdebele Other	Read and Understand 1 2 3 4 5 6 7 8 9 10 11 Qualitative		
A7	Marital status	1 2 3	Married Never married Separated	4 Qualitative	Divorced Other
A8	Highest level of education	1 2 3 4	Grade 10 or lower Grade 12 Short-term certificate Diploma	5 6 7 8 Qualitative	Bachelor's degree Honour's degree Master's degree PhD qualification Other

QUESTION	DESCRIPTION	VALUE LABEL			
A9	Employment status	1 2	Full time Part time/Casual worker	3 Qualitative	Unemployed Other
Section B: Information about the child					
B10	Age of child	1 2 3 4	Less than 1 year 1 year 2 years 3 years	5 6 7	4 years 5 years 6 years
B11	Gender	1	Boy	2	Girl
B12	Disability/diagnosis	Qualitative			
B13	Team intervention	1	Yes	2	No
B14	Length of child involvement in intervention (months)	1 2 3 4	<11 12-23 24-35 36-47	5 6 7	48-59 60-71 ≥72
B15	Length of parent involvement in intervention (months)	1 2 3 4	<11 12-23 24-35 36-47	5 6 7	48-59 60-71 ≥72
Section C: Perception of collaboration in services for young children					
C1-C9 C12-C21 C23-C31 C33-C60 C62-C73	Closed-ended questions	Strongly disagree Disagree Neutral	1 2 3	Agree Strongly agree	4 5
C10-C11	Closed-ended questions	High Medium	1 2	Low None	3 4
C22, C32, C61, C74	Open-ended questions	Qualitative coding: as reported by participant			
C75, C76	Team effectiveness, parent-professional effectiveness	1 2 3	Extremely effective Highly effective Moderately effective	4 5	Less effective Not at all effective

Appendix V

Permission to use the Collaborative Practice in Early Childhood Intervention Professional and Parent Measures

Dear Dr Dada

Thank you very much for your email. I am pleased to know that your student is working in the area of early childhood intervention in South Africa and would like to use the instrument we used in our study. We are happy for her to use our instrument as long it is appropriately acknowledged, properly cited and referenced. We used two instruments: 1. for the service providers and 2. for the parents. If you could let me know which instrument your student is going to use, then I will send that to you.

With best regards,

Zakia

Zakia Hossain| PhD

Senior Lecturer

Discipline of Behavioural and Social Sciences in Health

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Appendix W

CVI results for professionals (Panel 1)

CECI-P(R)	CVI Results %
Domain one: Component of collaboration	
1. Collaboration is essential when providing services to young children.	100
2. Collaboration is simply about sharing information.	67
3. Pooling resources is required for effective service delivery.	100
4. Families should be included in collaborative work for service delivery.	100
5. Family needs are a priority when collaborating in teams for young children.	100
6. Collaboration requires commitments of those involved for the best outcomes.	100
7. Effective collaboration requires open communication.	100
8. Clear and shared goals are needed for involved parties to work together.	100
9. The decision making needs to be shared.	100
10. Developing effective collaboration is time consuming.	100
Domain two: Self-assessment on collaboration	
11. Believe in collaboration and its resulting outcomes.	100
12. Know the other staff members involved in the team providing a service for young children.	67
13. Have knowledge of the services provided by other professionals.	67
14. Respect the other professionals' opinions.	100
15. Respect parents/caregivers as partners and full team members.	100
16. Can't trust the decisions made by parents/caregivers.	34
17. Use jargon-free language when talking to parents/caregivers.	100
18. Willing to provide information to parents/caregivers when they request.	100
19. Encourage parents/caregivers to be an active member, not just a listener.	100
20. Consider the ethnic background of the children and families.	100
Domain three: Advantages of collaboration	
21. Overall, benefit children and their families.	100
22. Help maximise the use of resources.	100
23. Help to provide multiple services effectively.	67
24. Help make service delivery more cost-effective.	67
25. Help professionals learn from each other and improve their professional skills.	67
26. Help professionals in their teamwork skills.	100
27. Provide efficient services to the needs of children and families.	100
28. Help families to gain access to the services needed.	100
29. Help professionals develop skills in interacting with parents/caregivers to identify needs.	100
30. Improve parents'/caregivers' abilities in taking care of their children.	100
31. Help families to connect with other families to share experiences.	67
32. Enhance the quality of life of families and children.	100
33. Are there any other benefits of collaboration that you would like to tell us?	67
Domain four: Difficulties with collaboration	
34. Inadequate funding to support collaboration.	67
35. Insufficient staff for collaboration in the team.	34
36. Time constraints limit collaboration within the team	100
37. Lack of agreement on the services to be provided.	100
38. Insufficient understanding of the different professional roles.	100
39. Absence of a common language between professionals in teamwork.	67
40. Lack of shared service delivery strategies between professionals.	100
41. Parents/caregivers disclose insufficient information.	34
42. Parents/caregivers do not know how to become involved in collaborative practice.	100
43. Language barriers of parents/caregivers from different cultural backgrounds hinder communication.	34

CECI-P(R)	CVI Results %
44. Are there other particular difficulties to collaboration you would like to tell us?	100
Domain five: Factors influencing collaborative relationships	
Organizational factors	
45. Time for collaboration	100
46. Sharing of resources	67
47. Sharing of information	100
48. Confidentiality of information exchange	67
49. Leadership in collaborative teamwork	67
50. Opportunities for staff development in collaboration	67
51. Staff scheduling and flexibility	100
52. Staff caseloads	100
53. Professional expertise	100
Interpersonal factors	
54. Understanding of collaborative practice	100
55. Knowledge of services	100
56. Expertise in providing services to young children	100
57. Commitment to collaboration	100
58. Beliefs in family-centred approach	100
59. Trusting relationship	100
60. Mutual respect	100
61. Mutual understanding	100
62. Open communication	100
63. Full disclosure of information	100
64. Equality in the teamwork	67
65. Professional's confidence in collaboration	100
66. Showing concern for family needs	100
67. Showing empathy	67
68. Non-judgemental to family's decisions	100
69. Prompt response to family requests	67
70. Jargon-free language use	100
71. Respect cultural differences	100
72. Family's honesty to professionals	100
73. Family's participation in teamwork	100
74. Are there any other factors you would like to tell us?	34
Domain six: Outcomes of collaboration	
Satisfaction with collaboration	
75. Your collaboration with other professionals.	100
76. Working together with families.	100
77. The time devoted for collaboration in the team.	100
Effects of collaboration	
78. The shared goal of service delivery is attained.	100
79. Families get access more easily to comprehensive services.	100
80. Parents/caregivers save time by getting all services from one setting.	100
81. Parents/caregivers get confused when collaborating with different professionals.	100
82. Parents/caregivers become more skilled in making decisions.	100
83. Parents/caregivers improve abilities in taking care of their children.	100
84. Parents/caregivers have more interactions with each other in sharing experiences.	100
85. Children and families are integrated in the mainstream society.	100
86. The quality of life of children and families can be effectively improved.	100
87. Are there any other outcomes of working collaboratively you would like to tell us?	100
Effectiveness of collaboration	

CECI-P(R)	CVI Results %
88. How effective do you think the collaboration in your team is in service delivery for young children?	100
89. How effective do you think the collaboration in your team between professionals and families is?	100

Appendix X

CVI results for parents

CECI-C(R)	CVI Results %
Domain one: Component of working together in a team	
1. Working together in teams is essential when providing services to young children.	100
2. Working together in a team is simply about sharing information.	67
3. Collecting resources (e.g. materials, staff, and money) is important when providing services for young children.	100
4. Families should be working together with professionals in a team when providing services to young children.	100
5. The needs of the family should be considered most important when working in a team.	67
6. Working together requires the commitment of all involved for the best outcomes.	100
7. Professional's beliefs in working together are important for successful interactions with families.	100
8. Working together effectively requires open communication (i.e. honesty in sharing information and to be able to find out everything you want to know about the services).	100
9. The decision making needs to be shared.	100
10. Working together effectively takes a lot of time.	100
11. How involved are you in the team providing a service for your child?	100
12. How willing are you to work in a team?	100
Domain two: Advantages of working together in the team	
13. Overall, benefit young children and their families.	100
14. Provide faster services to the needs of children and families.	100
15. Help to make the best use of resources (e.g. materials, staff, and money).	67
16. Help to provide multiple services effectively.	100
17. Enable families to gain access to the services provided.	100
18. Help me develop skills in interacting with professionals to identify needs.	100
19. Improve my abilities in taking care of children.	100
20. Help me to participate in planning therapy.	100
21. Help me connect with other families to share experiences.	100
22. Improve the quality of life of children and families.	100
Domain three: Difficulties with working together in a team	
23. Finding time to work in a team.	100
24. Lack of agreement on the services to be provided.	34
25. Professionals do not communicate well with me.	67
26. Professionals lack of interests in family involvement.	67
27. Insufficient time for therapy.	67
28. Difficult to follow instructions from different professionals.	67
29. Professionals lack of understanding of family needs.	67
30. Professionals do not know how to deal with conflict.	67
31. Professional's insufficient awareness of family's culture.	67
32. Difficult for me to understand what professionals say.	67
33. Are there other particular difficulties to collaboration you would like to tell us?	100
Domain four: Factors influencing collaborative relationships	
Organizational factors	
34. Time for working together in a team	100
35. Sharing of resources	67
36. Sharing of information	67
37. Confidentiality of information	34
38. Leadership in teams	100
39. Opportunities for staff development in teams	100

CECI-C(R)	CVI Results %
40. Staff scheduling and flexibility	100
41. Staff caseloads	100
42. Professional expertise	100
Interpersonal factors	
43. Understanding of working together in teams	100
44. Knowledge of services	67
45. Expertise in providing services to young children	100
46. Commitment to working together in a team	100
47. Beliefs in family-centred approach	100
48. Trusting relationship	100
49. Mutual respect	100
50. Mutual understanding	100
51. Open communication	100
52. Full disclosure of information	100
53. Equality in the teamwork	100
54. Professional's honesty to families	100
55. Concern family needs	100
56. Showing empathy	100
57. Non-judgemental to family's decisions	100
58. Prompt response to family requests	100
59. Jargon-free language use	100
60. Respect cultural differences	100
61. Family's participation in teamwork	100
62. Are there any other factors you would like to tell us?	67
Domain five: Outcomes of collaboration	
Satisfaction with collaboration	
63. The services provided by the team.	100
64. The working together of professionals.	100
65. Time for professional therapy services.	100
66. The access to services needed.	100
67. The interactions with other parents/ caregivers.	100
Effects of collaboration	
68. Parents/ caregivers get all the information from professionals.	100
69. Parents/ caregivers get confused when talking to different professionals.	67
70. Children received all the services from one setting.	100
71. Children feel safe and secure because all services are provided in one setting.	100
72. Parents/ caregivers become more skilled in making decisions.	100
73. Parents/ caregivers improve abilities in taking care of children.	100
74. Children and families are integrated in the general society.	100
75. The quality of life of children and families can be effectively improved.	100
76. Are there any other outcomes of working together in a team you would like to tell us?	34
Effectiveness of collaboration	
77. How effective do you think working together in a team is in the service delivery for young children?	100
78. How effective do you think the working together between families and professionals is?	100