

**Professional-parent collaboration in behavioural  
interventions for children with autism spectrum disorders in  
Saudi Arabia**

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**Edd Thesis**

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**April 2021**

## **Abstract**

Professional-parent collaboration is a crucial issue for the success of behavioural interventions (BI) for children with autism spectrum disorders (ASD). Many studies have been conducted in western countries related to professional-parent collaboration in education and BI for children with ASD. However, as a new phenomenon in the Saudi literature, professional-parent collaboration is rarely discussed or researched within this specific context. Therefore, this study explores and explains parents' and professionals' perspectives on the practice of professional-parent collaboration in the planning, design and implementation of BI for children with ASD in Saudi Arabia (SA) from the perspective of educational professionals and parents. A mixed-methods approach is employed over two phases. In Phase One, an online questionnaire was administered with 353 educational professionals across SA. Phase Two was a series of semi-structured interviews with eight professionals and eight parents from SA's Eastern Province.

The findings from both phases generally suggest that parents and professionals value professional-parent collaboration and professionals expect parents to participate at all stages of BI. However, the findings also suggest that parents and professionals are seldom involved in the collaborative planning and delivery of BI. The findings from the interview phase identify perceived facilitators to professional-parent collaboration, including emotional support for parents and mutual trust between parents and professionals. Additionally, these findings suggest perceived barriers to collaboration. Parent-related barriers include a parental lack of understanding of ASD and parental preference for rapid solutions to their child's behavioural issues. School-related barriers include poor school arrangements regarding flexible approaches to professional-parent collaboration, overcrowding in classrooms, and the lack of assistant teachers. Professional-related barriers include a lack of motivation for professionals to work collaboratively. Finally, the findings suggest a lack of BI training and collaboration skills for both professionals and parents. The study suggests various practical implications for practice, policy, and future research.

## **Acknowledgements**

First and foremost, I would like to express my thanks to Allah for giving me the power and health to complete this thesis.

I am very grateful to my supervisory team, Prof Jill Clark and Dr Wilma Barrow, for their continued support, encouragement and the time they spent with me throughout the entire process of writing this thesis. It would not have been possible to finish it without their valuable assistance. Their guidance and unlimited support have hugely impacted on building my knowledge and overcoming the difficulties I encountered throughout my EdD journey.

I owe this degree to my nuclear family. I would like to express a special acknowledgement and appreciation to my wonderful wife, Sokinah, for her love, encouragement, and infinite support, and to my two gorgeous children, Hassan and Fatimah, for their patience all the way through my EdD journey.

From the depths of my heart, I wish to acknowledge my gratitude to my extended family; my father (who sadly died before completing this thesis), my lovely mother, and my brothers and sisters. Without their unequivocal support, the completion of this thesis would not have been possible.

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## **List of Abbreviations**

Applied Behaviour Analysis (ABA)  
Autism Spectrum Disorders (ASD)  
Behavioural Interventions (BI)  
Department of Special Education (DSE)  
Diagnostic and Statistical Manual of Mental Disorders 4th edition (DSM-IV)  
Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)  
Early Intensive Behavioural Intervention (EIBI)  
International Classification of Diseases, 11th (ICD-11)  
Ministry of Education (MoE)  
Ministry of Higher Education (MHE)  
Ministry of Labour and Social Development (MLSD)  
Picture Exchange Communication System (PECS)  
Pervasive developmental disorder not otherwise specified (PDD-NOS)  
Pervasive developmental disorders (PDDs)  
Regulations of Special Education Programmes and Institutes' (RSEPI)  
Saudi Arabia (SA)  
Special Educational Needs (SEN)  
Exploratory Review of Literature (ERL)

# **Chapter 1. Introduction**

## **1.1 Introduction**

The practice of professional-parent collaborative working has long been recognised as a key factor in the success of education and intervention for children with Autism Spectrum Disorders (ASD) (Goldman et al., 2019). The purpose of my study is to explore and explain parents' and professionals' perspectives on the practice of professional-parent collaboration in the planning, design and implementation of Behavioural Interventions (BI) for children with ASD. This chapter addresses the motivational basis driving this study and indicates the aims and research questions. It also discusses the importance of professional-parent collaboration, the importance and rationale of my research, and definitions and diagnostic criteria for children with ASD. It finally outlines the organisation of this study and offers a glossary and working definitions for the key terms used in this thesis.

## **1.2 Personal motivation for conducting this study**

I currently work as a lecturer in the College of Education (Special Education Department) at King Faisal University, in Saudi Arabia (SA). I became interested in working with children with ASD during my undergraduate training, spending my final semester completing practical training within a specialist school for children diagnosed with ASD. This motivated me towards research as I was interested in the education of pupils diagnosed with ASD. Working as a lecturer provided me with opportunities to supervise many undergraduate students in their practical training semesters, where I gained further knowledge and awareness of practices for children with ASD in SA and issues associated with them.

Throughout my previous experiences in ASD schools in SA, I came across and observed many issues associated with educating and intervening for ASD children, involving issues related to professional-parent collaboration in intervention programmes, parental engagement with the education of these children, early diagnosis, and mainstream placements for children with ASD. A key motivation for conducting research in this topic is that the field of ASD is relatively novel in SA and professional-parent collaboration is a new phenomenon in the Saudi literature and is rarely discussed or studied within this context. Also, professional-parent collaboration is an important topic to investigate as I consider that parent-professional collaboration can improve the lives of young people with ASD. I believe that mutual collaboration between the two parties can establish the basis for improving services provided for those children, ensure

the success of the planning and delivery of their behavioural and educational interventions, and thus improve the quality of life for children on the autistic spectrum.

I had initially considered studying the long-term outcomes of early diagnosis for children with ASD and conducted an exploratory review of literature (ERL) to examine research in this area. On the basis of that ERL, I engaged in dialogue with professionals educating pupils diagnosed with ASD. The findings of the ERL and these dialogues shifted my focus to the importance of professional-parent collaboration in BI with children with ASD. Chapter Three provides a detailed discussion of how the process of conducting the ERL and the engagement with professionals helped to identify a primary area of interest relevant to the practice my research is directed at. Based on the findings of the ERL and the dialogues with educational professionals, I decided to review the literature within the area of professional-parent collaboration in BI for children with ASD. A second review of the literature enabled me to identify a gap in the existing knowledge where my study is positioned as well as helping me to formulate my research questions.

To sum up, my motivation for studying this area developed through my experience in three areas. First, I supervised undergraduate students undertaking practical training in ASD schools. Second, I was aware from my own contact with ASD schools that parent-professional collaboration was not widely developed. Third, reviewing the literature and in discussions with professionals in the field confirmed that this was an area worthy of further exploration.

### **1.3 Aims and objectives**

This study aims to explore and explain parents' and professionals' perspectives on how they work collaboratively in the planning, design and implementation of BI for children with ASD. BI, based on Applied Behaviour Analysis (ABA) principles, is the focus of this study. There are two reasons for my decision to focus on these types of intervention. First, the outcomes of the ERL suggested that BI following ABA principles were not successful in enhancing adaptive behaviour skills for children with ASD. Second, in the dialogues with the Saudi professionals, issues around BI were discussed and reasons why they may not successfully work in practice were suggested.

### **1.4 Importance of professional-parent collaboration**

Professional-parent collaboration has long been acknowledged as a key factor in the success of schooling and interventions for children with ASD (Alajmi, 2014; Azad et al., 2018(a); Benson

et al., 2008; Bjorck-Akesson and Granlund, 1995; Blair et al., 2011; Brookman-Frazee, 2004; Dunlap et al., 2001; Goldman et al., 2019; Hanafé and Qaraqish, 2010; Hsiao et al., 2017; Kazdin et al., 2006; Potter, 2016; Schultz et al. 2016; Spann et al., 2003; Stoner and Angell, 2006; Syriopoulou-Dellia and Polychronopoulou, 2019; Tucker and Schwartz, 2013). Establishing effective collaborative relationships between home and school is considered as an important step towards successful BI (Edwards et al., 2016; Fettig et al., 2013; Rodger et al., 2008). This is because home and school are the two social environments in which the child spends most of his/her day (Syriopoulou-Dellia and Polychronopoulou, 2019). More importantly, collaborative efforts are important in order to ensure the consistency of practice between the two environments (Azad et al., 2018(b)), and the generalisation and maintenance of the acquired skills across various settings (Burrell and Borrego, 2012).

Parents and professionals in many studies have perceived their communication and collaboration as a priority for effective interventions and education of children with ASD (Alajmi, 2014; Alotaibi and Almalki, 2016; Edwards et al., 2016; LaBarbera, 2017; Meade, 2011; Schultz et al., 2016; Syriopoulou-Dellia and Polychronopoulou, 2019; Tucker and Schwartz, 2013). There is accumulating evidence that parents' and professionals' engagement in collaborative practices is linked to positive behavioural, social, and educational outcomes for children with ASD (Blair et al., 2011; Goldrich et al., 2018; Syriopoulou-Delli, 2016; Udaze, 2016). Furthermore, multiple studies have found that professional-parent collaboration was perceived to improve the quality of life for families (Benson, 2015; Brookman-Frazee, 2004; Goldman et al., 2019; Goldrich et al., 2018; Hsiao et al., 2017), the quality of parent-child teaching instructions and teacher-parent communication (Azad et al., 2018 (b); Brookman-Frazee, 2004; Kazdin et al., 2006), the quality of services provided for the child (Casagrande and Ingersoll, 2017), as well as increase parental satisfaction with their children's education (Rodriguez et al., 2014; Starr and Foy, 2012).

### **1.5 The study's rationale and importance**

While a large body of literature has endeavoured to investigate professional-parent collaboration in the education of children with ASD, fewer studies have attempted to study professional-parent collaboration in BI for children with ASD (Alajmi, 2014; Bjorck-Akesson and Granlund, 1995; Blair et al., 2011; Goldman et al., 2019; Kazdin et al., 2006; Rodger et al. 2008; Solish and Perry, 2008; Udaze, 2016). Most studies in the extant literature have either employed a quantitative methodology using questionnaires or a qualitative methodology using

interviews or focus groups to undertake their studies. Few studies have adopted a mixed-methods design (Benson et al., 2008; Blue-Banning et al., 2004; Garbacz, 2016; Renty and Roeyers, 2005; Rodriguez et al., 2014; Schultz et al., 2016; Stoner et al., 2005; Tucker and Schwartz, 2013).

Moreover, relevant studies focus on parental perceptions of professional-parent collaboration. Minimal research was found that incorporated both professional and parental perceptions and attempted to involve professionals from a range of professional backgrounds in their investigations (Bjorck-Akesson and Granlund, 1995; Blue-Banning et al., 2004; Solish and Perry, 2008; Udaze, 2016). Further, and more importantly for my purposes, few Saudi studies have investigated professional-parent collaboration generally or in BI and ASD, and those that have had different aims to my research. Although some of the identified Saudi studies investigated the issue of professional-parent collaboration and communication, most focused on children with SEN, and only one focused primarily on children with ASD (Al-Qahtani, 2016). However, none addressed the topic of the current research: ‘professional-parent collaboration in the planning, design and implementation of BI for children with ASD’.

Additionally, most Saudi researchers in this area adopted quantitative methods (questionnaires), but the current study uses a mixed-methods approach combining quantitative and qualitative methods. To the best of my knowledge, this study is also the first of its kind in SA to investigate this topic and incorporate the perceptions of parents (mothers and fathers) and educational professionals from a range of professional backgrounds. The investigation of professional-parent collaboration is generally a new phenomenon in the Saudi literature, rarely discussed or researched in SA. Therefore, it is hoped that this study will enrich the current literature base by adding new knowledge about professional-parent collaborative working in BI for children with ASD in a new geographical context.

Wallace and Wray (2016) differentiate between five types of intellectual projects: a ‘knowledge for understanding’ project, a ‘knowledge for critical evaluation’ project, a ‘knowledge for action project’, an ‘instrumentalism’ project, and a ‘reflexive action’ project. My study is a knowledge for action project type, aiming to inform policymakers, academics, and professionals in SA about possible improvements to the current practice of professional-parent collaboration in BI for children with ASD.

The importance of this study can be summarised as follows:

- This study aims to explore and explain the current practice of professional-parent collaboration in BI for children with ASD related to several aspects; educational professionals expectations of parents' collaboration, the current practice of professional-parent collaboration, the perceived facilitators and barriers to collaborative working, and the value of professional-parent collaboration in BI for children with ASD.
- This study provides an opportunity for both professionals and parents to convey their perspectives concerning professional-parent collaboration in BI. It is hoped that this will facilitate a deeper level of understanding of the phenomenon in question. This is the first study in the Saudi context to investigate this topic, and the first to employ a mixed methods approach to allow both parents and professionals to express their perceptions and experiences relating to working in collaboration in BI for children with ASD. Therefore, this study fills a gap in the Saudi literature in relation to what is known about collaboration between professionals and parents focusing on children with ASD.
- In recent years, the Saudi Government has made enormous strides to improve the quality of services provided for children with ASD and their families. Addressing the practice of professional-parent collaboration as well as identifying possible factors which either facilitate or act as barriers to collaborative working in BI can further inform policy and practice in this area.
- Finally, due to the lack of research in this particular topic, this study's findings hope to offer a starting point for other researchers within the Saudi context.

## **1.6 Research questions**

This study aims to address the following research questions:

1. To what extent do educational professionals expect parents to collaborate in the planning, design and implementation of BI for children with ASD in SA?
2. To what extent do educational professionals consider they are currently working in collaboration with parents in the planning, design and implementation of BI for children with ASD in SA?
3. What factors facilitate or act as barriers to professional-parent collaboration in the planning, design and implementation of BI for children with ASD in SA?

4. How valuable do educational professionals and parents perceive their collaboration to be in the successful planning, design and implementation of BI for children with ASD in SA?

### **1.7 Defining ASD**

According to the American Psychiatric Association (2013) ASD is a complicated set of neurodevelopmental disorders visible usually in young children. Children with ASD exhibit abnormal communication, obsessively repeated behaviour, and/or a lack of interest in engaging with others. According to Kent et al. (2013), the Diagnostic and Statistical Manual of Mental Disorders 4th edition (DSM-IV) defines ASD in terms of two domains: deficit in social interaction, abnormal communication, and engagement in stereotyped or repetitive behaviour patterns. The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) decreases this to two domains: deficit and social interaction and communication (joined), and repetitive restricted behaviour. DSM-IV classifies pervasive developmental disorders (PDDs) into five categories: autism condition, Asperger's condition, Rett's condition, childhood disintegrative disorder, and pervasive developmental disorder not otherwise specified (PDD-NOS). DSM-5 reduces the five categories to two: *ASD* includes autism condition, Asperger's condition, and PDD-NOS, and *social (pragmatic) communication disorder* includes conditions related to communication and language. According to the International Classification of Diseases, 11<sup>th</sup> (ICD-11) diagnostic system, ASD can be defined as a prolonged inability to interact and communicate with others in ways which are typically considered "typical" for society, compounded by restricted and repetitive behavioural patterns not standard for a particular age group and/or a lack of interest in engaging with others in general (World Health Organization, 2019).

### **1.8 The controversy around perceptions of BI' strengths and weakness**

Although many researchers have demonstrated the effectiveness and importance of BI in reducing stereotypical behaviour (Bahrami et al., 2012), improving social-emotional behaviour (Ward et al., 2013), cognitive skills and educational outcomes (Eldevik et al., 2012; Magiati et al., 2011), and enhancing social, communication and daily living skills for children with ASD (Eikeseth et al., 2012; Grindle et al., 2012), other scholars indicated some weakness to the use of BI. For example, discrete trial teaching is a teacher-directed systematic instructional approach that it is usually implemented in schools or training sessions rather than at the home environment for children with ASD. Also, it requires additional resources and procedures

(usually not available at home) so as to promote generalisability of the learned skills (Steege et al., 2007). Additionally, Wilkenfeld and McCarthy (2020) argue that ABA violates the principles of non-maleficence of children with ASD. Specifically, some of the procedures that ABA follows, such as using negative consequences with children with ASD for engaging in problem behaviour or in their special interests may negatively influence these children and have long lasting negative effects on them. In this regard, Kupferstein (2018) and Sparrow (2016) found a link between the use ABA and experiencing trauma and stress symptoms for children diagnosed with ASD.

## **1.9 Structure of the thesis**

The remaining chapters follow thus:

***Chapter Two: The Context of SA.*** This chapter provides contextual, factual and background information about SA. It provides an overview of SA and its general and special education system. It covers regulation and policies for people considered to have SEN and ASD, many aspects related to ASD teacher preparation, and teacher professional development in ASD.

***Chapter Three: Literature Review.*** This chapter comprises two parts:

*Part one* details the ERL and discussions with professionals in the SA context which led to identify the primary focus for my study.

*Part two* covers aspects related to the theoretical foundations and background of my study, reviewing the international and Saudi literature concerning parent-professional collaboration in the education and interventions of children with ASD.

***Chapter Four: Methodology.*** This chapter discusses the ontological and epistemological assumptions of this research, provides detailed information about the methodology chosen, the research design, the process of the research, its methods, and sampling and participants.

***Chapter Five: Data Analysis Phase One: Questionnaires.*** This chapter explains the data analysis for the questionnaire, which was completed by educational professionals in phase one of the study.

***Chapter Six: Data Analysis Phase two: Interviews.*** This chapter explains the thematic analysis conducted on the interview data derived from parents and professionals in phase two of the study.

**Chapter Seven: Discussion.** This chapter discusses the findings of the combined data from the questionnaire and interviews in relation to the research questions and in the light of the existing literature.

**Chapter Eight: Conclusion and Implications.** This chapter provides a summary of the key findings of the study, draws overall conclusions, outlines its contributions to the knowledge base, addresses its limitations, and offers implications for policy, practice, and future research.

### **1.10 Glossary of key terms**

This section provides working definitions for the key terms utilised throughout the study. Some of these terms, and others, are discussed in detail in the literature review.

*Behavioural interventions (BI):* are a group of interventions that aim to increase behaviours considered appropriate, such as brushing teeth and getting dressed. It also attenuates behaviours considered inappropriate, such as aggression and self-harm. Examples of BI are early intensive behavioural interventions (EIBI) and discrete trial teaching (Dawson and Burner, 2011)

*Professional-parent collaboration:* LaBarbera's (2017, p.37) description of collaborative practices is worth quoting at length:

[Collaborative practices are] the intentional efforts of educators to create effective partnerships with families. Practices that intentionally build relationships based on trust, that demonstrate an attitude of respect toward families and welcome their input, and that invite caregivers to be full partners in the educational decisions of their children fall into this category.

*Applied Behaviour Analysis (ABA):* is the enquiry of behaviour and manipulation of expected and unexpected behavioural events in the environment in order to enhance or decrease a particular behaviour (Choutka et al., 2004).

*Educational professionals:* educational professionals in SA work within ASD schools and institutions and local authorities. Those professionals involve teachers, educational psychologists, speech and language therapists, school supervisors, student advisors, and social workers. They provide educational and intervention services for children with ASD.

*School supervisors:* school supervisors in SA usually have long experience in teaching and play an advisory role in schools. Their key role is to supervise and monitor teachers' performance in schools.

*Student advisors:* are trained in guidance and counselling and work in schools providing services for students and parents. Student advisors are tasked with the role of collecting data (e.g. absence, inappropriate behaviour, academic achievements) about students with and without SEN to ensure that they are provided with appropriate educational support.

### **1.11 Conclusion**

This chapter has set out my personal motivations to conduct this study, the aims and research questions, and the importance and rationale of this research, as well as providing an outline for the organisation of the study and a glossary of the key terms used.

## **Chapter 2. Saudi Arabia: Context**

### **2.1 Introduction**

This chapter provides background information on the context of my study - SA - in terms of its education system and the educational services provided for children with SEN in general and ASD in particular. First, general factual information about SA relating to its location, population, religion, and type of education system is sketched. Second, descriptions of the general education and special education system, including an overview of the evolution of the special education system and regulations and policies for people with SEN, are given. Third, an overview of ASD in terms of its prevalence and diagnosis in SA is given. Fourth, an overview of the educational services provided for children with ASD is provided and educational provisions for these children are outlined. Finally, ASD teacher preparation programmes and the current status of teacher professional development in ASD are considered.

### **2.2 Background to SA**

The Kingdom of SA was founded in 1932 by Iben Saud (Royal Embassy of Saudi Arabia, 2015). Covering an area of 2,000,000 square kilometres (General Authority for Statistics, 2020) SA has a population of 33,699,535 (World Bank, 2019). It is the largest country in the Middle East and is located between the Red Sea and the Arabian Gulf (Ministry of Economy and Planning, 2010). SA comprises five provinces: Central, Western, Eastern, Southern, and Northern. Islam is the only religion and Arabic is the official spoken language. For religious and cultural reasons, boys and girls are segregated at all levels in schools and are taught by teachers of the same sex (Alquraini, 2011). Pre-school is the only stage in which boys and girls are mixed, but children at this stage are taught only by female teachers.

Since the context of SA is the focus of this thesis, I have drawn on both Arabic and English resources. Any publications written in Arabic were translated by myself and then referenced in English. All Arabic references, as English ones, were written in accordance with the UK referencing style.

### **2.3 The education system of SA**

#### ***2.3.1 SA's general education system***

The government of SA established the Saudi education system in 1952. This system is currently administered by the Ministry of Education (MoE), established in 1953. The MoE is the

authority responsible for regulating and providing free and appropriate education for students aged 6-18 years old, including services for students with SEN (Alabdulaziz, 2019). Other organisations in SA share responsibility with the MoE to provide formal education for all students through the Ministry of Labour and Social Development (MLSD), which supervises and provides technical and vocational training for all students, including those with SEN (Al-Dossary, 2008).

The Saudi education system is divided into three stages: six years at primary school, three years at middle school, and three years at secondary school, with a separate free university programme for students. The MoE hires all educational professionals, including teachers, and trains and supervises them. It also designs each stage's curriculum and maintains all educational institutions, including special needs ones, in terms of infrastructure and materials (Alquraini, 2011).

In 1975, the Saudi Government established the Ministry of Higher Education (MHE). The MHE manages, administers, and provides university education. There are twenty-four public universities, eight private universities, and twenty-one private colleges in SA. The MHE supervises all programmes at these universities and oversees implementation of government policies in higher education (Alabdulaziz, 2019).

### ***2.3.2 SA's special education system***

The MoE and the MLSD share responsibility for providing special education services for children with SEN aged six-eighteen in the three stages detailed above (primary, middle, and secondary). The MoE only provides educational services for those with mild special needs (Alquraini, 2011). However, the MLSD is responsible for providing educational, rehabilitation, and vocational services for children with moderate to severe needs (Alnemary, 2017). The level of a child's ability is usually determined by a team of educational professionals and based on cognitive ability and adaptive skills (Alquraini, 2011).

#### *Evolution of Special Education services in SA*

The first service for children with SEN in SA was formally provided in 1960 when the government opened Al-Noor, an institute to provide education for visually impaired males in Riyadh (Alquraini, 2012). The perceived success of this project led to the establishment of the Department of Special Education (DSE) in 1962 to provide education for three categories of SEN (visual impairment, hearing impairment and intellectual disability) (Afeafe, 2000). Later,

in 1964, the Al-Amal Institute opened in Riyadh to provide services for people with hearing impairments. In 1971, another institute was established in Riyadh to serve people with intellectual disabilities (The Directorate General of Special Education, 1981). During this period, a special curriculum was designed by the MoE for pupils with SEN, which differed from the curriculum used in general education schools (Al-Mousa, 2008).

In 1974, the General Secretariat of Special Education was established by the MoE to plan and improve special education programmes for ten categories of SEN, namely: students with visual, intellectual, hearing impairments, physical disability, learning difficulties, emotional and behavioural disorders, autism, speech and language disorder, multiple disabilities, and those considered to be gifted and talented (Al-Faiz, 2006). The number of schools for students with SEN increased from one in 1960 to twenty-seven by 1987 (Saudi Arabian Cultural Mission, 2006). In 1990, the MoE formally considered the inclusion of children with SEN in classes attached to mainstream schools. By 2005, special education was provided for a total of 57,165 students (Al-Mousa, 2010). More recent figures show an estimated number of 665,000 students aged 6-17 years provided with special education services across SA (Ministry of Education, 2016).

## **2.4 Regulations and policies for people with SEN in SA**

In 2001, the MoE issued the ‘Regulations of Special Education Programmes and Institutes’ (RSEPI), aiming to formulate special education policies and determine the eligibility for special education services. These regulations highlight the policies and provisions for the ten SEN categories listed above (Alquraini, 2014). According to Alquraini (2014), these regulations set out principles to ensure that children identified as having SEN receive appropriate special education services:

- Every student is entitled to appropriate and free special education services, including an individualised educational plan, and behavioural and educational intervention programmes.
- A multidisciplinary team, including teachers, parents, educational psychologists and others, is required to design an individualised educational plan for each student and evaluate it annually.
- Based on the decisions made by a multidisciplinary team, these regulations require schools to educate students with SEN in mainstream schools.

- In these regulations, collaboration between school-based professionals and parents in the education and interventions of those with SEN was highlighted as a requirement that should be implemented in practice.
- Schools and agencies are required to set up regional programmes to increase the awareness of families of children with SEN as well as involving families in activities, such as educational planning and implementing interventions.

Although these regulations require schools to include and educate individuals identified with SEN in the general education settings with peers considered to be typically developing, children with various types of SEN, such as ASD, usually receive their education in special schools or units attached to mainstream settings. This is mainly because teachers and other specialists in mainstream schools have inadequate training to deal with those pupils (Alquraini, 2014).

### **2.5 ASD in SA (prevalence and diagnosis)**

Although ASD is common in SA, there is a lack of data regarding the exact number of children with it (Murshid, 2014; Zeina et al., 2014). According to the MoE, the prevalence of ASD in SA was estimated in 2012 to be between four and six diagnosed in every 1000 children (Almasoud, 2013). Compared to the prevalence rates in the UK, where 1.1 in every 100 are diagnosed with this disorder (Office for National Statistics, 2011) and the latest prevalence estimate in USA, which indicates that ASD affects 18.5 per 1000 children aged 8 years (Maenner et al., 2020), the prevalence of ASD is relatively low in SA. Kelly et al. (2016) argue that this difference may be attributable to underdiagnosis, underreporting, and the lack of access to services for children with ASD in SA.

Currently, the DSM-5 diagnostic criteria are widely used to diagnose children with ASD in SA (Al-Shammari, 2019). Children with ASD are usually diagnosed through assessment carried out by a multidisciplinary team, including developmental paediatricians, occupational therapists, psychiatrists, educational psychologists, social workers, speech and language therapists, special education teachers, and parents (Alnemary, 2017).

### **2.6 Educational services for children with ASD**

At the government level, providing services for children with ASD began formally in 1997, when the MoE opened the first three classes in Riyadh to serve thirteen children recognised as having ASD (Battal, 2016). In 1999, the government began to open new programmes in the

major cities of Riyadh, Dammam, and Jeddah (MoE, 2016). In 2004, the government began investing in research and encouraging Saudi universities to open programmes that train and qualify professionals to work with children with ASD (Zeina et al., 2014). This led to a significant expansion of programmes serving children with ASD and many special schools and units attached to mainstream schools were opened to provide educational services for those diagnosed with mild forms of ASD (Aldabas, 2015).

## **2.7 Educational provision for children with ASD**

The government policy maintains that boys and girls are treated equally in terms of educational provision and services. The Organisational Directory of Educational Programmes for Autism (2012) organises and oversees suitable services for children with ASD and their families. Alquraini (2011) summarises the educational provision for children with ASD as follows:

- Education for children with ASD should be provided in either special schools or mainstream schools. Higher functioning children with ASD should receive mainstream education, while lower functioning children should obtain their education in special schools or ASD institutions. Decisions related to children's functioning and school placement are usually made by school-based professionals (e.g. special education teachers, educational psychologists, speech and language therapists, and social workers).
- Based on multidisciplinary assessments, behavioural and educational interventions and individualised educational plans should be used with students with ASD.
- Parents should be provided with assessment information and should be involved in the planning, delivery and evaluation of the educational activities and intervention programmes for their children with ASD.
- Educational professionals (e.g. teachers and educational psychologists, etc) are required to work as a team in providing suitable educational and interventional services for children with ASD, and parents should actively be involved with them.
- ASD institutions and schools are required to provide opportunities for parents to visit school to observe their children in class as well as provide training to parents to support them to work collaboratively with the multidisciplinary team in the planning and delivery of their children's individualised educational plans and intervention programmes.

- Schools are required to prepare systematic programmes and activities for parents to use with their children during summer holidays.
- In special schools and institutions for children with lower scores on adaptive skills and cognitive tests, the number of students with ASD must not exceed three per class.

Despite the efforts of the Government, only children with mild ASD conditions attend mainstream schools. The level of children's ability is usually determined by a team of professionals and based on adaptive skills, tests and observations (Alquraini, 2011). Additionally, these services are limited and only provided in urban areas (Hussein and Taha, 2013). Educational services for pupils diagnosed with ASD are relatively new and service providers, educational professionals and families are encountering difficulties providing high quality services for children diagnosed with ASD (Sulaimani and Gut, 2019).

### ***2.7.1 Educational placements***

Decisions regarding which school these children can attend are usually undertaken by school-based professionals, but parents' preferences are also considered (Sulaimani and Gut, 2019). Despite providing mainstream education for 93% of children with SEN, children with moderate and severe forms of ASD may not be eligible to receive an education in mainstream schools (Aldabas, 2015; Al-Mousa, 2010 ). This may be due to the limited training received by mainstream teachers in meeting the needs of those with ASD (Almasoud, 2013).

### ***2.7.2 Interventions***

Many children with ASD in SA may go undiagnosed until they begin their formal education in governmental schools aged six (Zeina et al., 2014). Research suggests that the average age for starting intervention services for ASD children in SA was 6.3 years, and so intervention services are unlikely to be received before the start of school (Alnemary et al., 2016).

Across SA, only three governmental centres specialise in ASD and provide intervention services: The Centre for Autism, in Jeddah, the Academy of Special Education, in Riyadh, and Prince Faisal bin Fahad Mother's Centre for Autism, also in Riyadh. Although these are the only centres providing specialised services and interventions for children with ASD and their families (Alatifi, 2019; Alotaibi and Alrashed, 2015), ABA and other behavioural and developmental interventions based on its principles are not prioritised in these most specialised centres (Zeina et al., 2014). Yet, the Saudi Autistic Society was established as the first largest non-governmental organisation in SA, Riyadh. This organisation provides specialised services

and interventions for children with ASD, including speech and language therapy, diagnostic services, and it is also oriented toward BI (Saudi Autistic Society, 2013).

For those diagnosed with ASD who can access government centres and institutions, autism centres do not usually utilise evidence-based interventions such as EIBI (Alnemary, 2017). Babatin et al. (2016) found that just over half of the parents surveyed were unable to access evidence-based interventions. According to those parents, this was either because these interventions were not available in their children's centres or the parents of those children lacked experience and knowledge that would enable them to locate appropriate centres for their children elsewhere. Alnemary (2017) argues that due to limited services for children with ASD, many parents choose to send their children to private schools or travel abroad to neighbouring countries (e.g. Jordan, UAE, Egypt, or further afield, for example the USA or the UK).

## **2.8 ASD teachers in SA**

### ***2.8.1 ASD teacher preparation in SA***

Special education teachers in SA are those who work with children with SEN, such as children with visual impairment, hearing impairment, ASD, and other categories of SEN (Battal, 2016). ASD teachers are qualified by obtaining one of the qualifications outlined below.

#### *Bachelor's degree in autism*

A bachelor's degree with a specialism in ASD is the minimum requirement to work as an ASD teacher in SA. This degree qualifies graduates to teach students with ASD (Sulaimani and Gut, 2019). However, this is not always the case, as teachers who work with children with ASD may not be specialised in ASD. For example, teachers who are specialised in the intellectual disability pathway can teach children with ASD and intellectual disability. Also, teachers who specialise in SEN can teach children with ASD and intellectual disability.

#### *Bachelor's degree, followed by a one-year diploma in special education*

A teacher may also work with ASD children if they have a bachelor's degree in the arts, the social sciences, and the humanities, as long as they have also taken a one-year course to receive a diploma in special education.

According to Battal (2016), there are nearly eleven universities in SA which provide special education degrees based on special education categories (e.g. ASD). The General Authority for Statistics (2015-2016), under the category 'education and training', noted that only two of these

eleven public universities offer specialised ASD programmes. To the best of my knowledge, King Saud University in Riyadh and Umm Al-Qura University in Mecca are the only two universities that train teachers specialising in the field of ASD.

### ***2.8.2 Teacher professional development in ASD***

Although the Government has committed significant resources to understanding and supporting children and young people diagnosed with ASD, provision is limited, in particular a recognised need for teacher professional development (Helmy, 2017). Alzahrani (2013) argues that a large proportion of teachers working with ASD children in SA are not specialised in ASD, but rather hold qualifications in such areas as intellectual disability. For instance, in Alnema's (2017) study many teachers were unable to distinguish between the characteristics of ASD and other types of SEN, such as intellectual disability. Most participating teachers in another study by Alothaim (2017) considered that in-service professional courses were mostly theoretical and unrelated to the fields needed to help them deal with students with ASD in the classroom.

## **2.9 Conclusion**

In conclusion, this chapter has provided details about the Saudi context and highlighted some key issues in relation to the provision of education for pupils diagnosed with ASD. The following chapter reviews the literature relevant to my study.

## **Chapter 3. Literature Review**

### **3.1 Introduction**

This chapter covers the literature background to my study. First, it presents the process, outcomes and implications of the ERL, which aimed to review the extant literature regarding the question, “What is known about the long-term outcomes of early diagnosis for children with ASD?” in order to identify a primary focus for the study. As noted in Chapter One, at the outset of this study an interest in early diagnosis was my initial focal point and a literature review was undertaken to explore this further and to clarify the direction of this empirical study. Second, this chapter discusses the process of linking theory (the findings from the ERL) to practice (dialogues with educational professionals in SA) and how these processes led to identifying professional-parent collaboration in the planning, design and implementation of BI for children with ASD as the primary area of interest and relevance to practice, to which the current study is directed. Third, it offers a comprehensive review of the literature pertaining to the topic of professional-parent collaboration in educating children with ASD in general and in BI in particular. This review discusses BI as one form of intervention for pupils with ASD as well as considering models of BI used in practice. It also considers conceptualisations of parent-professional collaboration, discusses the forms of professional-parent collaboration in BI, the roles of parents and professionals in collaboration relationships in BI, and theories of professional-parent collaboration in BI. Finally, the chapter ends with a review of the international and Saudi literature in relation to professional-parent collaboration in education and BI for children with ASD.

### **3.2 The process of reviewing the literature and identifying the research focus and research gap**

This section discusses the entire process of reviewing the relevant literature. The presentation of these processes is structured into two parts. As my initial interest was the implications of early ASD diagnosis for long-term outcomes for those children, I wanted to explore this aim to determine the current state of knowledge in order to support the direction of my study. Part one presents the process of the ERL, themes from which were then discussed with educational professionals in the context of SA. This dialogue was conducted to enable me to ensure that my considerations of the findings of this review were embedded within the context of SA. This led me to shift my focus to professional-parent collaboration in BI, as will be explained in part one. Part two covers all aspects related to the literature background of my study, and reviews

international and Saudi literature on professional-parent collaboration in the education and BI of children with ASD. It ends with a presentation of the identified research gap based on the review of the literature pertaining to this topic.

### ***3.2.1 Part one: ERL and dialogue in context with professionals***

This section presents the process of the ERL. It offers a discussion of the focus, method, phases, outcomes and implications of the ERL, which aimed to review the existing literature related to the general question ‘what is known about the long-term outcomes of early diagnosis for children with ASD?’, which I selected at an early stage of the study. It then provides a discussion of the dialogue conducted with educational professionals in SA. Finally, the identified research focus for my empirical research based on the ERL and dialogue conducted with professionals is explained. The entire process of the ERL (focus, method, phases, synthesis, findings and discussion, and conclusions) can be viewed in Appendix A.1.

#### ***Implications of the ERL***

The primary focus of this ERL was initially on the implications of early diagnosis of ASD for long-term outcomes for those children. However, conducting the ERL revealed that early diagnosis was combined with BI in most reviewed studies. This ERL raised questions about the body of research that existed at the time regarding the long-term outcomes of early diagnosis for children with ASD. The reviewed studies investigated the relationship between early diagnosis combined with BI and the long-term outcomes for children with ASD. This SLR suggests that generally early diagnosis combined with early BI are helpful for children with ASD in terms of enhancing long-term outcomes, including cognitive, language, social, and intellectual, and academic outcomes. However, the ERL suggests that early diagnosis combined with BI (Clark et al., 2018; Perry et al., 2013) did not lead to improvements in adaptive behaviour skills for children with ASD.

The findings of the ERL led me to shift my focus from early diagnosis to BI. Additionally, the focus of most studies reviewed was on BI following ABA principles, such as EIBI. For this reason, I decided to focus on BI following ABA principles in my study. Based on the ERL findings, there appeared to be a need for further exploration to understand why some forms of BI based on the principles of ABA may not lead to improvements in adaptive behaviour outcomes in practice. It is not sufficient to make a judgement about the impact of BI on long-term outcomes without looking at factors that affect the success of such interventions in

practice. This can be considered the next step towards understanding important factors shaping the success of BI for children with ASD.

In summary, the ERL examined the existing research within this broad area of interest and pointed in directions where further research is needed. Based on the outcomes of the ERL, I decided to discuss my considerations with educational professionals in the Saudi context in order to ensure that my ideas on the findings of the review were embedded within the SA context and also discuss other issues related to the success of BI following ABA principles in practice.

*Discussions with educational professionals (linking theory with practice)*

This section discusses the dialogue conducted with a sample of educational professionals in the Saudi context in order to explore the outcomes of the ERL and refine the focus of my study as it relates to practice.

The ERL suggested that generally early diagnosis combined with early interventions (mostly BI following ABA principles) are helpful for children with ASD in terms of enhancing long-term outcomes. This led me to consider that BI based on ABA principles may have an impact on children's long-term outcomes. As most of the reviewed studies found a connection between early diagnosis combined with early BI and long-term outcomes for children with ASD (e.g. Elmoose et al., 2014; Gusty-Lee et al., 2006; MacDonald et al., 2014). However, two studies in the ERL explored the impact of early diagnosis combined with BI on the long-term outcomes for children with ASD (Clark et al., 2018; Perry et al., 2013) and found no clear relationship between BI and improvement in adaptive behaviour skills for children with ASD. These findings directed my thinking towards exploring this further by linking it to the context of SA.

To explore further, I engaged in a dialogue with five educational professionals working with children with ASD in SA. The professionals were chosen from my existing professional networks and were working with children with ASD in different schools in SA's Eastern Province. They represent a range of professional backgrounds (two teachers, a social worker, an educational psychologist, and a speech and language therapist) and I thus stood to benefit from their diverse experiences. The aim at this stage was not to recruit a representative sample of educational professionals to participate in the dialogue; rather, it was to offer an opportunity to explore the findings of the ERL by discussing possible issues that Saudi professionals encounter in practice related to the potential successes of BI for children with ASD.

All discussions with the professionals were conducted on Skype™. The key issue arising from these discussions was what the professionals encounter when they collaborate with parents about BI, a collaboration which may influence the potential success of BI. The professionals spoke about several aspects, including the current and ideal practice of professional-parent collaboration through the different stages of BI, the lack of professional-parent collaboration in practice, and barriers (e.g. limited training for professionals and parents) that may hamper the success of professional-parent collaboration in BI. Additionally, these professionals considered effective collaboration between parents and professionals as key to the success of BI for children with ASD in SA. Furthermore, the professionals explained that they encounter many difficulties in practice related to establishing and sustaining collaborative working with parents in BI.

#### *Next steps (focus of my study)*

Overall, the combination of the findings from the ERL and the dialogue with professionals helped me to identify a primary area of interest and relevance to practice to which my study was directed. The combined findings suggested that BI (following ABA principles) may not work effectively in practice to enhance adaptive behaviour skills and this might be due to issues related to professional-parent collaborative working in these interventions. Following this consideration, I decided to review the international and Saudi literature in relation to professional-parent collaboration in BI for children with ASD. In doing so, I aimed to identify a gap in the knowledge where my study can be positioned and through which a set of research questions could be devised. According to Creswell (2008), research questions are derived by firstly identifying a problem or a ‘gap’ in the prior literature and current practice as it is informed by that literature, in the process allowing novel revelations or insights to emerge and inform and potentially transform current practice.

The next section outlines the literature within the area of professional-parent collaboration in BI for children with ASD.

#### ***3.2.2 Part two: literature review of professional-parent collaboration in BI***

Discussions of models of interventions and types of BI which are used in practice are considered here. BI is then discussed as one form of intervention for children with ASD, and certain key concepts and definitions are introduced before the existing relevant international and Saudi literature addressing the topic is evaluated. Finally, the international and Saudi

literature pertaining to professional-parent collaboration in the education and interventions of children with ASD is discussed, with the aim to identify a research gap my study will address.

### **Behavioural interventions (BI)**

This section discusses models of intervention in general, presents an overview of BI and discusses various types of BI based on ABA principles for children with ASD and the importance of BI.

#### *Models of interventions for children with ASD*

Two classes of intervention for children with ASD are discussed in the research literature: focused intervention models and comprehensive intervention models (Stock et al., 2013). A focused intervention model is designed to address a single outcome or goal (Wong et al., 2015). These interventions are commonly implemented over a short time period and intended to lead to a change in the targeted behaviour. Examples of these interventions involve discrete trial teaching, video modelling, the picture exchange communication system (PECS), and pivotal response training (Odom et al., 2010; Sengupta et al., 2015). In comparison, a comprehensive intervention model is systematically organised interventions aiming to improve broad learning and long-term development, such as social, behavioural, and language skills (Maglione et al., 2012; Vismara and Rogers, 2010). Examples include EIBI and the Early Start Denver Model (Wong et al., 2015). Both classifications of intervention emphasise the importance of professional-parent collaboration. In the comprehensive models, parental collaboration tends to be central to the intervention, alongside other members of the intervention team, in the planning and delivery of these interventions (McConachie and Diggle, 2006; Sengupta et al., 2015).

#### *Defining BI*

BI are based on behaviour modification principles and aim to encourage children's learning of behaviours considered typical and discourage behaviours considered atypical (Maglione et al., 2012). BI are well-established and effective psycho-educational approaches for children with ASD and are often referred to as ABA. Some therapists and parents may wrongly believe that there is only one type of BI, namely EIBI; however, there are several forms of BI following ABA principles (LeBlanc and Gillis, 2012).

### Forms of BI based on ABA principles for children with ASD

In recent decades, professionals and scholars have designed many interventions to assist children with ASD to improve their functioning and maximise their potential (Granger et al., 2012). There are three classifications for BI. First, naturalistic developmental BI, a collection of practices that follows ABA principles and usually delivered in natural settings where the child participates (Wong et al., 2015), are child-centred approaches and use natural contingencies (e.g. child favoured materials and activities) in order to increase behaviours considered appropriate and prerequisite skills. Pivotal response treatment and positive behaviour support intervention are examples of such interventions (Schreibman et al., 2015; Vismara and Rogers, 2010). Second, there are highly structured teaching approaches, characterised by strict procedures and directed only by care-providers, such as ABA, EIBI, and discrete trial training (Schreibman et al., 2015). Third, there are developmental BI, such as the Early Start Denver Model (Rogers et al., 2012). One common type of BI is ABA therapy. Interventions based on ABA principles are documented as important and effective research-based practices for children with ASD (Fein et al., 2013; Makrygianni et al., 2018). A brief discussion of ABA therapy and the most common types of BI derived from its principles is provided below.

#### *Applied Behaviour Analysis (ABA)*

Founded by Lovaas in 1930, ABA therapy is defined by Schreibman et al. (2015, p.2412) as ‘the science of understanding how changes in the environment affect human behaviour’. It is commonly known that ABA is one of the most useful evidence-based therapies commonly used for treating children with ASD. Although this therapy is not specific to ASD children, it has been widely used to address adaptive behaviour with children with ASD (Dillenburger and Keenan, 2009). ABA is based on classical and instrumental conditioning, and its focus is on behaviour-change or modification, either by increasing behaviour considered typical or decreasing behaviours considered atypical (Spreckley and Boyd, 2009).

Utilising ABA therapy, Lovaas (Lovaas, 1987) provided evidence that the behaviour of children with ASD can be modified by structured teaching based on experimental research. The aim of ABA is to teach children with ASD age-appropriate behaviour and functional skills (Matson and Sturmey, 2011). For example, interventions provide opportunities for ASD children to support social play with peers, acquire social and adaptive skills, and discourage aberrant behaviours such as aggressive or self-harming behaviours (Dillenburger and Keenan,

2009). ABA intervention is a comprehensive treatment model in which parental involvement is highly recommended to allow generalisation of learned skills at home and other environments (Dillenburger et al., 2010). It can be used with children at any age and with any type of SEN (Axelrod et al., 2012). However, research posit that children aged 30 months and younger benefit more from ABA intervention (Matson et al, 2012, a). Over the last 60 years, BI that are based on the principles of ABA intervention have been examined and considered by many to be amongst the most effective interventions for treating children with ASD (Axelrod et al., 2012).

#### *Discrete trial training*

This approach (called the “Lovaas approach”) is based on ABA principles. It was the first form of intensive BI and was developed for children with ASD (LeBlanc and Gillis, 2012). It is a teacher-directed systematic instructional approach that follows operant methodology and uses a variety of strategies, such as modelling, simple instructional cues, prompts, and positive reinforcement. It simplifies and breaks down the teaching into separate components or structured steps in order to assist the child to successfully acquire the desirable behaviours and new skills, which are taught using small repeated tasks (Schreibman et al., 2015).

#### *Early Intensive Behavioural Intervention (EIBI)*

EIBI is a highly structured intervention that is predominantly used with pre-schoolers with ASD aged four years and under. This intervention utilises ABA principles and this might be the reason for why some researchers refer to it as an ABA intervention (Gould et al., 2011; Reichow et al., 2012). It is one of the most well-known interventions that is used specifically with children with ASD (Ryan et al., 2011). It aims to enable them to learn more effectively from their typical environment (LeBlanc and Gillis, 2012). Presently, EIBI are the most well-recognised and efficacious ASD specific interventions that have been found to enhance positive social, intellectual, and behavioural skills for children with ASD (Granger et al., 2012). EIBI can be provided in either the home or school environment, and its intensity can range between 20-40 hours a week, contingent on individual circumstances (Matson et al., 2012, a).

#### *Pivotal response treatment*

This treatment is one of the naturalistic BI that follows ABA principles and has strong empirical evidence for treating children with ASD. This is a play-based intervention that aims to improve pivotal areas of development rather than targeting a specific behaviour or skill (Gengoux et al.,

2019). This approach aims to increase three pivotal areas for children; ‘motivation’ to interact, ‘initiation’ to initiate social interaction, and ‘self-management’ to independently assess their behaviours. Therefore, it focuses on the child’s motivation, interests, and delivery of intervention in the child’s natural environment (Minjarez et al., 2011; Nefdt et al., 2010).

#### *Positive behaviour support intervention*

This approach is a behaviour management system derived from ABA and regarded as positive and proactive. It is positive as it uses reinforcement techniques to increase behaviour considered appropriate or attenuate behaviour considered challenging. Negative consequences are not employed to deal with problem behaviours. It is proactive because it aims to prevent challenging behaviours from occurring (Blair et al., 2011). This approach aims to identify and describe where and when the behaviour considered problematic is more likely to occur and then prevent it rather than fixing it when it occurs (Dunlap et al., 2013). This intervention prioritises developing collaborative practices with parents during the assessment and the delivery stages (Fettig et al., 2013).

#### *The Early Start Denver Model*

The Early Start Denver Model is a comprehensive early developmental behavioural intervention designed to address the needs of infants, toddlers, and preschool-aged children from 12 to 48 months with ASD. It is based on the combination of ABA and relationship-based and developmental approaches (Rogers and Dawson, 2010). Based on understandings of the typical development of preschool age children, this approach utilises positive reciprocal interactions and play activities to foster social, communicative, cognitive, adaptive, and language skills. The model often engages parents as therapists to implement the intervention in the child’s home environment (Rogers et al., 2012).

#### *Picture Exchange Communication System (PECS)*

Devised for children who have communication disorders (Frost and Bondy, 1994), this approach uses pictures to emulate and reinforce simple behavioural methods, such as differential reinforcement and shaping (Wong et al., 2015). This strategy is an augmentative communication system that is frequently used as a part of ABA interventions aiming to enhance functional communication, social, and joint attention skills for children with ASD (Alsayedhassan et al., 2019).

### *Video Modelling*

Video modelling as a teaching strategy is based on social learning theory and involves the child viewing a video modelling of a peer, educator, or him/herself engaging in an appropriate behaviour which the child is required to reproduce (Alzyoudi et al., 2015). This strategy is frequently used with children with ASD to promote communication skills and social instructions (Buggey et al., 2011; Wang et al., 2011), enhance daily living skills (Cannella-Malone et al., 2011), and reduce problematic behaviours (Charlop et al., 2010).

### ***Importance of BI***

Several studies have found BI derived from ABA principles to be effective in reducing stereotypical behaviour (Bahrami et al., 2012; Gabriels et al., 2012), improving adaptive skills (Fennell et al., 2011; Magiati et al., 2011), social-emotional behaviour (Movahedi et al., 2013; Pan, 2010; Ward et al., 2013), cognitive skills and educational outcomes (Eldevik et al., 2012; Magiati et al., 2011), and enhancing socialisation, communication and daily living skills for children with ASD (Eikeseth et al., 2012; Grindle et al., 2012).

Many systematic reviews have been conducted to validate the efficacy of these interventions for children with ASD. The findings of a systematic review by Ospina et al. (2008) summarised and evaluated the effectiveness of behavioural and developmental interventions and suggested that ABA therapy may improve some main ASD symptoms, including social and communication skills, sensory motor skills, and stereotype behaviour. A further systematic review by Magiati et al. (2012) examined the effects of EIBI and other behavioural and developmental interventions derived from ABA principles for children with ASD. They found these interventions, mainly following ABA principles, to be more effective at enhancing educational, language, cognitive and intellectual skills, and to some degree adaptive behaviour skills, than eclectic interventions (combining multiple comprehensive intervention models or a range of focused intervention models, e.g. combining ABA with TEACCH).

Makrygianni et al. (2018) conducted a meta-analytic study to examine the effectiveness of BI based on ABA principles in improving intellectual ability, adaptive behaviour, language, and social skills for children with ASD. Their findings suggest that these interventions were highly to moderately effective in bringing improvements to children in the aforementioned developmental domains. Further, numerous systematic reviews and meta-analysis studies have concluded that EIBI are effective in enhancing language, adaptive behaviour, social, and

cognitive skills (Kuppens and Onghena, 2012; Makrygianni and Reed, 2010; Peters-Scheffer et al., 2011; Reichow, 2012; Warren et al., 2011).

## **Professional-parent collaboration**

### *Conceptualisations of parent-professional collaboration*

This section provides definitions of collaboration as a concept used in this study. Several terms are used in the literature related to professional-parent collaboration, including collaboration, partnership, collaborative partnership, family-professional partnership, and parental involvement. Therefore, this section describes and defines these terms in order to provide a clear rationale for how they are applied in this thesis.

#### *Collaboration*

Dinnebeil et al. (2016) describe collaboration as the practice of two parties or more working together towards accomplishing a shared outcome. Collaborative practice refers to the purposeful efforts of professionals with parents, including an association or partnership and demonstrating a great level of a shared respect, trust, decision making, and welcoming parental input in all aspects related to their children education (LaBarbera, 2017).

#### *Partnership*

Partnership can also be defined as ‘collaborative relationships characterised by equality, respect, and shared decision-making’ (Gelech et al., 2017, p. 177). A valuable partnership necessitates an association between parents and professionals in the development and implementation of intervention programmes for children with ASD, and also constructs and promotes the partnership itself (Dunlap and Fox, 2007).

#### *Collaborative partnership*

Collaborative partnership is described as when family and school build a relationship based on reciprocated trust and respect; it aims to achieve a set of goals for children with ASD that have been carefully devised in advance (Blue-Banning, 2004). Lucyshyn et al. (2002) define *collaborative partnerships* with families in BI as 'a reciprocal relationship in which family members and practitioners offer complementary expertise... [and] solve problems together' (p.197).

### *Family-professional partnerships*

Family-professional partnerships are defined as rapport between families and professionals who agree to share their expertise and use available resources to make decisions that directly or indirectly benefit ASD children, their family, and the professionals working with them (Turnbull et al., 2015). Summers et al. (2005) believe partnership overlaps with other terms, such as parental or family involvement, collaboration, teams of professionals, and to some extent family-centred practices.

### *Parental involvement*

Minke et al. (2014, p. 528) defined parental involvement as ‘a multidimensional construct that encompasses parenting behaviours that support children’s learning’. Solish and Perry (2008) held that parental involvement should be conceptualised as the involvement of parents in the whole process of EIBI and at the same time working in collaboration with the team of professionals.

### *Forms of professional-parent collaboration in BI*

Parental involvement and collaboration in their children’s education and interventions takes a variety of forms (Goldman and Burke, 2019). Parents can engage in school-based educational activities, such as volunteering (Potter, 2016), attending school association meetings (Potter, 2016; Schultz et al., 2016; Zablotsky et al., 2012), or participation in the implementation of interventions (Goldman et al., 2019; Udaze, 2016). Parents can also participate in home-based practices, such as one-to-one teaching (Potter, 2017), assisting with homework (Zablotsky et al., 2012), and implementing interventions (Syriopoulou-Delli, 2016). Parents can also engage in two-way home-school communication, such as engagement in (in)formal communication to convey information about the child (Azad et al., 2018 (a); Benson, 2015; Blue-Banning et al., 2004; Stoner et al., 2005; Syriopoulou-Dellia and Polychronopouloub, 2019), communication through follow-up records (Hanafe and Qaraqish, 2010), and email communication (Dubis, 2015). Professionals and parents can also collaborate by setting shared development goals and decision making and planning for their children’s intervention programmes (Edwards et al., 2016; Matthews et al., 2020; Meade, 2011; Tucker and Schwartz, 2013).

In order to establish a meaningful professional-parent collaboration, professionals are encouraged to be family-based when developing interventions. Family-based approaches focus on family strengths, giving families power and choice when developing intervention goals (Bacon and Causton-Theoharis, 2013; Fettig et al., 2013). A family-based model is a generally

accepted model which requires parents and professionals to work collaboratively throughout the planning, delivery and evaluation stages of the intervention programme (Edwards et al., 2016). Burrell and Borrego (2012) argue that the best gains are observed when parents and professionals exchange expertise, support each other, and jointly share the responsibility of developing goals for children with ASD. This can be facilitated by attending team meetings, training for parents, and continued communication.

#### *The role of parents and schools (professionals) in the success of collaborative working in BI*

Parents can play an important part in their children's education and interventions. Background information, such as strengths, weakness, challenging behaviour, and areas of developmental delay, can easily be obtained through parental collaboration. Parents can also observe changes in their child's behaviour as a result of interventions and alter the home environment to assist their child to accomplish agreed goals (Burrell and Borrego, 2012; Fettig et al., 2013). This would suggest that it is important for schools to facilitate professional-parent collaboration that benefits children with ASD (LaBarbera, 2017). Some argue that school-based professionals need to encourage and guide parents to take an active role in their children's interventions (Park et al., 2011). It is essential for professionals to develop a rapport with parents, foster their empowerment, consider them as equal partners throughout the intervention, show commitment and a genuine disposition to working with them (Edwards et al., 2016; Fettig et al., 2013; Park et al., 2011), respect the knowledge and experience they bring to a collaborative relationship, and value their participation in the decision making in their children's early interventions (Alajmi, 2014). This suggests the need to reduce the parent-professional power differentiations.

#### *Theories of collaboration in intervention processes of BI for children with ASD*

The importance of professional-parent collaboration in the intervention process for children with ASD is supported by a theory-based system - Ecological Systems Theory. This theory capitalises on the crucial impact of the interactions between the child and the environment, and between home and other micro-systems, on children's outcomes (Bronfenbrenner, 1977). According to this theory, children are affected by their micro-systems and likewise are influenced by the interactions between their micro-systems within the meso-system (Bronfenbrenner, 1977). The child with ASD is a part of the family system. In interventions for children with ASD, professional-parent collaboration as a form of meso-system interactions may have an important influence on the children's ASD outcomes and hence the successfulness of interventions (Garbacz et al., 2016). Therefore, planning and delivering a successful

intervention requires parents to collaborate with professionals in the assessment and the entire process of intervention programmes (Bjorck-Akesson and Granlund, 1995).

The following section reviews international and Saudi studies related to professional-parent collaboration in relation to ASD.

### **Studies of professional-parent collaboration**

Studies of professional-parent collaboration in the education of children with ASD in general and in BI in particular have been conducted in many countries. However, my literature review found that few studies have been conducted in SA. This section starts with a review of the international literature, followed by a review of the Saudi studies that have been conducted on this topic. It then provides details of the identified research gap my study aims to address.

The following sub-section reviews the international studies related to professional-parent collaboration in relation to ASD.

#### *International studies*

While many studies have investigated parent-professional collaboration in the education and schooling of children with ASD, a limited number has addressed professional-parent collaboration in BI (Bjorck-Akesson and Granlund, 1995; Kazdin et al., 2006; Solish and Perry, 2008; Rodger et al., 2008; Blair et al., 2011; Alajmi, 2014; Udaze, 2016; Goldman et al., 2019). The reviewed studies focused on a wide range of topics related to professional-parent collaboration, including the nature of professional-parent collaboration, barriers and facilitators to collaborative working, parental satisfaction with professional-parent collaboration, the effects of professional-parent collaboration on children's outcomes and family benefits, and predictors of parental involvement. This section organises these studies under five themes generated based on classifications according to topics. This section discusses key findings and the differences between the identified studies and addresses their methodological issues.

#### *Theme one: Nature of professional-parent collaboration and parental involvement*

Many studies have explored the nature of professional-parent collaboration in the education and interventions of children with ASD (see Appendix A.2.1). Some have explored issues related to the current and ideal practice of professional-parent collaboration in children's early interventions (Bjorck-Akesson and Granlund, 1995), the role of parents and professionals in collaborative relationships in educational programmes for children with ASD (Stoner and Angell, 2006), levels and forms of professional-parent collaboration in the education of

children with ASD (Potter, 2016; Potter, 2017; Schultz et al., 2016; Shammari and Yawkey, 2008; Spann et al, 2003), and understanding the reasons behind why partnership practices do not change to improve disability services (Gelech et al., 2017).

Based on the findings of these studies, it can be concluded that the success of BI is not only about providing parents with opportunities or training in BI, but also concerns the quality of professional-parent relationships, involving issues such as mutual trust between parents and professionals and emotional support for the former. Most of these studies recruited reasonable sample sizes, ranging from 25 to 306 participants (involving parents, professionals, and administrators); however, the sample of Stoner and Angell (2006) involved only eight parents of four children with ASD. Additionally, all the participants were parents from a middle-class socioeconomic status who had enrolled their children in four public schools in a specific geographical area within the same school district. Stoner and Angell found that parents reported that they engaged in several roles when interacting and communicating with professionals in their children's educational programmes, including being supporter, negotiator, advocate, and monitor. These parents may have had access to resources (perhaps human and social capital) to enable them to engage with educational professionals, making collaboration easier. Stoner and Angell's (2006) study is significant despite having used a small sample size and recruiting participants from a specific geographical area. Small, in-depth qualitative studies like this study can offer an opportunity for other researchers to learn more about parents' personal experiences regarding their communication and interaction practice with school-based professionals.

*Theme two: Barriers and facilitators to professional-parent collaboration, communication, and parental involvement*

Multiple studies have sought to investigate barriers and facilitators of professional-parent collaboration, communication, and parental involvement in the education and interventions of children with ASD (see Appendix A.2.2). The current review identified several reported parent-related and professional-related factors that may facilitate or hinder collaboration, communication and parental educational involvement. These included:

- The quality of professional-parent communication (Angell et al., 2009; Azad et al., 2018 (a); Blue-Banning, 2004; Matthews et al., 2020; Meade, 2011; Tucker and Schwartz, 2013).
- Mutual trust, respect and honesty (Angell et al., 2009; Blue-Banning et al. 2004; Meade, 2011; Stoner et al. 2005).

- Professionals' lack of understanding and respect of the experiences and knowledge of parents (Potter, 2016) and professionals' lack of knowledge in ASD (LaBarbera, 2017).
- Lack of professionals' skills related to how to engage parents in interventions (Bjorck-Akesson and Granlund, 1995; LaBarbera, 2017; Shammari and Yawkey, 2008).
- Professionals' commitment and dispositions to their work (Angell et al., 2009; Blue-Banning, 2004; Edwards et al., 2016; Stoner et al. 2005).
- Parents' initiatives and interest in collaborating (Bjorck-Akesson and Granlund, 1995; LaBarbera, 2017; Rodriguez et al., 2014).
- Parents' knowledge of ASD (Angell et al. 2009; LaBarbera, 2017; Solish and Perry, 2008; Tucker and Schwartz, 2013) and parents' knowledge of and belief in intervention (Bjorck-Akesson and Granlund, 1995; Solish and Perry, 2008; Tucker and Schwartz., 2013).
- Parents' self-efficacy (Solish and Perry, 2008), parents' negative views of professionals (Tucker and Schwartz, 2013), and parents' difficult life circumstances and employment demands (Azad et al., 2018 (a); Potter, 2017).

Additionally, multiple perceived school and system-related barriers and facilitators were explored through these studies, involving the quality of services (Angell et al., 2009; Rodriguez et al., 2014; Tucker and Schwartz., 2013), school climate, arrangements, efforts at effective management to facilitate collaboration (Angell et al., 2009; LaBarbera, 2017; Matthews et al., 2020; Potter, 2016; Rodriguez et al., 2014; Syriopoulou-Dellia and Polychronopouloub, 2019; Tucker and Schwartz, 2013). Other studies identified the availability of required resources and funding for parents (Matthews et al., 2020; Tucker and Schwartz., 2013) and a perceived shortage of time and high workloads for teachers (Azad et al., 2018 (a); LaBarbera, 2017). Finally, the quality and severity of child behaviour were also considered as factors that may facilitate or impede effective professional-parent communication and collaboration (Angell et al., 2009).

It can be concluded from the findings of these studies that there is a professional-parental consensus on perceiving their collaboration as a valuable component for the success in the education and interventions for children with ASD. However, professionals and parents may encounter difficulties when communicating and collaborating with one another, and therefore they reported many parent-related, professional-related, school-related, and system-related barriers and facilitators to communication and collaborative working.

Using a mixed-methods approach, Stoner et al. (2005) found that parents were involved in their children's early intervention and identified several reported facilitators for building a trustful professional-parent relationship, such as honesty, understanding each other's perceptions, respect, and open communication. However, they drew their conclusions and interpretations based on a relatively a small sample (four ASD children of four coupled parents) of participants enrolled in multiple schools within the same school district. Meade's (2011) interviews found that although both teachers and parents perceived parental involvement in their children's education as important, teachers perceived consistent interaction as important while parents saw respectful interaction as important for fostering parent-teacher collaboration. However, this study involved a small number of participants (eight parents and professionals) and they were recruited from a small, rural community in southern USA. Although Stoner et al.'s (2005) and Meade's (2011) samples involved a small number of parents, they are two interesting in-depth studies that illuminate an important perspective (the views of parents in particular) related to facilitators and barriers to collaborative working and parental involvement in the education and early interventions of children with ASD.

Angell et al. (2009) conducted interviews with parents of children with SEN, including ASD, and identified certain factors that affect the level and nature of trust between professionals and parents, including teachers' quality of communication, knowledge and understanding of the child with autism, service quality, school arrangements to facilitate collaboration, and history of trust in educational personnel. A methodological issue with this study was the recruitment method used to select the participants. As they selected the participating sixteen mothers directly through school-based professionals, it is possible that their sampling strategy may have suffered from a bias by selecting mothers with whom professionals had positive trustful relationships. However, their findings do offer an opportunity for other qualitative researchers to learn about possible factors that influence the nature and level of trust between professionals and parents when working collaboratively with children with SEN, including ASD.

*Theme three: Parents' and professionals' satisfaction with their children's education, interventions, and professional-parent collaboration*

Several researchers in the existing literature have investigated the factors influencing parents' satisfaction with the services provided for their children and professionals' and parents' level of satisfaction with professional-parent communication and collaboration in the education and interventions of children with ASD (see Appendix A.2.3). Some have found that parents were

unsatisfied with professional-parent collaborative working and the services provided for their children (Al Jabery et al., 2012; Rodger et al., 2008; Starr and Foy, 2012; Zablotsky et al., 2012). Others found that parents or teachers were satisfied with their collaboration and parents were satisfied with the services provided for their children (LaBarbera, 2017; Potter, 2017; Renty and Roeyers, 2005). Many factors influencing parents' and professionals' levels of satisfaction were addressed by these researchers:

- Parental involvement and opportunities provided for collaboration (Renty and Roeyers, 2005; Rodger et al., 2008; Zablotsky et al., 2012; Starr and Foy, 2012; LaBarbera, 2017).
- Parents' knowledge about ASD, the availability of services, and provisions for their children (Renty and Roeyers, 2005; Starr and Foy, 2012).
- Children's positive outcomes and parents' stress and competence (Rodger et al., 2008).
- School professionals' ability to efficiently deal with children's behavioural issues (Starr and Foy, 2012).
- Teachers' understanding and emotional support for parents, their efforts to advocate for their students, keeping parents informed about their children, and helping parents with strategies to use at home (LaBarbera, 2017).

It appears from these studies that parental and professional satisfaction with their communication and collaboration has been highlighted as an important aspect in the success of professional-parent collaborative relationships when educating and providing intervention services for children with SEN generally and with ASD in particular. Interestingly, Zablotsky et al. (2012) used questionnaires with a national sample of 8987 parents and found that parents of children diagnosed with ASD were more likely than parents of children with other types of SEN to participate in professional-parent conferences, attend school meetings, and support their children academically. However, those parents were less satisfied with teacher-parent communication with regards to their children's educational placements. Zablotsky and his colleagues interpreted these findings to conclude that these differences may be due to the complex social, intellectual, emotional, and behavioural issues that children with ASD experience compared to children with other types of SEN. Being in this difficult situation might lead parents of ASD children to be less satisfied with teacher-parent communication but at the same time this might encourage them to engage more frequently in school activities in order to accommodate their children's complex needs and resolve their multidimensional issues.

Using a questionnaire with two mothers of two children diagnosed with ASD, Rodger et al. (2008) suggested that mothers reported limited parent-professional collaboration to be a factor reducing their satisfaction with their children's home-based early intervention programme. It could be argued that the views expressed by the two mothers involved in this study are genuine and valid perspectives which could feasibly be representative of the larger parent population.

*Theme four: The effects of professional-parent collaboration on children's outcomes, service delivery and family quality of life*

An array of researchers has investigated the influence of professional-parent collaboration on improving the child's outcomes, family quality of life, and the quality of services provided (Azad et al., 2018(b); Blair et al., 2011; Brookman-Frazee, 2004; Casagrande and Ingersoll, 2017; Cavkaytar and Pollard, 2009; Goldman et al., 2019; Goldrich et al., 2018; Kazdin et al., 2006; Shammari and Yawkey, 2008; Syriopoulou-Delli, 2016; Udaze, 2016). Other researchers have focused on: improvement in the quality of parent-child teaching interactions and relationships (Brookman-Frazee, 2004; Kazdin et al. 2006; Syriopoulou-Delli, 2016), the quality of child-teacher interactions (Blair et al., 2011), the quality of parent-professional relationships (Goldman et al., 2019), and parents' quality of life and stress reduction (Benson, 2015; Brookman-Frazee, 2004; Casagrande and Ingersoll, 2017; Goldrich et al., 2018; Hsiao et al., 2017). Appendix A.2.4 lists these studies in detail.

It appears from these studies that the practice of professional-parent collaboration and parental involvement in the education and interventions of children with ASD are related to perceived improvements in services provided and outcomes. This involves better quality of parent-child communication, improvement in parent-professional interactions, and parents' quality of life. However, synthesising the literature revealed methodological considerations with some of the reviewed studies. Although the parents and teachers who participated in Goldman et al. (2019) reported that they perceived teacher-parent collaborative working in a school-home intervention as valuable and reported improvements in the quality of parent-professional relationships due to engagement in collaborative partnerships, based on parents' self-reports, however, only two from four autistic children who participated in the study exhibited positive obvious behavioural change due to collaborative working in school-home intervention.

Additionally, Blair et al. (2011) employed a multiple baseline design with three ASD children and their mothers, finding that the collaborative model of positive behaviour intervention was related to substantial improvements to the targeted behaviours and the quality of the children's

interaction with parents and teachers, either at school or home or in community playgrounds. However, Blair and his colleagues' study involved only three South Korean mothers whose children were enrolled in a one-year intervention programme. Although this study's findings may be specific to the three children and the participating mothers, this does not lessen the validity as they reflect the perspectives of the participants' experiences which could possibly be applicable to other children and parents in different geographical areas.

*Theme five: Predictors of parental involvement*

A small number of studies has investigated predictors of parental involvement in the education of children with ASD (see Appendix A.2.5). Those researchers have explored several reported predictors of parental involvement related to the children's and the family's characteristics, teachers' caring, and quality of service. A number of reported predictors concerning the child and family were investigated by researchers, including the severity and complexity of the child's behavioural issues (Benson et al., 2008; Garbacz et al., 2016) and having a prior family history accessing services (Garbacz et al., 2016). Some perceived predictors related to professionals and available services were also addressed, involving the quality and quantity of collaboration opportunities provided for parents (Benson et al., 2008) and teachers' competence and understanding of children's needs (Hauptman, 2019).

Based on their findings, it can be concluded that the quality of parental involvement and professional-parent collaboration not only concern school arrangements regarding flexible approaches to collaboration or providing training for parents in BI, but also concern factors that may influence the quality of professional-parent relationships, such as the child's and the family's characteristics, the quality and quantity of services provided, and teachers understanding of the child's needs. However, certain methodological issues related to these studies should be considered. In these studies, parents' and/or professionals' views were the only measurement method used to predict parental involvement in the education of children with ASD. None of these studies, for example, used methods such as observations or collected longitudinal data to assess children's behaviour in the home or school setting. Moreover, none examined improvements or tracked changes in parental involvement over time as the data used in these studies were not longitudinal. Despite this, these studies are important exploratory studies that indicate areas for further research to explore the perceived factors that influence the quality of professional-parent relationships and parental involvement.

### *Summary of the international studies*

The reviewed studies focused on a variety of themes related to professional-parent collaboration, communication, and parental involvement in the education and interventions of children with ASD. The studies varied in their research contexts, with the majority being conducted in the USA (n=25) and the rest from the UK, Australia, Canada, Greece, Sweden, South Korea, Jordan, Kuwait, and Belgium. These studies either employed a quantitative methodology using questionnaires to gather data (n=14), adopted a qualitative methodology by using interviews or focus groups as data collection methods (n=12), or used other designs (n=6), such as a case study methodology, a multiple baseline design, a single case multiple baseline experimental design, or a longitudinal design. However, a small number of studies adopted a mixed-methods design, including focus groups and interviews (Blue-Banning et al., 2004; Rodriguez et al., 2014; Schultz et al., 2016), questionnaires and interviews (Benson et al., 2008; Garbacz, 2016; Renty and Roeyers, 2005), interviews, observations, and documentation (Stoner et al., 2005), and a mixed-methods survey study (Tucker and Schwartz, 2013). The majority of the reviewed studies were conducted in educational settings while a smaller number were undertaken in clinical settings (Bjorck-Akesson and Granlund, 1995; Brookman-Frazer, 2004; Cavkaytar and Pollard, 2009; Edwards et al., 2016; Kazdin et al., 2006; Solish and Perry, 2008). Most studies only investigated parents' perceptions concerning their educational involvement or collaboration/communication with professionals/therapists (n=23) in the education and interventions of their children with ASD. A limited number of studies incorporated both professionals and parents in their investigations (Azad et al., 2018(a); Bjorck-Akesson and Granlund, 1995; Blue-Banning, 2004; Cavkaytar and Pollard, 2009; Gelech et al., 2017; LaBarbera, 2017; Meade, 2011; Solish and Perry, 2008; Syriopoulou-Delli, 2016; Syriopoulou-Dellia and Polychronopoulou, 2019; Udaze, 2016). However, most of these studies involved only teachers, with only four involving professionals from a range of professional backgrounds (Bjorck-Akesson and Granlund, 1995; Blue-Banning et al., 2004; Solish and Perry, 2008; Udaze, 2016).

The following section provides a review of studies conducted in SA in relation to SEN and ASD.

### *Studies of professional-parent collaboration in the context of SA*

Based on my experience of and within the context of SA and the discussions with my existing ASD professional networks, I noted that the topic of professional-parent collaboration for

children with ASD has long been a topic of interest for educational professionals. There is, however, a lack of empirical research within the SA context focusing on professional-parent collaboration for children with ASD. Notably, the focus of most studies was on children with SEN rather than children with ASD. This section reviews nine relevant studies identified in the Saudi literature (see Appendix A.2.6).

The available Saudi studies focused on various themes, including the nature of professional-parent collaborative relationships in educating children with SEN (Hanafe and Qaraqish, 2010), the experiences and satisfaction of parents about early intervention services provided to their children with ASD (Alajmi, 2014), and the effectiveness of the use of email as a method for teacher-parent communication and collaboration in the education of children with SEN (Dubis, 2015). Other topics included obstacles and barriers to teacher-parent communication for children with intellectual disabilities and ASD (Al-Qahtani, 2016; Husawi and Al-Qahtani, 2015), and an exploration of the efficacy of early interventions practice for children with SEN concerning family involvement, diagnostic assessments services, and delivery of curriculum and instruction for children with SEN (Alzahrani, 2017).

The sheer diversity of topics identified in the Saudi literature makes it difficult to combine or draw any overall conclusions from their findings. However, methodological issues related to some of them can be considered. Hanafe and Qaraqish (2010) used questionnaires with parents and found that follow-up records and reports were reported as the main forms of communication, concluding that there were limited face-to-face meetings between professionals and parents in the education of children with ASD. However, more than half of their sample was parents with a secondary certificate education level or below, and only 35.5% had a university level certificate. It could well be that parents with higher education qualifications differ in their forms of communication with professionals as they may have access to more resources (possibly human and social capital), enabling them to communicate with professionals in their children's education using different forms of communication. Despite this, Hanafe and Qaraqish's (2010) study is an important exploratory quantitative study to learn more about practice, which also suggests further areas for exploration pertaining to the forms of professional-parent communication in the education of children with ASD in SA.

Dubis (2015) employed a mixed-methods design involving questionnaires, interviews, and tracking emails, finding that professionals and parents saw using E-mail was a means of communication to improve collaborative working in the education of children with SEN,

including ASD. Both groups also considered that this means of communication helped to overcome the cultural barriers associated with the opposite-sex interactions and collaboration in SA. Dubis's study sample involved only five parents and three educational professionals working in three schools in a Saudi city. However, given the overall lack of research in the context of SA, it could be argued that the data obtained from those participants constitute an important starting point for further research in exploring and explaining teachers and parents' perspectives of the utilisation of E-mail as a method for fostering professional-parent communication and collaboration in the education of children with SEN.

Using a sample of eighty parents of children with ASD, Alotaibi and Almalki (2016) found that the majority of parents participating in their study perceived their involvement in their children's early intervention programmes as an important component for the success of these interventions. However, as the parents who participated in their study were selected from only eight organisations in Riyadh, as well as the selection of parents coming through leaders in these organisations, some form of bias may have impacted the selection process. Nevertheless, given the limited research on this topic in the SA context, this study is among the studies focusing on early intervention programmes provided for children with ASD and the perceived parental involvement in their children's early interventions. Therefore, it can be considered an important exploratory quantitative study looking at early intervention services provided for children diagnosed with ASD and parents' perceptions of their involvement in these interventions. This study indeed offers a genuine opportunity to learn about practice and hence suggests areas for further research within a geographical context where research on professional-parent collaboration generally or in BI and ASD is lacking.

### ***3.2.3 Gap in the existing knowledge***

As discussed, the studies reviewed here generally focused on five themes in relation to professional-parent collaboration, communication, and parental involvement in the education and intervention of children with ASD. The first group of studies focused mainly on the nature of professional-parent collaboration, communication, and parental involvement. The second concerned the reported barriers and facilitators to effective collaboration and parental involvement in the education and interventions of children with ASD. The third looked at the perceived factors influencing parents' satisfaction with the services provided for their children and professional and parental satisfaction with their communication and collaboration in the education and interventions of children with ASD. The fourth concentrated on the effects of

parental involvement on gaining positive outcomes, improving family quality of life, and improving the quality of service provided for ASD children. The final group concerned the reported predictors of parental involvement in their children's education, involving factors related to children, parents, professionals, and services. A large number of studies in the reviewed international literature investigated professional-parent collaboration in terms of its nature, value, and the barriers and facilitators to collaborative working. Most were conducted in the context of western countries, so not all the findings are immediately applicable to the SA context. However, my study differs from other studies undertaken internationally in that it specifically explores the practice of professional-parent collaboration in the different stages of BI. Although some of the identified international studies investigated issue related to professional-parent collaboration in BI, none addressed professional-parent collaboration in the planning, design and implementation of BI for children with ASD.

In addition, much of the reviewed international literature explored parental perceptions of their involvement or collaboration and communication in their children's education and interventions. However, few studies incorporated both parents and professionals/therapists from a range of professional backgrounds in their investigations. Furthermore, the reviewed studies either employed a quantitative methodology and used questionnaires as a data-collection instrument, adopted a qualitative methodology using interviews or focus groups to collect data, or used other designs, such as case study, a single case multiple baseline experimental design, or a longitudinal design. Few adopted a mixed-methods design.

More importantly for my purposes, scant research on SA has investigated professional-parent collaboration generally or in terms of BI and ASD, and those that have differed in terms of their aims. Although some of the identified Saudi studies investigated the topic of professional-parent collaboration and communication, most focused generally on children with SEN, and only one focused on children with ASD (Al-Qahtani, 2016). However, none addressed professional-parent collaboration in the planning, design and implementation of BI for children with ASD. Most reviewed Saudi studies adopted quantitative methods using questionnaires, whereas my study combines quantitative and qualitative approaches. Additionally, while other Saudi researchers collected their data from parents (n=4), teachers (n=2), school supervisors (n=1), or teachers and parents (n=2), I collect data from parents and educational professionals from a range of backgrounds. Further, most (n=6) were conducted in the Central Province (Riyadh), plus one in Jeddah, one in Mecca, and one in multiple provinces (Al-Zaraa, 2008). The participants of my study were recruited from across the five provinces of SA.

In conclusion, due to the breadth of the topics identified in the reviewed international literature, along with the heterogeneity of the Saudi studies, drawing general conclusions was not possible. While many studies have attempted to investigate professional-parent collaboration in the education and interventions of children with ASD, few have sought to address the topic of professional-parent collaboration in the different stages of BI (planning, design and implementation). More importantly, few studies of professional-parent collaboration have been conducted in the Saudi context, most adopting a quantitative methodology using questionnaires. Based on the identified research gaps in the international literature and, more importantly for my purposes, in the Saudi literature, the current study's topic is professional-parent collaboration in the planning, design and implementation of BI for children with ASD in SA. To explore this topic, two research questions were formulated:

1. To what extent do educational professionals expect parents to collaborate in the planning, design and implementation of BI for children with ASD in SA?
2. To what extent do educational professionals consider they are currently working in collaboration with parents in the planning, design and implementation of BI for children with ASD in SA?

The gaps identified in the international and Saudi literature led to the selection of the study's topic and the formulation of the research questions set out above. Using a mixed-methods approach, my study addresses this gap by investigating the practice of professional-parent collaboration in the planning, design and implementation of BI for children diagnosed with ASD from the perspectives of both parents and educational professionals. It is hoped that the study will generate new knowledge and understandings by investigating this topic in the context of SA.

### **3.3 Conclusion**

This chapter has reviewed the literature concerning all relevant aspects of this study's background, identifying and refining the focus. The areas of research reviewed relate specifically to professional-parent collaboration for children with ASD. The chapter concluded by identifying a topic and formulating a set of research questions to direct the study.

## **Chapter 4. Methodology**

### **4.1 Introduction**

This chapter starts by restating the study's aims and research questions and then offers a discussion of the ontological and epistemological assumptions underpinning research in general, and of this study in particular. It presents the methodological approach and design used for my study, before discussing the advantages of the selected research methodology. It next provides a discussion of the data collection methods used, describing the questionnaire and semi-structured interview methods employed in terms of their aims and strengths. Then it turns to the two phases for employing the two data collection methods. Firstly, there is a discussion of the questionnaire method employed in the first phase, covering its aims, design, structure, translation process, validity and reliability, piloting, sampling decisions and procedures, sample, and type of quantitative data analysis used. Secondly, the semi-structured interview method employed in the second phase is discussed, covering its aims, interview schedules, validity and appropriateness of the interview schedules, translation process of the interview schedules, piloting, sampling methods and procedures, interview participants and conducting the interviews, transcription and translation for transcriptions, validity for transcription translation, the form of qualitative data analysis used, and rigour and quality of the interview method. Finally, the ethical considerations pertinent to this study are considered.

### **4.2 Aims and research questions**

This study aims to explore and explain parents' and professionals' perspectives on the practice of professional-parent collaboration in the planning, design and implementation of BI for children with ASD in SA. Gelech et al. (2017) argue that if researchers seek to understand collaboration in disability and contribute to practice, it is advised that they collect their data from diverse insiders (service providers and service users).

This study aims to answer the following research questions:

RQ1. To what extent do educational professionals expect parents to collaborate in the planning, design and implementation of BI for children with ASD in SA?

RQ2. To what extent do educational professionals consider they are currently working in collaboration with parents in the planning, design and implementation of BI for children with ASD in SA?

RQ3. What factors facilitate or act as barriers to professional-parent collaboration in the planning, design and implementation of BI for children with ASD in SA?

RQ4. How valuable do educational professionals and parents perceive their collaboration to be in the successful planning, design and implementation of BI for children with ASD in SA?

These are the overarching questions through which the issue of the collaboration between parents and education professionals is explored. This study involves two phases for data collection: the questionnaire phase and the interview phase. The first two research questions (RQ1 & RQ2) were written in the construction stage (phase one) of this study and were answered by means of a questionnaire with educational professionals. This method was used as it fits well with the first two questions, which aimed only to provide a snapshot of the current practice of professional-parent collaboration in BI. The second two research questions (RQ3 & RQ4) were developed during the analysis of the questionnaire's data and were explored through the interview method (phase two) with educational professionals and parents. This method was used in order to understand and elaborate more upon what is happening in practice. The aim of conducting the interviews was not to infer or generalise the findings to the wider population, but rather to offer a meaning and context for understanding the current situation of professional-parent collaboration in BI in SA. The nature of the study's questions can be described as procedural mixing questions whereby the interview data clarifies and explains the questionnaire results and subsequently enhances the interpretation of the numerical data (Vicki et al., 2010).

### **4.3 Ontological and epistemological assumptions of research**

#### ***4.3.1 Worldviews of reality***

Two main philosophical paradigms dominate how the social world is viewed and understood - positivism and interpretivism. The two paradigms have contrasting ontological and epistemological assumptions about the social world (Creswell and Plano Clark, 2011).

Auguste Comte was the first thinker to describe the tradition of positivism as an ontological stance for understanding and describing the world (Cohen et al., 2018). Positivists assume that there is a single objective reality which is independent from its knower. Therefore, positivists treat the social world as natural scientists do the natural world, viewing reality as external and independent of researchers and objectively understandable (Feilzer, 2010). Researchers who

belong to this school of thought employ predominantly quantitative research methods, such as questionnaires and experiments in their research. These researchers assume they can - and do - objectively test their hypotheses and remain detached from the object of their study to avoid bias (Pring, 2015).

Interpretivism is an alternative epistemological stance for viewing social reality (Goles, 2000). According to this school, there are multiple constructed-truths requiring a subjective and contextualised approach to generating knowledge. Researchers who take this approach stress that individuals actively participate in their social world and argue that social science researchers should be involved with those with whom they research in order to explore how those they observe create and interpret their constructed world (Cohen et al., 2018). Qualitative “purists” (interpretivists) favour qualitative methods to allow them to explore what they see as personal and unique realities, making realities plural (multiple realities based on unique viewers). Therefore, the emphasis in the interpretivist paradigm is on providing explanations for the unique case rather than creating universally observable and applicable laws (Lincoln and Guba, 2000).

#### ***4.3.2 Pragmatism as a stance for mixed methods research***

In an attempt to end the paradigmatic wars between pure positivism and pure interpretivism that dominated the social research in the previous decades, mixed-methods has been proposed as an alternative approach (Shannon-Baker, 2016). The development of mixed-methods research drew upon philosophical pragmatism and emphasised the interaction of theory and practice in conducting research (Greene, 2008; Teddlie and Tashakkori, 2009). This perspective is consistent with the pragmatists’ belief that it is important to assure the dynamic interaction between theory and practice and so between thinking and acting (Greene, 2008). Pragmatists raise the concern that if the social phenomenon has different layers of reality, how can researchers measure and observe them?. Mixed method research has the capacity to tackle this problem through making use of qualitative means to investigate some aspects and quantitative means to measure other aspects related to the research questions (Feilzer, 2010).

#### ***4.3.3 The ontological and epistemological assumptions of this study***

This study is based on pragmatist philosophical assumptions. According to Hall (2013) and Johnson and Onwuegbuzie (2004), several philosophers can be regarded as key players in developing pragmatism as a philosophical stance. There are classical pragmatists (e.g. Dewey, Peirce, and James) and neopragmatists (e.g. Rorty and Rescher). The pragmatic inquiry into

the social world bounces between and seeks to dynamically integrate induction and deduction to acquire knowledge, a process known as “abduction” (Morgan, 2014; Morgan, 2007). Abduction is widely used by researchers who integrate methods sequentially in their research, where the deductive findings from the quantitative methods inform the aim and the construction of a further qualitative method, and vice versa (Ivankova et al., 2006; Morgan, 2014).

According to Tashakkori and Teddlie (2003), pragmatism is a perspective that places more emphasis in the research questions. The practical elements of pragmatism allow researchers to orient their research to solve practical issues in the world (Johnson and Onwuegbuzie, 2004). This philosophy allows social science researchers to choose any method(s) that sufficiently allow them to answer set research questions (Johnson and Onwuegbuzie, 2004). Overall, pragmatists insist on utilising the most appropriate research methods that potentially allow the exploration of what a researcher desires to know (Hanson, 2008). Importantly, pragmatists do not treat the findings of empirical research as absolute; they are provisional and need to be continuously examined and, if need be, refined (Morgan, 2014; Teddlie and Tashakkori, 2009).

## **4.4 Methodology**

### ***4.4.1 Mixed methods approach (definition, rationale and purpose)***

This study uses a mixed-methods approach. This approach can be defined as a type of research that involves concurrently or sequentially collecting and analysing quantitative and qualitative data and combining the results together to produce inferences utilising both types of data within a single research study. Mixed methods research plays an important part in education research. Indeed, Johnson and Onwuegbuzie (2004) argue that mixed-method research is a 'research paradigm whose time has come' (p.14).

The main rationale for utilising a mixed-methods approach is based on the claim that it is difficult to capture social reality purely by qualitative or quantitative approaches. Yet, when both approaches are dynamically integrated, they complement each other and thus the strengths of both are realised (Scammon et al. 2013). Key researchers in the field of mixed methods research, such as Teddlie and Tashakkori (2003), justify the use of this type of research on the basis that mixed methods research can provide explanation, verification, and theory generation in a single research project. Researchers in the field of education have recognised the importance of mixing methods to provide complementary sets of data which are valuable for

informing practice and responding to decision-makers agenda (Doyle et al., 2016; Odom et al., 2005).

This approach enables researchers to bridge the gap between pure qualitative and pure quantitative research (Onwuegbuzie and Leech, 2006) and obtain a better understanding of a given social problem (Tashakkori and Creswell, 2007). In contrast to quantitative researchers, who are more concerned about the representativeness of the population and generating universal laws, qualitative researchers are not concerned about the representativeness of the sample but are rather focused mainly on understanding and clarifying the dynamics of social relations (Queirós et al., 2017). The use of mixed methods reduces the negative impact of issues associated with a single tradition (Sechrest and Sidana, 1995). In particular, mixed methods research can benefit from the strengths of both research paradigms by incorporating them in a single study. Some researchers suggest that qualitative and quantitative research are nearly always most appropriate when combined than isolated (Driscoll et al., 2007; Gorard and Taylor, 2004).

The nature of this study suggests the use of quantitative and qualitative elements and hence it requires the use of a mixed methods design. The purpose underpinning this study is complementarity, which Greene (2008) describes as the utilisation of one research method to elaborate, clarify, illustrate, and expand the findings from another research method. According to Halcomb and Hickman (2015), such an approach can assist mixed methods researchers to accomplish many desirable ends in their research. A quantitative component can examine outcomes, while a qualitative component can provide better understandings of those outcomes. Additionally, mixing can be particularly useful when unusual or unexpected findings emerge from one research method, and thus these findings can be fully explained by utilising another method. For example, Sale et al. (2002) suggest that the results of a questionnaire could be illustrated by carrying out a follow up interview, with the latter method providing an illustration for the data obtained from the quantitative component by the use of a qualitative component.

#### **4.4.2 Research design**

Creswell and Plano Clark (2011) discussed four types of mixed methods designs. First, *triangulation design* is a design in which both quantitative and qualitative phases are given equal emphasis and occur simultaneously. Second, in *embedded design* the quantitative component is typically given more weight than the qualitative, and the qualitative phase is embedded within the quantitative one. Data collection can be conducted in a sequential or

concurrent way. Third, in *exploratory design* data are collected sequentially, and the aim of the first qualitative phase is to develop the quantitative one (e.g. instrument development). Fourth, Creswell et al. (2003) differentiate between two variants (types) of mixed methods *explanatory designs*: first, the *follow-up explanations model* is employed when researchers need to provide explanations or expansion for the quantitative data by collecting qualitative data. This model is usually used when researchers identify particular quantitative results, such as unexpected results, outliers, or significant differences between groups. Therefore, the priority in this model is usually given to the quantitative phase as it comes first. The primary aim for using the qualitative elements in the second phase is to explain these results. In contrast, in the *participant selection model* the primary emphasis is usually given to the qualitative elements and the quantitative information is usually utilised to identify and purposefully select participants for the second qualitative phase.

Three factors influence the selection of the design of research, namely the aim of the research, researchers' theoretical perceptions, and inference quality (Nastasi et al., 2010). The key aim of my study is to explore and explain parents' and professionals' perspectives on the practice of professional-parent collaboration in the planning, design and implementation of BI for children with ASD. Therefore, conducting a sequential design could facilitate investigation of how the qualitative data explains and clarifies the quantitative results. The integration of both components enables exploring and explaining the current situation relating to professional-parent collaboration and identification of facilitators and barriers to collaborative working that are important to improving the practice of collaboration.

This study employs a mixed method explanatory sequential (follow-up) design, as described by Creswell et al. (2003). Such a design has been widely used by social and behavioural sciences researchers (e.g. Ceci, 1991; Creswell and Plano Clark, 2011). This design includes two consecutive phases: it commences with a quantitative phase which is followed up by a qualitative phase. This design implies sequentially collecting data in an interactive way (Creswell et al., 2003). Creswell and Plano Clark (2011) hold that the results from the first – quantitative - phase contribute to structuring and forming the second – qualitative - phase. The main aim of using this design is to provide explanations and expand on the quantitative results by adding an extra layer of qualitative data in the second phase (Driscoll et al., 2007). Rossman and Wilson (1985) and Creswell (2003) suggest that quantitative data can provide a generic understanding of the problem under investigation, whereas the qualitative component can offer deeper explanation of the quantitative data or unexpected or significant results through further

exploration of the participants' perspectives. The aim of using the explanatory sequential design for my study was influenced by the aim of this research and the type of research questions, seeking to explain the findings of the questionnaire method by practice-based explanations (Creswell, 1999).

According to Tashakkori and Teddlie (2003) integration refers to the stage where the mixing of the research methods happens. It ranges from mixing the methods in the research questions stage to the interpretation stage of research. Both questionnaire and interview data in my study were collected independently. The mixing of the two phases occurred at three connecting points. A first connecting point was to select educational professionals from those ones who participated in the online questionnaire (Hanson et al., 2005) to participate in the interviews. A second connecting point was after the analysis of the questionnaire data. At this stage, two emergent research questions for the interviews were developed on the basis of the findings of the first questionnaire phase. A third connecting point for the questionnaire and interview approaches was at the interpretation stage, where the results of the questionnaire and interview phases were combined and discussed jointly in the discussion stage.

According to Creswell (2003) priority implies what approach (quantitative or qualitative) to data collection and analysis is given more emphasis. Emphasising one approach over the other is likely to be based upon the following factors: personal interests of the investigator, purpose, and audience of the research. According to Morgan (1998), in sequential explanatory mixed methods designs more emphasis and attention is normally given to the quantitative method because it comes first and is considered as the main aspect for mixed methods research. Yet the qualitative method is typically given less emphases as it comes second in sequence and involves a smaller data set. However, based on the research objectives and the nature and scope of research questions, a researcher can give more emphasis to the qualitative component over quantitative, and this decision can be made either at an early stage of research (before data gathering) or at a later stage (during data gathering and analysis).

The specific typology that this study employs is a 'partially mixed methods sequential dominant status design' (Leech and Onwuegbuzie, 2009). After the process of data analysis of the questionnaire method, I decided for several reasons to give more weight and emphasis to the interview. First, this decision was influenced by the nature and aim of my study, to identify and explain parents' and professionals' perspectives on the practice of professional-parent collaboration in BI. It primarily aims to understand and generate knowledge for practice in SA

and thus makes a contribution to knowledge for practice in that context (Wallace and Wray, 2016). The questionnaire method aimed only to provide a snapshot of the current practice of professional-parent collaboration by answering two research questions related to this practice and the collection of data from educational professionals only, while the objective of the interview phase was to elaborate on and explain some of the findings of the questionnaire phase by using semi-structured interviews with both professionals and parents. I decided to prioritise the interview method as this would help to understand and elaborate more on what is happening in practice in the context of SA. Additionally, the depth of responses obtained from the interview phase and the collection of data from both professionals and parents greatly influenced my decision to prioritise the interview phase, despite it is coming second in sequence.

#### **4.5 Data collection methods**

The data for this study was collected in two phases. A questionnaire phase followed by an interview phase. In the first phase, an online questionnaire was used, followed in the second phase by a semi-structured interview. The following two sub-sections give an overview of the two methods.

##### ***4.5.1 Questionnaire method***

A questionnaire is among the most common instruments used to collect statistical and descriptive information in social and behavioural sciences research (Briggs and Coleman, 2007). The selection of this method was based on its power to collect data from a large representative sample (Brannen, 2005). This method is one kind of quantitative approach that aims to gather data in a specific period of time. Specifically, it is intended to describe the nature of existing conditions, compare these conditions, and determine the relationships between particular events.

Some questionnaires are more complex than others, with some involving analysis of relations and correlations and others merely surveying the measurement of frequencies (Cohen et al., 2018). Among the advantages of questionnaires is their suitability for generating statistical data and thus allowing for wider generalisations from which universal laws may be posited. Additionally, they permit the representation of a large population and the making of inferences from a large body of data. They also allow researchers to establish acceptable levels of confidence in the findings (Cohen et al., 2018). Surveys in education commonly utilise opinion scales and self-administered survey questionnaires (Cohen et al., 2018). Fowler and Cosenza

(2009) describe several types of methods of data collection in surveys that are commonly used by researchers in education, including face-to-face interviewing, mail, postal, telephone, and online surveys. A detailed discussion of the online questionnaire method as it was employed as a data collection method in this study is given below.

Currently, online surveys are commonly used as a preferred means of data collection by researchers within the field of education (Roberts and Allen, 2015). There are several major strengths of using online surveys: they are low in cost and high in time efficiency; they allow speedy data entry and analysis (e.g. exportability to SPSS); it is easy to obtain larger samples and thus generate greater generalisability; they are easy to distribute to geographically dispersed respondents; respondents can complete them at their own convenience anytime and anywhere; finally, they allow researchers to avoid missing responses as online tools can be set to notify respondents about missing and skipped questions (Cohen et al., 2018; Evans and Mathur, 2018). My study was conducted prior to the social distancing restrictions of the Covid-19 pandemic but, perhaps somewhat ironically, that outbreak reinforces the utility of using this approach.

#### ***4.5.2 Interview method***

An interview is usually used in qualitative research when a researcher is asking participants a pre-set series of questions (Creswell, 2014). Interviews are powerful tools of data collection and can do what questionnaires cannot. Using interviews, researchers can obtain rich insights into the issues related to their research by exploring participants' opinions and experiences, and they can also explore the links between ideas (Kendall, 2008). Interviews are usually utilised for explanatory purposes. For example, it can be used as a follow-up method to further explain the findings of a questionnaire. Mixed methods researchers commonly use interviews and questionnaires in educational research (Creswell, 2014).

There are three main types of interview: structured, semi-structured, and unstructured (Cohen et al., 2018). The level of structure is a key difference between interview type. Regarding the semi-structured interview used in my study, although it usually consists of pre-determined questions, the order of questions can be modified when and as seen fit and, moreover, it allows – indeed encourages – questions which may suddenly emerge as a result of responses to prior questions, thereby opening up new lines of exploration (Robson, 2011). Semi-structured interviews are popular methods in mixed methods research, especially when researchers are seeking to dynamically integrate qualitative and quantitative elements of their research

(Bryman, 2006; Povee and Robert, 2015). While questionnaires can gather numeric and statistical data from a large number of participants, interviews enable researchers to collect more in-depth information from participants regarding experiences, attitudes, opinions, and actions (Kendall, 2008).

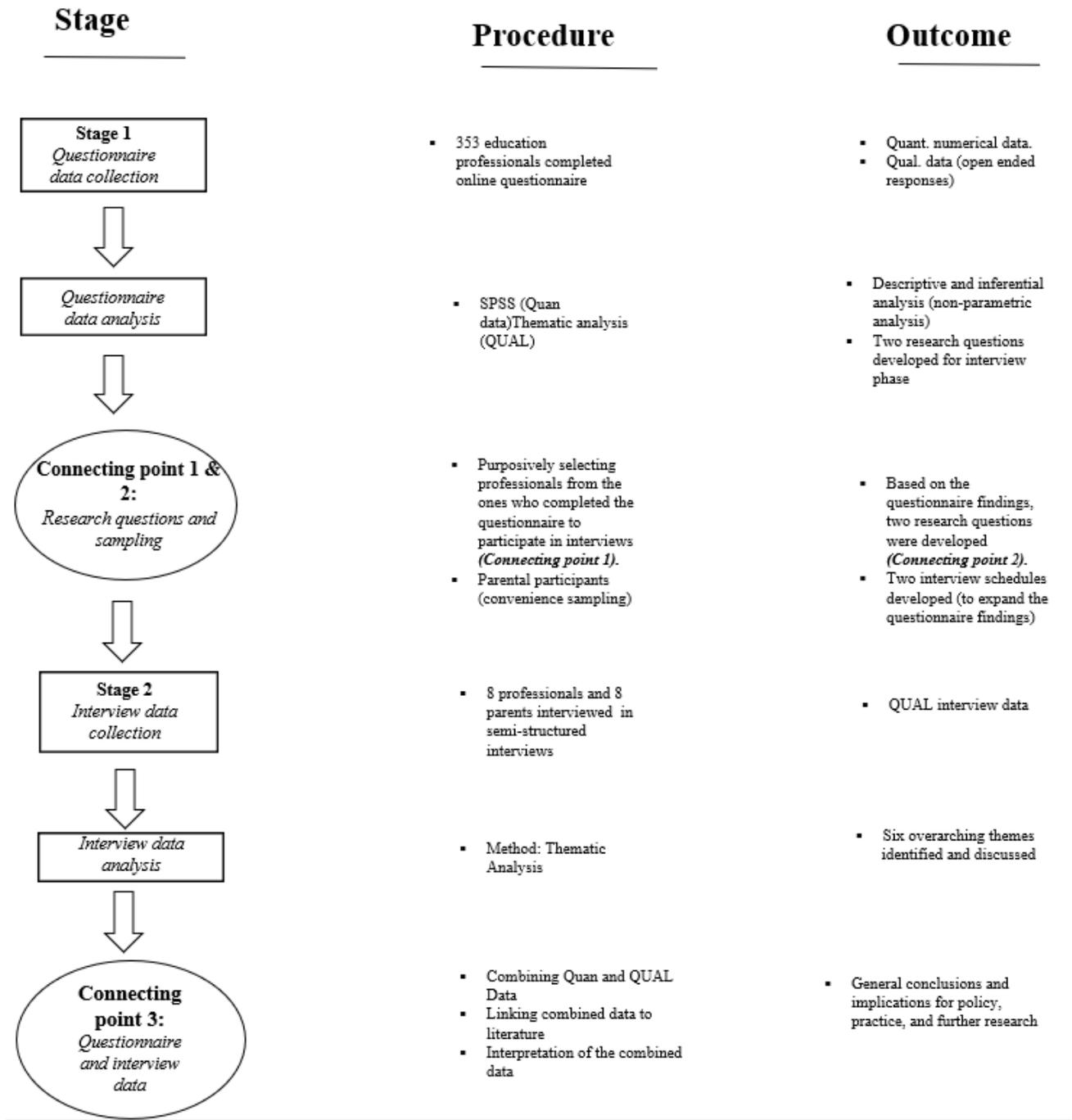
Semi-structured interviews are preferred because they can generate detailed information and deeper understandings of a phenomenon and offer explanations of prior statistical findings (Biemer, 2010). In general, determining the interview format to be conducted, the level of structure is based on the purpose, objectives, and the nature of the research. Different research types require different types of interview questions and different levels of structure (Weinberg, 2002). Therefore, the current study's purpose, nature and research questions were carefully considered before the decision was made to use the semi-structured interview format. The decision to make use of interviews with this level of structure was based on several factors, including a comprehensive review of the literature and multiple discussions with my supervisory team and other fellow researchers who shared similar research interests to me. Additionally, I opted for this format for its appropriateness for the study aims. In this study, I employed this method for the purpose of clarification, expansion and gaining a deeper level of understanding of the research topic.

As noted, a crucial advantage of the semi-structured approach is the flexibility it permits to ask “on-the-spot” follow-up queries throughout the course of the interview. This approach is appropriate when the researcher seeks to answer ‘why’ questions rather than how many or how much questions. Therefore, this approach is very useful for exploring complex research questions. Additionally, this form of interview can identify any discrepancies among participants’ responses (Punch and Oancea, 2014).

#### **4.6 Research process**

My study employs a mixed-methods sequential design in order to answer the proposed research questions. These research questions are answered by means of a questionnaire and an interview method. This section discusses all aspects related to the first - questionnaire - phase and the second - interview - phase. A graphic illustration of the mixed-methods sequential explanatory design used in this study is given in Figure 4.1.

## The mixed-methods explanatory sequential design used in this study



*Figure 4.1: Illustration of the mixed-methods sequential explanatory design (adapted from Ivankova et al., 2003)*

### 4.6.1 Phase one: Questionnaire

This sub-section covers all aspects related to the use of the online questionnaire method in terms of its aims, design, structure, translation process, reliability and validity, pilot testing,

sampling procedures, sample, conduction of the online questionnaire, and methods of data analysis.

### Aim

This method aims to address the first two research questions, namely:

1. To what extent do educational professionals expect parents to collaborate in the planning, design and implementation of BI for children with ASD in SA?
2. To what extent do educational professionals consider they are currently working in collaboration with parents in the planning, design and implementation of BI for children with ASD in SA?

### Design

The design of this questionnaire was based on a comprehensive review of the literature. Throughout the process of designing the questionnaire, I adhered to many procedures guaranteed to ensure the appropriateness of the questionnaire. A range of academic texts was consulted, and their ideas were discussed with my supervisory team (e.g. Cohen et al., 2018; Dillman et al., 2014; Magee et al., 2013). Based on the process of readings around the design of the questionnaire, as well as the helpful discussions with my supervisory team, decisions were made related to the design and the structure of the questionnaire.

This study employs a small scale self-administered online questionnaire. Several issues related to the development of the online questionnaire were considered. First, I decided to use the Bristol Online Survey as a tool to design the online questionnaire. This tool has many advanced features (e.g. ease of use, displaying the distribution of the results, running the survey questionnaire using a variety of devices such as mobile phones, iPads, etc). Second, I made the online questionnaire as short as possible. To achieve this, Likert scale questions were placed into two tables, making it easier for respondents to see the questions on one page and differentiate between similar questions, skipping questions if and as needed. Appendix B.1 includes a sample of the questionnaire. Finally, to ensure the coverage of all questions, restrictions were applied to the online questionnaire that prohibited the respondents from moving to the next page unless they had provided answers to all of the questions on the current page. These restrictions can minimise missing data, especially if respondents unintentionally forget to answer some of the questions, so they can go back and answer them.

### *Modes of data collection and items*

A self-administered online questionnaire using Likert type scale (Likert, 1932) questions was employed in the online questionnaire. Likert scales are amongst the most popular techniques used to represent personal opinions and experiences of a survey's respondents on a particular topic. These scales usually involve a number of opinion questions followed by either an odd or even number of response categories that are written in a continuum using bipolar adjectives (Desselle, 2005). Likert scales aim to seek responses from respondents to capture the intensity of agreement or disagreement on an item without assessing any quantities or hidden variables. A balance between negative and positive responses should be considered when designing such scales to decrease the response-set bias that may direct respondents to agree with statements or items regardless of their content (Johns, 2005), and this balance therefore enhances the reliability and validity for the research (Cohen et al., 2018).

According to Dillman et al. (2014) the utilisation of a five-category response pattern has been described as respondent-friendly and able to provide an adequate level of reliability. Indeed, increasing the number of responses represents more effective levels of differentiation between responses. However, using more than seven categories for one item is considered rather awkward and may lead to respondents becoming confused. According to Magee et al. (2013), questions are preferable to statements in questionnaires. These scholars recommend the utility of negative and positive responses, the avoidance of only positive responses, and the use of ordinal scales to label every response. Following suggestions made in the literature on the subject, five and six-point Likert scale questions with negative and positive responses were used in this study's questionnaire. Information and instructions were provided to provide sufficient information for respondents on how to answer the questions and reduce the chance of misunderstandings and answers being missed (see Appendix B.1).

Open-ended questions can explore and explain in more depth participants' views on Likert scale type questions, providing a deeper level of understanding of a phenomenon (Snape and Spencer, 2003). This type of question can help researchers reveal participants' responses meticulously and avoid the bias which may occur in closed question which invite respondents to select from a given set of questions (Reja et al., 2003). Yet, if a researcher decides to include this type of question in a survey, it is better to place them at the end of the survey as this can be helpful in exploring and explaining the aberrant responses to the closed questions (Cohen et

al., 2018; Reja et al., 2003). Following this advice, I made the decision to include open-ended questions and place them at the end of the online questionnaire.

### Structure of the questionnaire

The survey questionnaire is subdivided into five sections (see Appendix B.1):

- ❖ **Section 1:** nine questions pertaining to participants' demographic information: gender, level of education, subject area, role, experience, province of working, type of institution, training in BI, and accreditation status of training.
- ❖ **Section 2:** nine questions pertaining to the extent to which educational professionals expect parents to collaborate in the planning, design and implementation of BI.
- ❖ **Section 3:** nineteen questions that aimed to elicit responses concerning the extent to which parents are currently working in collaboration with educational professionals in the planning, design and implementation of BI for children with ASD.
- ❖ **Section 4:** three questions, one designed to collect information pertaining to educational professionals' overall satisfaction concerning professionals-parent collaboration, and the remaining two designed to obtain professionals' perceptions of whether they prefer to collaborate in all stages or specific stages. These three questions provided a space for the participants to add comments in their responses.
- ❖ **Section 5:** an invitation for the questionnaire respondents to participate in a further interview. Spaces were provided for participants to write their preferred method of contact and their contact details.

### Translation process for the questionnaire

The questionnaire was initially written in English. At this stage, the English version of the questionnaire was drafted and redrafted many times based on thorough discussion with my supervisory team. These discussions aimed to ensure that the questionnaire was free from language and grammatical errors, the structure of the questions flowed, and to check the readability and understandability of the questionnaire. At the end of these processes, in collaboration with my supervisory team, I agreed that the questionnaire was ready to be translated to the respondents' native language (Arabic). I then translated the questionnaire into Arabic by myself. Next, I asked two PhD holders in Arabic to proofread the Arabic version of the questionnaire and check its accuracy in terms of grammatical errors, sentence structure, and readability of the questions. Based on their review, the Arabic version was redrafted with only minor modifications. The Arabic version was then emailed to two PhD holders in special

education and thus have a good knowledge of ASD. The two experts were requested to back-translate the Arabic version to English. Then, with the assistance of a student studying for a PhD in linguistics in the UK, I compared the back-translated English version to the original English version and made some minor changes to the Arabic version. At the end of the back-translation process, a final Arabic version was produced (see Appendix B.2).

### *Validity and reliability*

In the process of assessing the validity and reliability of the questionnaire, I noted that validity was more difficult to assess than reliability. This section provides an overview of validity and reliability in quantitative research and discusses the steps undertaken here to ensure the validity and reliability of my study's questionnaire.

#### *Validity of the questionnaire*

According to Bell (2010), validity concerns whether a tool measures what it is intended to measure. Cohen et al. (2018) emphasised the need to ensure the validity of measures in research, because if a measurement is not valid, it is essentially worthless. According to Sarantakos (2013), there are various types of validity: construct validity, content validity, face validity, and criterion validity. Sarantakos argues that content and face validity are the factors most often considered by researchers.

Before conducting the pilot study (which will be discussed next), the validity of the English and Arabic versions of the questionnaire was tested in two ways; first, the content of the English version of the questionnaire was examined based on many discussions with my supervisory team. Based on these discussions, many alterations were made to the items of the questionnaire. Second, the validity of the Arabic version was also examined by reviewers who have expert knowledge of ASD.

According to Drost (2011), content and face validity are typically used to measure the validity of questionnaires. The former addresses the extent to which the instrument measures what it says it is going to measure, while the latter concerns the extent to which this measure covers the concept(s) it says it is going to test. In order to examine these two types of validity, the Arabic version of the questionnaire was checked by two PhD holders who work in the Special Education Department at King Faisal University in SA. The two reviewers were asked to check the degree to which the questionnaire fully covered the concept(s) being measured and whether the questionnaire's items measured what they were intended to measure. Based on this review,

two questions were modified to ensure that they covered the concept(s) being measured and fit well with what they had been designed to measure.

### *Reliability of the questionnaire*

A second important component that should be considered to ensure the suitability of a measure is reliability (Cohen et al., 2018). Reliability refers to the consistency of a tool to measure a concept and reflects the dependability of findings. Reliability tests ensure that a measurement method is free of statistical errors (Muijs, 2011). Two types of reliability test are commonly used to measure reliability of questionnaires: external reliability and internal reliability.

External reliability can be estimated by measuring the consistency of a measure over a period using the test-retest method. In this method, researchers repeat the measure to test whether they obtain similar or different results. Similar results indicate high reliability, and vice versa (Bryman and Cramer, 2011; Thomas, 2013). Vaus (2014) notes that this method has been widely criticised in the literature due to the fact that if there is a short time period between the two tests, the results may be influenced by participants “recalling” some of their previous answers. Another possible problem associated with test-retest may occur when a *long* time period elapses between the two tests, as the latter test may be affected by “new learning” which may undermine the consistency of the test. While internal reliability is based on correlations and aims to measure the consistency of items within a measure. Cronbach’s Alpha is a commonly utilised consistency statistic to measure a questionnaire’s internal reliability. This is a coefficient statistic used to measure how a set of items within a tool are correlated as a group (Bentler, 2008).

Due to issues associated with external reliability tests discussed above, along with time limits, I made the decision not to use external reliability statistics and apply only internal reliability measures (Cronbach’s Alpha). According to Tavakol and Dennick (2011), Cronbach’s Alpha statistic aims to test the internal consistency between items of a scale. It is important to measure internal consistency before the scale can be used in the research. Alpha Cronbach’s is a number that ranges between 0-1, and .70 or more is considered an acceptable value of reliability (internal consistency) in most research.

The reliability of my study’s questionnaire was tested based on data collected from five participants from my existing networks. To measure the reliability for the Likert scale, Cronbach’s Alpha was calculated using SPSS software. The reliability statistics based on a

Cronbach Alpha coefficient of a 28-item scale was .919, indicating that the tested items have high reliability scores and high internal consistency, making the scale reliable.

### *Piloting of the questionnaire*

Following the final reviews of the Arabic version of the questionnaire, the questionnaire was pre-tested in a small pilot study administered using the 'Bristol Online Survey tool'. The pilot was conducted to ensure the validity and appropriateness of this instrument. Following Oppenheim's (1992) suggestion to pilot everything in the questionnaire, the entire questionnaire was piloted. The aim here was to test the online questionnaire's mechanics, content, understandability, readability, and the time required to complete it before the actual implementation of the larger questionnaire (Dillman et al., 2014; Oppenheim, 1992).

Purposive sampling strategies can be used in pilot studies (Cohen et al., 2018). A purposive sampling strategy was employed to recruit participants for the pilot testing. Five educational professionals from my existing professional networks who work with children with ASD were selected by direct invitation to complete the questionnaire. Selecting educational professionals was done because understanding and answering the questionnaire required the subjects to have an appropriate level of knowledge of ASD. Bell and Woolner (2012) suggest that a pilot study should be completed by a sample of participants who are similar to the original sample. This can enhance the reliability of the questionnaire and assist researchers to obtain valuable comments related to the design and trustworthiness of the study.

At the end of the piloted online questionnaire, a space was provided for participants to add comments about the questionnaire. Running a pilot study proved to be helpful to improve the content of the online questionnaire. There was no indication from the participants of any mechanical issues when completing the questionnaire. The five participants indicated that the questionnaire took between 10-15 minutes to complete. Several suggestions were obtained from the participants to improve the demographic information.

Concerning the questions based on the Likert scale, the participants generally reported that the scale questions were clear, but some participants suggested minor alterations for some questions so as to improve their readability and understandability. They suggested replacing some of the terms used in the questionnaire as they are not commonly used in the Saudi context. It was recommended that the term 'educational professionals' be replaced by 'educational specialists', and the term 'autism' be used instead of 'ASD'. Finally, the participants suggested rewording question number 13, related to professionals' perceptions of parents' collaboration

in specific stages of BI, to make it more understandable. I discussed this question with two participants, and they confirmed that it was difficult to understand and even confusing for them.

In sum, the pilot test was a helpful step in improving the questionnaire. I discussed all suggestions obtained from the participants with my supervision team and I decided to take them into account and make the necessary changes to the questionnaire. Finally, I revised the questionnaire based on the participants' comments and feedback, and then the final Arabic version of the questionnaire was produced (see Appendix B.2). Due to the changes made to the survey, I decided not to merge the data collected from the pilot with the data from the larger scale questionnaire. The aim of the pilot test was to determine the extent to which the research instrument can be used for larger scale research. Indeed, the pilot test resulted in improvements and modifications to the piloted survey and hence the data could not be used with the data collected from the wider questionnaire. Leon et al. (2011) note that data contamination may occur as a result of data from a larger sample and data from a pilot study merging in the main study. This may negatively affect the quality of the findings for the instrument, especially when the researcher wants to make some changes based on the pilot test.

#### *Sampling methods and procedures for the questionnaire*

Following Bryman (2001), who advised that a pilot study sample should not be included in the larger sample, the five educational professionals who participated in the pilot study were excluded from participation in the larger questionnaire. The following headings provide an overview of the sampling strategies used in the study following the pilot, the sampling strategies used for the questionnaire, and the procedures and administrations used in the sampling.

#### *Sampling*

My research is a small-scale study. The aim of the questionnaire is to generally understand the current practice regarding professional-parent collaboration rather than to generalise the findings to the wider population. According to Cohen et al. (2018), researchers who conduct small-scale research often use non-probability sampling strategies as they do not usually attempt to seek wider generalisations for their findings. Any type of non-probability sampling only aims to represent itself or a similar population rather than attempt to represent the entire population. I decided to use non-probability sampling strategies for several reasons. First, the size of the population was unknown to me and thus random sampling could not be used; therefore, the representativeness of the intended sample was not considered. Second, time and

financial limitations were further difficulties hindering how to achieve the representativeness of the sample. Third, my aim was not to create generalisations or draw inferences pertaining to the whole population. Finally, the non-probability strategies are cheaper and easy to use. Therefore, I employed mixed convenience and snowball sampling strategies in order to recruit participants for the questionnaire method. The next section provides descriptions of the two types of sampling strategies selected.

#### *Convenience sampling*

Convenience sampling (or, as it sometimes described, opportunity or accidental sampling) is a form of non-probability sampling method that aims to select participants meeting particular criteria, such as being easily accessible and being willing and available to serve as participants for a research project. The process of selecting the participants should be repeated until the desired number is obtained (Etikan et al., 2016). When participants are recruited using convenience sampling, researchers can only make weak inferences about the wider population due to the non-representativeness of the sample obtained using this strategy (Cohen et al., 2018; Etikan et al., 2016). Additionally, as noted by Farrokhi and Asgar (2012), the bias involved in selecting participants using this method may lead to the presence of outliers in the data collected, leaving the researcher unsure as to whether the sample recruited through this strategy truly represents the entire population that the research aims to study

#### *Snowball sampling*

Snowball sampling is a recruitment strategy that mainly employs social networks and personal or professional contacts to gain access to participants from a population (Heckathorn, 2002; Browne, 2005). In this type of sampling method, the researcher usually aims to identify a small number of participants and asks them to identify or contact other participants qualified to participate in the research (Cohen et al., 2018). According to Heckathorn (2002), this sampling strategy is helpful when the researcher experiences difficulties contacting or accessing the target population. Heckathorn described snowball sampling as a respondent driven sampling strategy whereby participants assist the researcher to identify other participants. The rationale for using this strategy was that I have many professional networks from across SA, which would increase the response rates.

### Sampling procedures and administration of the questionnaire

Sampling procedures for the questionnaire were conducted in two phases:

#### *Phase 1: Convenience sampling*

In this phase, I recruited participants by employing convenience sampling strategy. By using this strategy, I aimed to choose participants who were willing and available to participate in the questionnaire. Many participants were recruited through SA's Department of Special Education (DSE). Before the start of the sampling process, I contacted the DSE via email and provided them with the following information: First, a document that explained the purpose of the research, information about the targeted sample, and an internet link to the online questionnaire. Second, copies from the university and ECLS ethical approval. Third, a letter was issued by the Saudi Embassy in London indicating that I was a sponsored student studying for my doctoral degree in the UK. At the end of the process, I received approval from this department to widely disseminate the questionnaire through their formal channels. Prior to the start of recruiting participants, an email was sent to the DSE asking them about the actual number of educational professionals working with children with ASD; however, they were not able to provide me with recent and accurate estimates as it was not yet ready to be published. Therefore, I was not able to calculate the response rate for this sampling method.

To ensure a wider coverage of the online questionnaire, the DSE was asked to send it out to the special education departments that administer and oversee special education services in the five SA provinces (Eastern, Western, Southern, Northern, and Central). Then, each of these departments was requested to disseminate the questionnaire to the relevant ASD schools and institutions that they administer. I contacted these five departments in order to ensure that the online questionnaire had been delivered to the relevant schools and institutions. Furthermore, a sample of schools and institutions in each province was contacted by phone to make sure that they had received the questionnaire and shared it with their educational professionals. These departments were also asked to disseminate the questionnaire through their electronic channels (e.g., their Twitter accounts and websites). In order to obtain more responses, they were also requested to send reminders to schools and institutions to encourage educational professionals to complete the questionnaire. I checked the process with the five departments to ensure that the reminders had been sent to the relevant schools and institutions.

The online questionnaire was administered using the 'Bristol Online Survey tool'. A participant information sheet and an informed consent to participate in this study was placed at the start of

the online questionnaire (see Appendix B.3). Participants who did not give their consent were unable to continue to the online questionnaire. The online questionnaire was launched on April 19<sup>th</sup>, 2019, and responses were accepted until May 5<sup>th</sup>, 2019. After one week, eighty-five (69 males, 16 females) had responded, rising to 116 respondents (97 males and 19 females) after two reminders were sent. Fowler and Cosenza (2009) claim that between 25 to 30 percent of respondents complete questionnaires when they are given repeated reminders to take the questionnaire. At this stage, a larger number of total responses came from the Eastern Province (39.5%). Responses came from other provinces were as follows: Western (24.5%), Northern (19%), Southern (12%), and Central (5%).

### *Phase 2: Snowball sampling*

To increase the response rate, I employed the snowball sampling method as a secondary sampling method for the online questionnaire. Using this strategy, I informally contacted professionals on my existing networks and asked them to complete the online questionnaire and send the link to their networks. On May 6<sup>th</sup>, 2019, the internet link for the online questionnaire was delivered to seventy-five educational professionals working across SA, who were requested to share it with their networks. One week later, 102 responses (90 males (88.3%) and 13 females (12.7%)) had been received. Another week later, I sent two reminders to my professional networks. This led to 237 responses (112 males (47.3%) and 125 Females (52.7%)). Adding the responses from both sampling strategies together (116 + 237) led to a final sample of 353 responses, divided thus: 209 males (59.2%) and 144 females (40.8%).

### Questionnaire participants

The sample for the questionnaire involved 353 educational professionals from a range of professional backgrounds: educational psychologists, speech and language therapists, teachers, school supervisors, social workers, and student advisors who are currently working with children with ASD in SA. There are many reasons for choosing the participants from across SA. First, this topic has not been researched in the context of SA; thus, it was important to obtain a wide range of professional views from across SA. Second, it would make it possible to compare between educational professionals from different provinces. Finally, it would be helpful to find a focus for the interviews in the second phase of this study (e.g. a focus on one province based on the significance of their responses).

As noted in Chapter Two, cultural and religious boundaries inhibit interaction and communication between males and females in SA. Despite this, I (being male) invited both

genders to participate in the questionnaire. This was one of the main reasons for using an online survey type, as it is deemed culturally acceptable to include females through the use of online surveys.

### An overview of the analysis methods

The analysis of the questionnaire went through three stages: descriptive analysis for the demographic information, descriptive and inferential analysis for the scale questions, and open-ended responses analysis.

#### **Stage 1: Descriptive analysis for the demographic information**

The descriptive data analysis comprised two steps:

##### *Step 1: Exporting the data from the online questionnaire tool to SPSS*

The first step was to export the data from the online survey tool to Excel software. Then, the data were checked and translated from Arabic to English to prepare them for analysis. Next, the data were exported from Excel to SPSS to prepare them for the descriptive analysis.

##### *Step 2: Performing descriptive analysis*

In this step, many statistical analyses were performed.

- Frequency counts and means.
- Cross-tabulation statistics (e.g. gender and age, gender and province, etc).

#### **Stage 2: Descriptive and inferential analysis for the scale questions**

In this stage, many statistical analyses were performed

- Frequencies and crosstabulations.
- Inferential statistics (looking at the differences amongst educational professionals' responses based on their demographic information).

##### *Types of data and statistical tests used*

According to Cohen et al. (2018), non-parametric data are those which make no assumptions about the target population as the characteristics for this population are unknown to the researcher. Cohen et al. (2018) noted that non-parametric data are usually derived from surveys and questionnaires. I decided to apply non-parametric statistics to calculate the inferential analysis for the following reasons:

- The characteristics of the whole population of educational professionals were unknown to the researcher and a random sampling strategy was not used to recruit participants.
- The aim of this study is explanatory, not to make inferences and wider generalisations about the population.
- The data derived from the questionnaire were non-parametric. The questionnaire involved nominal and ordinal data (not interval or ratio data).
- The data were not normality distributed.

Two tests were used to conduct the inferential analysis.

- The Mann-Whitney test (non-parametric equivalent of the t test for two independent samples) is based on ranks and used to determine whether there is a statistically significant difference between two groups (e.g. males and females) on a rating scale (Cohen et al., 2018).
- The Kruskal-Wallis statistical (non-parametric equivalent of the analysis of variance for three or more independent samples) test is based on ranks and used to determine whether there are statistically significant differences between three or more groups (e.g. teachers, psychologists, school supervisors) on a rating scale (Cohen et al., 2018).
- The confidence interval selected was 95% (the range that the finding must fall within to be acceptable). The level of significance was 95% (any P value greater than 0.05 is not statistically significant). The 95% confidence interval and 0.05 level of significance were selected because they are widely used by researchers in the field of education (Cohen et al., 2018).

### **Stage 3:** Analysis of open-ended questions

Three open-ended questions were included in the questionnaire. They aimed to provide an explanation for Likert scale responses (see questions 11, 12, and 13 in the questionnaire in Appendix B.1). The procedures for analysing the open-ended questions were as follows.

1. Scanning phase: in this phase, responses to each of the three questions were scanned and irrelevant and uninteresting responses were excluded.
2. Code development phase: using Excel processing software, codes were generated and applied to the responses of each question.

3. Theme generation phase: similar codes were grouped together and then themes were generated for each question. Because of the similarities between the themes generated for questions 12 and 13, I decided to merge and report them together.

This section has considered all aspects related to the questionnaire phase. All aspects of the interview phase are discussed next.

#### ***4.6.2 Phase two: Interview***

This section discusses all aspects related to the use of the interview method, which was employed in the second phase of my study, in terms of aims, schedules, validity and appropriateness of the schedules, translation process for the schedules, piloting, sampling strategy, sample, conduct and administration, transcriptions, translation process for transcripts, translation validity, method of data analysis, and rigour and quality of this method.

##### Aims

The interviews aimed to explain and expand the findings of the questionnaire by addressing two research questions which emerged during the data analysis stage of the online questionnaire.

3. What factors facilitate or act as barriers to professional-parent collaboration in the planning, design and implementation of BI for children with ASD in SA?
4. How valuable do educational professionals and parents perceive their collaboration to be in the successful planning, design and implementation of BI for children with ASD in SA?

##### Interview schedules

The design of the interview schedules in terms of protocol and questions for my study was based on a thorough review of the literature on how to carry out an interview. I decided to use open-ended questions in the interviews to enable participants to explain and elaborate on their answers. Open-ended questions can help the interviewer to resolve any issues of misunderstanding, give the interviewees enough space to talk about their experiences and perceptions and provide the researcher with the opportunity to probe more deeply when needed (Cohen et al., 2011). Probing and prompting questions can allow the researcher to explore unexpected topics that participants raise outside the predetermined questions (Galletta, 2013) and add clarification, elaboration, and examples to the participant' initial responses (Priede et

al., 2014). In order to ensure a greater level of consistency for the interviews, careful consideration was given to the sequence of questions, their wording, and the avoidance of leading questions (Johnson and Christensen, 2019).

Taking into account the objectives of this study and the findings from the questionnaire (Chapter five), I designed two semi-structured interview schedules: one for educational professionals and another for parents concerning professional-parent collaborative working in the planning, design and implementation of BI for children with ASD. The two schedules each contained fourteen predetermined questions devised to guide the interviews. The parents' interview schedule was a mirror of the educational professional' schedule, except for differences in demographic information required to be written from the parents' viewpoint (see Appendix B.4 for details of the two interview schedules).

Galletta (2013) suggests starting a semi-structured interview with general questions about participants and open-ended questions before turning to more structured questions towards the end in order to close the interview. Specifically, Galletta recommends structuring the semi-structured interview into three segments. The first segment should be an opening stage in which general questions about the participants and open-ended questions are asked. The second stage progresses to more structured questions involving more specific questions about the topic of research and exploring answers to the research questions. Finally, the interview should conclude with the interviewer drawing the process to a close. Taking into consideration Galletta's suggestions, the educational professionals' and parents' interview schedules started with general demographic questions (e.g. age, role, and experience) and open-ended questions (e.g. What are your experiences of being involved in BI), before ending with closing questions (e.g. Can you give examples of where you believe professional-parent collaboration has been helpful in BI?).

#### *Validity and appropriateness of the interview schedules*

Knowledge of context is a critical aspect in terms of ensuring of validity when the research aim is to generate rich meanings through a process of interpretation (Cho and Trent, 2006). I am a native Arabic speaker and, having worked in the context of SA, I am aware of the culture and norms. In order to ensure the validity and appropriateness of the English version of the interview schedules, they were discussed with my supervisory team as well as with fellow researchers in the field of education who share similar interests to mine.

### Translation processes for the interview schedules

Both interview schedules were drafted in English and then translated into Arabic. Translating the two schedules involved two stages: translation and moderator check. In the translation stage, I translated both interview schedules from English into Arabic with the assistance of two Arabic PhD students of linguistics in the UK. For the moderator check stage, one colleague who holds his PhD in special education and master's in applied linguistics was asked to look at both the Arabic and English versions of the schedules and check if they reflected each other. As noted by Xerri (2018), having debriefers go over your work can ensure that credibility and trustworthiness criteria are more likely to be met. These processes helped me to consider rephrasing the wording of some unclear questions, correct grammatical and language errors, and assisted in revising the sequence of questions. After the application of these processes, the Arabic version of the interview schedules were redrafted and finalised (see Appendix B.5).

### Piloting of the interviews

Before conducting the interviews, I decided to run a pilot study to check whether there were any difficult or ambiguous questions, ensure the validity of the transcripts, and record the length of the interview. Janghorban et al. (2014) emphasise the need to run a pilot study for qualitative research, especially for novice researchers, to reduce the danger of unmanageable issues when collecting data and carrying out data analysis for qualitative methods. Van-Teijlingen and Hundley (2002) describe qualitative methods like interviews as progressive, with the later interviews assumed to be conducted more efficiently and effectively than the ones carried out earlier in the research. Obviously, this contention is based on the notion that the interviewer can obtain ideas and insights to improve the interview questions and schedules in subsequent interviews.

The pilot study for the interviews was initially conducted via Skype with one parent of a child with ASD and an ASD teacher from Al-Ahsa city (located in the Eastern Province of SA). The two participants were chosen through direct contact with a school leader, who was asked to randomly select a parent and a teacher from his school to participate in the pilot study. The first interview, with the teacher, took fifty-one minutes while the other, with the parent, lasted one hour. The pilot testing revealed no major concerns, but the participants suggested changing the ordering of some questions and rephrasing two questions to simplify some terms for parent participants. Based on the pilot study, modifications were made, and then the final versions of

the interview schedules were produced (see Appendix B.5). The piloting provided an extra check for the validity and appropriateness of the interview schedules.

Following the process of redrafting and finalising the two schedules, I listened to the recordings, transcribed them myself into Arabic, and then translated them myself into English. A qualified person who holds a PhD in applied linguistics was then asked to view and compare the two versions of transcripts (Arabic and English) to see if they reflected each other. Based on these processes, no significant translation issues for the transcripts were considered.

### *Sampling for interviews*

According to Creswell and Plano Clark (2001), mixed methods research participants for the qualitative phase should be selected from among those who participated in the quantitative phase. Following this advice, a purposive (convenience) sampling strategy was used to recruit educational professional participants for the interviews. Purposive sampling is a feature of qualitative research and one of the most popular methods reportedly used in the existing literature (Patton, 2014; Ritchie and Lewis, 2003). Teddlie and Yu (2007) describe purposive sampling as particular individuals, institutions, activities purposefully chosen to answer specific research questions.

In the online questionnaire, an optional question was added at the end asking the professionals about their willingness to participate in a semi-structured interview. In this question, the professionals were told that this interview could be in person, by phone or on Skype. Professionals willing to take part in interviews were required to write down their contact details. Despite the cultural boundaries regarding physical meetings, interaction, and communication with the opposite gender in SA, on ethical grounds I invited both genders to participate in the interviews. Six males from the Eastern Province of SA agreed to participate in the interviews. Since no females from the questionnaire phase agreed to take part in the interviews, I informally made contacts with my existing professional networks in an attempt to include some female participants in the interviews. As a result of this contact, five females consented to participate in the interviews. In sum, then, eleven professionals (six males and five females) agreed to participate in interviews. I decided to interview all of those who were involved in planning and delivering BI for children with ASD (e.g. teachers, educational psychologists, etc) to obtain rich qualitative data from participants with different roles.

A convenience sampling strategy was used to recruit parent participants for the interviews. This strategy is a type of a non-probability sampling that is based on the convenience of the

researcher and aims to choose participants willing and available to participate in research (Muijs, 2004). I tried to recruit parents formally by contacting schools and institutions in the Eastern Province, but unfortunately no parents responded. Then, several schools from within my existing professional networks in this province were informally asked to contact parents of ASD children they teach to invite them to participate in the interviews. Through these arrangements, sixty-five parents (35 fathers, 30 mothers) were invited, but only ten fathers and five mothers agreed to participate in the interviews. With their permission, I obtained their names and contact details in order to contact them and make the necessary arrangements for conducting the interviews.

At this stage, I decided to randomly select an equal number of participants from parents and educational professionals to avoid privileging one perspective over the other. The professionals and parents who agreed to participate in the interviews were contacted again to make arrangements for the interviews; however, only eight professionals and eight parents at this stage consented to participating. The decision to interview only participants from the Eastern Province was made based on the findings of the questionnaire. This will be discussed later in the analysis and findings of the questionnaire phase (Chapter Five).

#### *Arrangements for conducting the interviews*

To ensure the validity of the interviews, they were scheduled consistently in terms of time and location. Before leaving for SA to conduct the fieldwork, I contacted the professionals and parents who had agreed to participate in the interviews by email or WhatsApp. Next, I made an appointment for each participant to carry out the actual interview. Soon after my arrival in SA, I contacted the professionals and parents again to make sure that they were content with the specified time and location for the interview. As a result, some of the dates and locations were rearranged.

As the period planned for conducting the interviews was the summertime, all governmental schools and institutions were closed. Therefore, in order to ensure that the locations chosen for conducting the interviews were appropriate, quiet, and private, I agreed with all male professionals (n=6) and fathers (n=4) to conduct face-to-face interviews in a private school for children with ASD. However, one father changed his mind and later asked me to conduct the interview at his home, as he wanted the interview to be in a private place. Aside from the specific arrangements made for this father (who, upon his request, was interviewed at his house), the interviews with six educational professionals and three fathers of children with

ASD took place in the private ASD school in a room which contained two chairs, one table, and a board. I also provided bottles of water and fruit juice at the interviews.

For the six female participants (two educational professionals and four mothers), I made special arrangements regarding how and where to interview them. Due to restrictions on females and males meeting, it was agreed I would conduct telephone interviews with the female participants. Times and dates were negotiated, but one parent withdrew prior to the interview. In order to find another participant, other mothers were contacted through professionals from my existing professional networks, and eventually another mother agreed to participate.

### Interview participants

The final sample for the interviews was sixteen participants (eight parents and eight educational professionals). The professional participants comprised males (n=6) and females (n=2) from a wide range of professional backgrounds. The parent participants were fathers (n=4) and mothers (n=4), most of them having a university-level education. Table 1 and 2 in Appendix B.6 give the demographic information of the professionals and parents.

### Conducting the interviews

To ensure safety and develop trust and rapport with the participants, before the interviews commenced, the participants were told that their personal details and responses they gave would be anonymised and that they had the right to withdraw from the study at any point during or after the interview. I also provided the participants with a participant information sheet on which all information about participation in the interview was provided (see Appendix B.7). The participants were also given a consent form to read and sign before the start of the interview (see Appendix B.7). For the female participants, as they were interviewed by phone, the participant information sheets and consent forms were sent and returned via email. Permission was obtained from all participants to audio-record the entire interview using an audio recording device. I explained the desired necessity for audio-recording the interviews and all the participants consented.

I carried out the interviews using a semi-structured interview guide. At the start of the interviews, I outlined the aim of the interview, what I sought to gain from it, and the importance of the information that the participants would provide for the study. Additionally, I shared information about myself (my full name, occupation, where I live, and my research) to encourage the participants to be open and share information about themselves. Hennink et al.

(2011) note that introducing yourself to interviewees by giving information about yourself at the onset of an interview can generate a strong interviewer-interviewee relationship and encourage interviewees to share truthful responses.

I followed several techniques to help guarantee the flow of the interviews. Throughout all the interviews, I tried not to interrupt the interviewees while they were responding to the interview questions. Additionally, I used appropriate facial expressions and eye contact and tried to ensure I behaved in a way that was respectful, listening intently and expressing satisfaction with the participants' responses. Cohen et al. (2018) point out that interviewers should be seen as active listeners by interviewees and therefore they should talk less than interviewees, which can lead to a fuller comprehension of the interviewees' accounts. Despite the efforts I made to simplify the interview questions so that they are accessible and at an understandable level to parents, some of the questions in the schedules and concepts discussed were difficult for parents to understand. For example, a parent was not able to differentiate between the design and the planning stages in BI, and others found it difficult to understand what is meant by BI following ABA principles. To overcome this issue, the researcher took several steps, including simplifying these questions and providing several examples for clarification (but they were not included in the transcripts for the purpose of abbreviation).

At the end of the interviews, I thanked the participants and expressed my gratitude for their participation in the interviews. Finally, the participants were asked whether they would give consent for the researcher to contact them again after the transcription stage, so as to obtain their comments and feedback on the transcribed interviews. Thomas (2017) argues that participant feedback is an important strategy used to boost the credibility and validity of qualitative research.

The interviews lasted between forty and fifty-five minutes. Soon after each, I listened to the recording in order to clarify any errors I may have made and also to write up some notes about the interview to be used in the subsequent interviews, especially when the participants did not provide sufficient information to one or more questions. This technique was helpful in improving the quality of the interviews and ensuring they flowed more smoothly. At this stage, I did not endeavour to transcribe or translate the interviews.

Overall, sixteen semi-structured interviews with parents and professionals were completed between July and August 2019. The professionals' interviews were completed in July 2019,

and the parents' interviews were completed later, in August 2019, a schedule that enabled me to immerse myself in each groups' interviews (i.e. "professional" and "parent").

### Transcribing interviews

All interview recordings were transcribed into Arabic in order to enable me to fully comprehend the content of the interviews. This study was primarily concerned with capturing the meaning of the interview data rather than any superfluous details. Therefore, the de-naturalized (covert) approach to transcription, as described by Willig (2012), was used. This approach aims to capture the meaning of the communicated data, removing repetitions, language and grammar errors, pauses, and irrelevant information. Poland (2002) asserts that the most important aspect when transcribing spoken data is to obtain what you need from the data in a way that reflects the participant's original account. These procedures shortened the time given to transcribing (and also translating in the next stage), and ensured tidy, translation-ready transcripts were prepared. After transcribing each interview, I listened to each one again and compared it to the written text and the recording to ensure that they reflected each other.

The transcription was conducted by myself for several reasons. First, some interviews included sensitive and/or private information and the participants had been ensured that no one else would look at the data except myself. Second, I did not want to omit any details from the interviews. Finally, I decided not to fully transcribe the interview verbatim, so I was the person best suited to specify what to include/exclude from the recorded interviews.

One hour of recording took approximately six hours to transcribe. The professionals' interviews were transcribed before those of the parents in order to make a clear distinction between each group's accounts of the topic. Following Janesick's (2000) and Robson's (2011) suggestions, the transcribed interviews were sent to the primary sources (professionals and parents) to be checked for accuracy, credibility, and trustworthiness. Each interviewee who, at their interview, consented to receive the transcript (n=11) received it via WhatsApp or email for validation, and they were asked to comment on the transcripts concerning whether the written text reflected their experiences and perceptions of the topic (Golafshani, 2003). All the interviewees who responded (n=8) were satisfied with the transcriptions.

### Translation for interview transcripts

I translated the Arabic transcripts into English in order to be ready for the data analysis and reporting. Translating the transcripts took between ten and twelve hours per transcript. I

decided to translate all the professionals' interviews together and then all the parents' interviews together so as to ensure a clear distinction between parent and professional accounts of the topic.

Translation from Arabic into English was done for several reasons. First, the interview results need to be reported in English (the presentation language of this thesis) in order to ease developing codes and themes in the same presentation language. Second, as the analysis interview data was part of a supervised doctoral thesis, it was necessary to translated it into English to enable me to benefit from the comments and suggestions of my supervisors during the process of analysis (e.g. transcribing, coding, and thematising). Finally, translation was necessary to enable me to present an audit trail of all data analysis procedures. In this regard, Willig (2012) noted that the most common approach for qualitative researchers who are carrying out interviews in a foreign language is to transcribe the interviews in the participants' native language, translate the transcripts into the research language, and then perform the analysis on the translated versions. Qualitative researchers can benefit from using this approach because at any point in the research they can re-visit, revise, refine and check the produced translated version when needed by referring to the original transcription.

#### *Validity of translation for interview transcripts*

Chen and Boore (2010) stress the need for qualitative researchers who are engaged in the translation process to be bilingual (have the ability to speak fluently both the original and the presentation language) and to be familiar and knowledgeable about the participants with whom the qualitative research was conducted. I am intimately aware of the culture and context of SA, being from that country and having worked there in the field. As knowledge of context is a crucial aspect in terms of translation of interviews and interpreting interview data. I was, therefore, able to translate and interpret the data with the contextual understanding. I obtained an overall score of 6.5 in IELTS exam and I also joined an academic English course at Newcastle University, and I obtained an overall score of 66, which is the equivalent of 6.5 in IELTS exam.

Back-translation ensures the accuracy of a translated text vis a vis the original and ensure an equivalence in meaning between the two tests (Chen and Boore, 2010). I randomly selected one interview and translated it into English. After that, an Arabic-English bilingual speaker who holds a PhD in linguistics was asked to translate the English text that was produced by myself back into the original Arabic language. Back-translation was employed to ensure the

equivalence in meaning, not wording, between the Arabic and English transcripts. After completion of back-translation for the English text, I reviewed and compared the two Arabic texts (original text and back-translated text). No significant differences between the two versions were found except slight differences in the use of some terms. In general, however, the meaning remained the same in both versions. Undertaking back-translation procedures was not necessary for all the transcripts because of the type of interview conducted in my study. With semi-structured interviews, the interviewer is flexible and not restricted to reading or translating word-by-word, as the most important aspect of the translation is the meaning and not a verbatim translation of the transcripts.

#### *An overview of data analysis methods for the interview data*

This section provides an overview of the thematic analysis approach used for analysing the interview data, discusses the decisions undertaken regarding the form of thematic analysis employed to analyse the interview data, and the phases of thematic analysis conducted for analysing the interview data.

#### *Thematic analysis approach*

I used a thematic analysis approach to analyse and report the qualitative data obtained from the sixteen interviews. This approach involves the systematic identification, analysis and interpretation of common themes, ideas, and repeated patterns of meaning across a data set (Clarke et al., 2015). Despite the diversity and complexity of qualitative approaches, thematic analysis could be viewed as a foundational approach for qualitative research (Braun and Clarke, 2006). Thematic analysis has many important features that attracts qualitative researchers to use it. Among these are flexibility and accessibility.

#### *Decisions regarding the form of thematic analysis employed to analyse the interview data*

Several decisions were made in relation to the form of thematic analysis used in this study.

*First*, in terms of the form of the thematic analysis, my study aims to provide a rich thematic description of the entire interview data. According to Braun and Clarke (2006), this form of thematic analysis aims to provide the reader with a rich description of the main themes identified in the data set, and this type is commonly used in dissertations or articles where researchers are restricted to a particular word count. Also, this type of analysis is helpful where the aim of the research is to investigate an under-researched research area and/or with participants whose opinions on a topic are unknown.

*Second*, it fits with the aim of identifying patterns of meaning in the data. Smith (2004) highlights the importance of inductive approaches. These are data driven approaches. I employed this approach in the thematic analysis of my study, meaning that the initial codes and the emergent themes were identified from the data itself. Therefore, they were not driven by the researcher’s theoretical interest in the topic under investigation. This form is a data-driven analysis in which the researcher engages in the process of coding without attempting to fit it with the previous coding frame or the researcher’s analytic conceptualisations. In doing this, I recognise that researchers cannot free themselves from their theoretical and epistemological stances; data are not analysed in an epistemological vacuum (Braun and Clarke, 2006).

*Third*, concerning the level at which themes are identified - semantic (explicit) versus latent (implicit) (Boyatzis, 1998) - I decided to identify the themes at the semantic level. The thematic analysis at the semantic level is often based on a realist tradition of research (Braun and Clarke, 2006). The semantic approach is a data driven approach in which themes are identified based on the data set and researchers do not identify any theme beyond it (Braun and Clarke, 2006). The role of a researcher who employs thematising at this level is to organise, summarise, and describe the data alone. Any attempt to report broader meanings, interpretations or implications is often based on the existing literature (Patton, 1990).

*Phases of thematic analysis*

Table 4.1 describes the six-phase thematic analysis approach (Braun and Clarke, 2006) used to conduct the thematic analysis for this study.

<b>Phase</b>	<b>Procedures</b>
<b>Phase one:</b> Familiarity with the data	<p><b><i>Recordings and transformation of the spoken language into a written account</i></b></p> <ul style="list-style-type: none"> <li>• I listened to each tape recording twice in order to ensure the accuracy of the transcriptions. I listened to the professionals’ interviews together and then the parents’ interviews together so as to be more focused on each group at one time.</li> <li>• I paused and re-listened to some parts of the recordings so as to be able to better catch the actual words and meanings.</li> </ul> <p><b><i>Reading and re-reading transcriptions</i></b></p> <ul style="list-style-type: none"> <li>• The whole translated data set was read twice. According to Braun and Clarke (2006), it is advisable that, when undertaking thematic analysis, whole data sets</li> </ul>

	<p>are read repeatedly to allow the researcher to better familiarise himself with the data and at the same time identify patterns and themes that emerge. At this stage, I looked at the parents' data separately from the professionals' data.</p> <ul style="list-style-type: none"> <li>• A word processing document was used to facilitate the reading and re-reading process (relevant texts were highlighted, and notes and annotations were written in the format of track changes in order to facilitate coding the data for the next phase).</li> </ul>
<p><b>Phase two:</b> Generating initial codes</p>	<p><b>Several steps were followed to generate initial codes</b></p> <p><b>First:</b> The notes and annotations created in the previous phase were translated into initial codes.</p> <ul style="list-style-type: none"> <li>• Each portion of text was given a code, and then the generated codes were recorded in a notebook using a word processing document.</li> <li>• Each code provided a brief description of every portion of text at the semantic level.</li> <li>• Aiming to be inclusive and systematic, data were coded even if no final decision was made as to its relevance.</li> <li>• The process of coding was performed manually and systematically. The generated codes reflected what the participants said; thus, the concepts and the language of the participants were used to generate codes.</li> <li>• The coded data and their codes were revisited to ensure that they were relevant and contributed to answering the set research questions.</li> <li>• The codes were compared to the coded text to ensure that they reflected each other. This led to the modifying and discarding of some codes.</li> <li>• Finally, another review was conducted to ensure that every individual code appeared repeatedly across the data set.</li> </ul> <p><b>Second:</b> The coded texts were placed into a table in a Word document with two columns: codes and coded text (where the coded text came from). Following Bryman's (2001) advice, the texts surrounding the coded texts were included in the table to keep the context of the coded text.</p> <p><b>Finally:</b> The previous steps were followed rigorously with every text deemed relevant to the set research questions.</p> <p>This phase ended with completely coded data, which included eight sets of extracts.</p>

<p><b>Phase three:</b> Searching for themes</p>	<p><i>Several procedures were undertaken in this phase to search for themes</i></p> <ul style="list-style-type: none"> <li>• The coded data (obtained from the professionals and parents) were reviewed again.</li> <li>• Overlapping codes and codes which clustered together were highlighted with the same colour and organised in one table.</li> <li>• Repeated patterns of meaning within codes were sorted into primary themes and all relevant coded text and codes were collated under these themes.</li> <li>• Following Boyatzis (1998), a codebook was created in order to describe themes and sub-themes.</li> <li>• The construction of themes was facilitated using all codes that clustered around coherent and meaningful patterns of the data set. This led to the generation of eight primary potential themes.</li> </ul>
<p><b>Phase four:</b> Reviewing themes</p>	<p>This phase involved reviewing all generated primary themes against the coded data and the entire data set for quality checking (Braun and Clarke, 2012).</p> <p><i>This phase involves two stages</i></p> <p><b>First:</b> All collated extracts were reviewed to ensure they were coherent, formed consistent patterns, fitted within themes and that the themes captured the coded data.</p> <p><b>Second:</b> Themes were reviewed to ensure whether there was a need to combine, refine or discard any particular one. This procedure resulted in a decision to combine four themes into two themes as they overlapped with each other. Following the refinement of the themes, I ended with identifying six overarching themes that stood alone.</p>
<p><b>Phase five:</b> Defining and naming themes</p>	<p>Concise and informative names were given for the six overarching themes. The themes were also reported in a logical and meaningful way in order to present a coherent narrative about the entire data set obtained from the interviewees.</p>

*Table 4.1 Phases of the thematic analysis conducted for analysing the interview data*

*Rigour and quality of the interviews*

In order to establish confidence in the findings of the interviews, several aspects related to the trustworthiness of the qualitative method were considered when designing the interview method. Following the suggestions of Magilvy and Thomas (2009), detailed information was provided about the interview method, aiming to establish the rigour of this qualitative method. Specifically, I clearly stated the aim of the interviews, provided explanations of the sampling

strategy and the reasons behind the selection of the participants, and provided information on how and how long the data was gathered. In addition, I discussed how the data was prepared for analysis, the form of data analysis used, decisions relating to the thematic analysis employed, and the phases of thematic analysis conducted to analyse the interview data.

#### **4.7 Ethical considerations**

This study adheres to the guidelines and principles of the British Educational Research Association, which are designed to ensure that participants in research come to no harm and are guaranteed anonymity, confidentiality, and equality (Hammersley and Traianou, 2012). Additionally, it considers the two ethical dimensions in research explained by Guillemin and Gillam (2004, p. 263), namely, ‘procedural ethics’ and ‘ethics in practice’. Concerning procedural ethics, several issues were addressed in this study. First, full ethical approval and permission was provided by Newcastle University. Second, participant information sheets were designed to inform the interviewees and questionnaire participants of the purpose of the study, why they had been invited to take part in it, its length, and the secure storage of all data. Third, informed consent forms were given, signed and returned, ensuring the participants that they were fully informed about the nature and purpose of the study, that their participation was entirely voluntary, that their data would be completely anonymous and confidential, and that they had the right to withdraw from the research both during the data collection period or after it (see Appendices; B.3 & B.7). The participant information sheet and the consent form were included at the front of the online questionnaire and were given or sent to the interviewees before the interviews commenced. Finally, for the online questionnaire, formal permission to conduct the study was obtained from the DSE in SA.

Ethics in practice can be defined as ‘the everyday ethical issues that arise in the doing of research’ (Guillemin and Gillam, 2004, p. 263). Pertaining to ethics in practice, I addressed several issues in my study when conducting the interviews. First, before any attempt to record the interviews, I gained the participants’ consent to record the entire interview. I confirmed to the participants that the recordings would only be used for analysing the interview data and would then be deleted from the recording device. Second, in order to protect the participants from harm and danger, when the parents revealed any difficult or upsetting experiences (what Guillemin and Gillam (2004) refer to as ‘ethically important moments’), I responded sensitively and appropriately by being a good listener and a responsive supporter and by

showing empathy. The participants were also given the freedom to decline to answer any individual question if they thought it might cause them any type of harm or danger. Third, aiming to ensure the interviewees' anonymity, no real names of the participants or the organisations they work for were mentioned anywhere in the study. Finally, any information that the professionals communicated about themselves or their schools was not revealed to a third party and, additionally, any sensitive information that the parents told me about themselves and their children' schools was not included in the thesis.

Reflexivity is not only a way of ensuring the rigour and quality of research, but it is strongly linked to ethical aspects of research practices (Guillemin and Gillam, 2004; and McGraw et al., 2004). Being a reflexive researcher and taking the human side into account, I included parents in my study so as not to privilege professionals, and also I actively consulted professionals in the design of my study through dialogue I had with them to identify a focus for my study. Henderson and Esposito (2019) contend that researchers should consult their participants when identifying a focus and conducting their research. These include ensuring that the ethical dimensions of research practice and appropriate research processes are sound (Guillemin and Gillam, 2004).

I was eager to adopt a reflexive research process and be a reflexive and ethically rigorous educational researcher throughout my study. Therefore, I took steps to ensure gender equality in my study. Despite the cultural and religious restrictions on physical meetings, interaction, and communication between males and females in the Saudi context, I (being male) invited both genders to participate in the questionnaire and interviews. I carefully considered avoiding emotional and social harm to female participants by ensuring that the procedure was culturally appropriate and acceptable. Therefore, I used an online questionnaire and telephone interviews with female participants as these methods are more socially and culturally acceptable. This design would more likely lead to female participation in this study.

#### **4.8 Conclusion**

This chapter has discussed the methodology and research methods of this study. It considered the two data collection methods employed in terms of their aim, design, structure, translation process, validity and reliability, piloting, sampling decisions and methods. It explained and justified the methods of data analysis used for the questionnaire and interviews and discussed the rigour and quality of the interview process. It finally provided a discussion of the ethical

considerations relevant to my study. In the following chapter, the data analysis for the questionnaire method (phase one) is presented.

## **Chapter 5. Data Analysis Phase One: Questionnaires**

### **5.1 Introduction**

This chapter covers all aspects of the analysis for phase one - the questionnaire - of this study. Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS). The chapter begins by restating the research aim and questions addressed by this phase of the study. It then presents the descriptive and inferential analysis for the questionnaire, before moving on to analyse and discuss the three open-ended responses which comprise the questionnaire. Finally, it provides a summary of the key findings and how they informed decisions regarding the selection of the participants for, and the focus of, the second phase of the study.

### **5.2 Aims and research questions**

My study explores and explains parental and professional perspectives on the practice of professional-parent collaboration in the planning, design and implementation of BI for children with ASD. The questionnaire phase addresses the following research questions:

1. To what extent do educational professionals expect parents to collaborate in the planning, design and implementation of BI for children with ASD in SA?
2. To what extent do educational professionals consider they are currently working in collaboration with parents in the planning, design and implementation of BI for children with ASD in SA?

### **5.3 Descriptive and inferential analysis of the questionnaire data**

This section firstly presents the descriptive statistics for the demographic information, before turning, secondly, to the descriptive and inferential analysis for the scale questions included in the questionnaires.

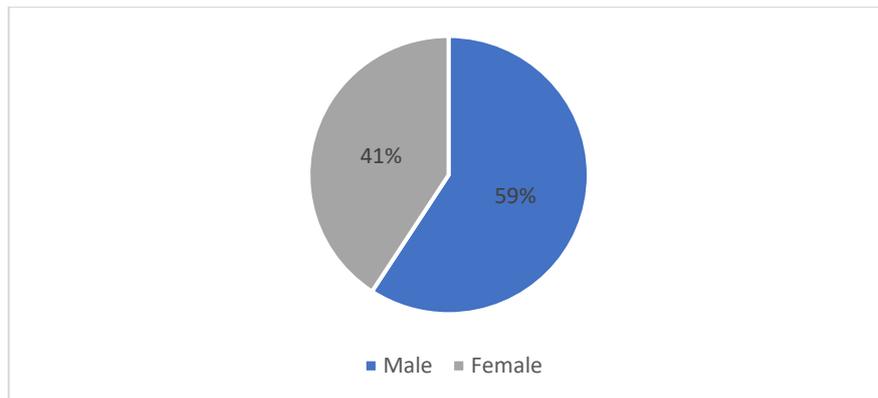
#### ***5.3.1 Part one: Descriptive statistics of the demographic information***

According to Vogt and Johnson (2011), quantitative data can be summarised, organised and described through the use of figures. This section covers all aspects related to the descriptive statistics for the demographic information of the questionnaire sample using frequency counts and crosstabulation statistics. The descriptive statistics are illustrated with graphs and tables.

### **Frequency counts of the demographic information**

This section provides frequency descriptive statistics, covering demographic information obtained from the questionnaire: gender, age, level of education, subject area, role, experience, province of working, type of institution, training in BI, and accreditation status of BI training.

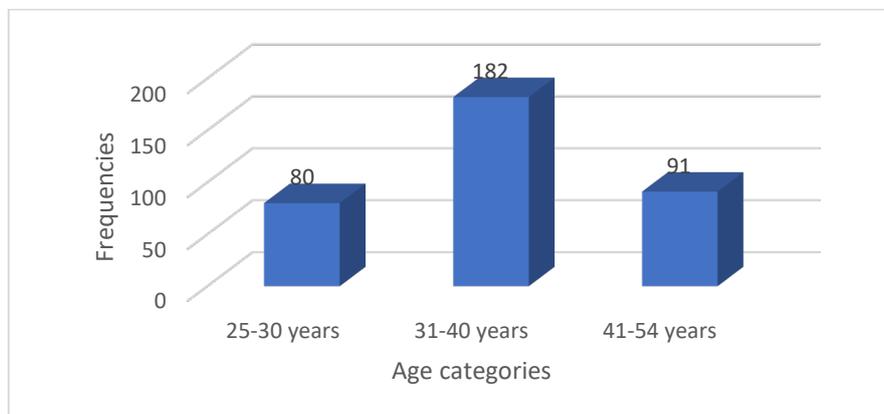
#### ***Gender***



***Figure 5.1: Respondents' gender***

The sample comprised 353 educational professionals: 209 (59%) males and 144 (41%) females.

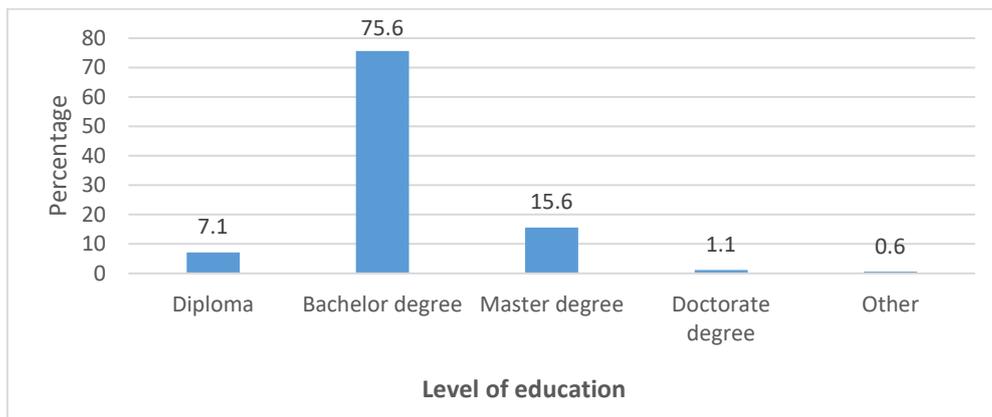
#### ***Age***



***Figure 5.2: Respondents' age***

The ages of the participants ranged between twenty-five and fifty-four years, with a mean $\pm$ SD age of 36 $\pm$ 6. The sample included a larger proportion of the 31-40 year-old category (n= 182, 51.6%).

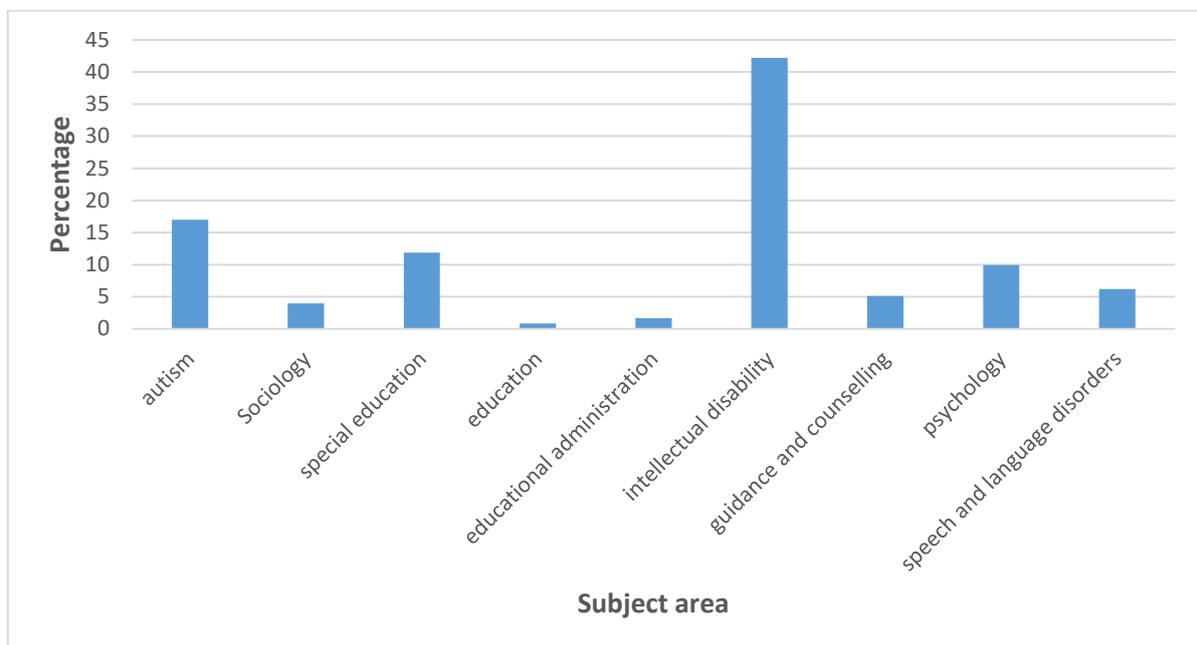
### ***Level of education***



***Figure 5.3: Respondents' level of education***

The sample included professionals with various education levels, including diploma, bachelor's degree, master's degree, and doctorate degree. A bachelor's degree was the most frequently reported qualification (75.6%) while a doctorate was the least frequently reported (1.1%).

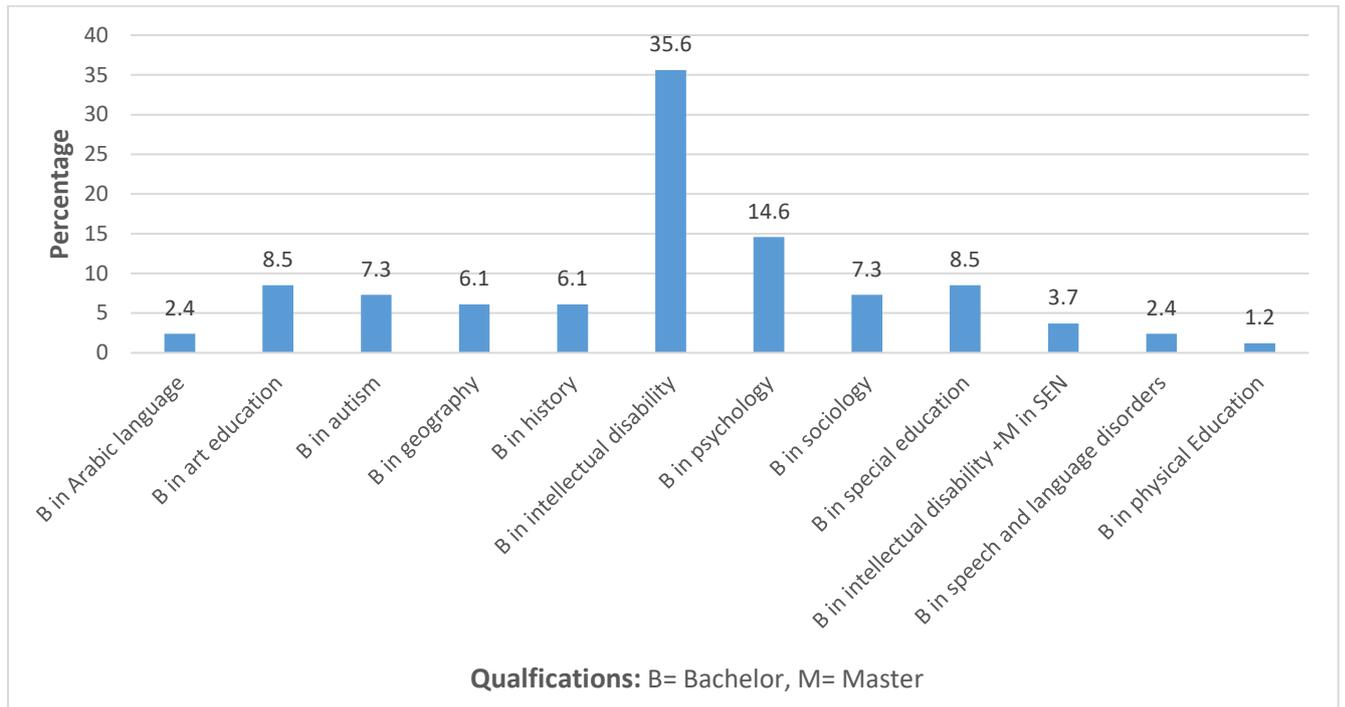
### ***Subject area of the highest qualification***



***Figure 5.4: Respondents' subject area of highest qualification***

Intellectual disability was most frequently identified as the area in which the professionals had their most advanced qualification (42.2% of professionals) while education was the least frequently identified (1.1%).

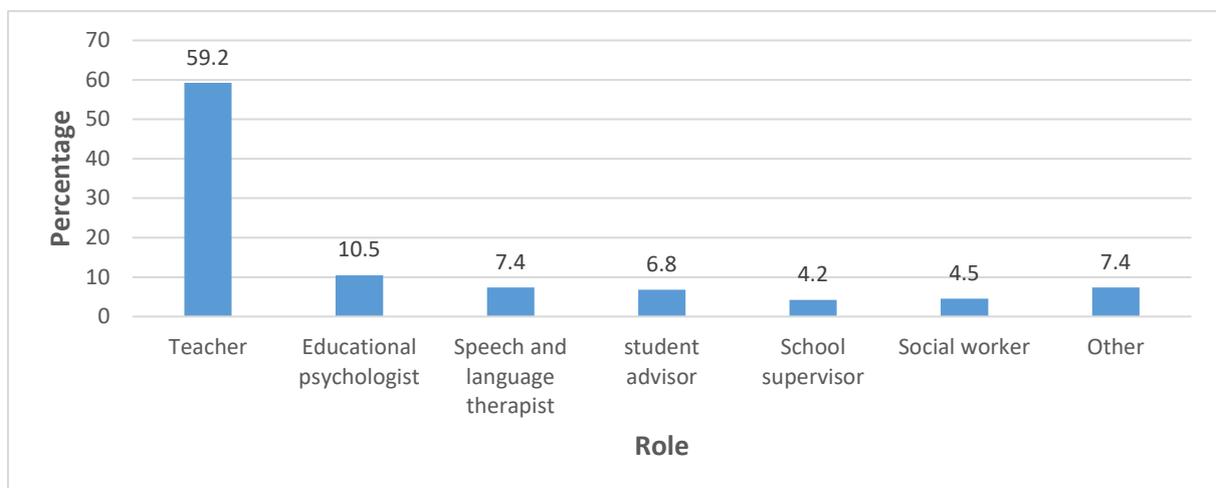
### Previous qualifications



**Figure 5.5: Respondents' previous qualifications**

The professionals were asked to state any previous qualification(s) attained prior to obtaining their most advanced qualification. From the entire sample, 82 professionals (32.2%) said they had received another qualification before their advanced qualification. Of those, as shown in Figure 5.5, 35.6% of the professionals held a bachelor's in intellectual disability before their advanced qualification while a small number (1.2%) obtained their bachelor's in physical education prior to their advanced qualification.

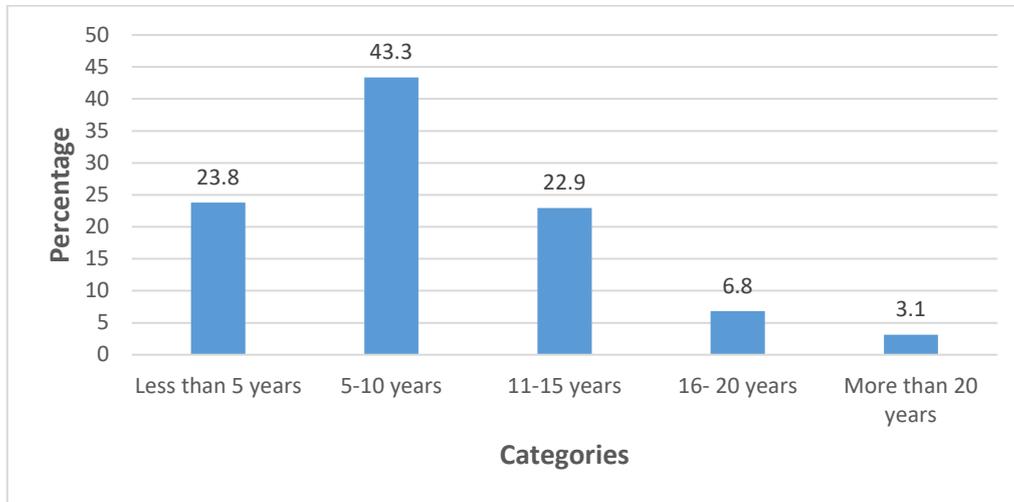
### Role



**Figure 5.6: Respondents' role**

The largest single role identified by the professionals (n=209, 59.2%) was teacher. The least identified role (n=15, 4.2 %) was school supervisor.

**Experience**



**Figure 5.7: Respondents' experience in their role**

When asked how many years they had been working in their current role, 43.3% (n= 153) of the professionals responded with 5-10 years (the single largest group) while the smallest number (3.1%) said they had been in their current role longer than 20 years.

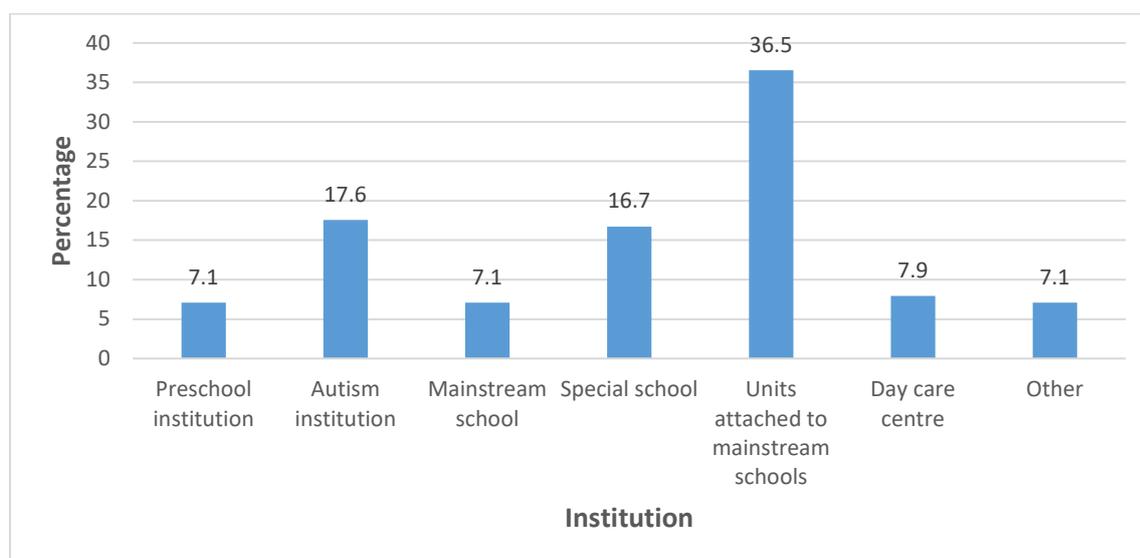
**Province of working**

Province	Frequencies (%)
Southern	64 (18)
Eastern	154(44)
Western	54(15)
Northern	37(10)
Central	44(13)

**Table 5.1: Province of working**

The largest proportion of professionals worked in the Eastern Province (n= 154, 44%).

### *Type of institution*



**Figure 5.8: Respondents' type of institution**

Of the sample, 36.5% (n=129) worked in units attached to mainstream schools and only 7.1% (n=25) worked in either a preschool institution, a mainstream school, or another type of institution (i.e. charity centres, 2.3%), community schools (1.7%), the DSE (2.3%), and private schools (0.8 %).

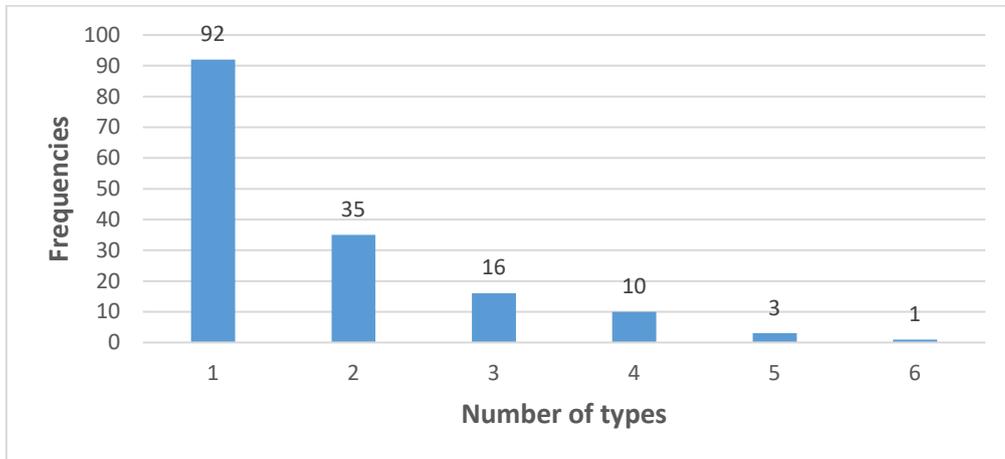
### *Training in BI*

<b>Form of training</b>	<b>Frequencies (% of participants who received BI training, n=157)</b>
ABA	48 (30.8%)
EIBI	28(17.8%)
Pivotal response treatment	37(32.6%)
Positive behaviour support intervention	83(52.8%)
Discrete trail training	43(27.4%)
The Early Start Denver Model	25(6.2%)
Other training	7 (15.9%)
No training in BI	196 (55.5%)

**Table 5.2: Forms of BI training received by educational professionals**

The professionals were asked if they had received BI training. If so, they were asked to select one or more from the choices provided. A total of 157 (44.5%) indicated having received BI training while 196 (55.5%) said they had not. Of those that had received training, the descriptive statistics showed that 'positive behaviour support' was the most frequently reported

form of training (n=83) while the Early Start Denver Model was the least frequently reported (n=25).



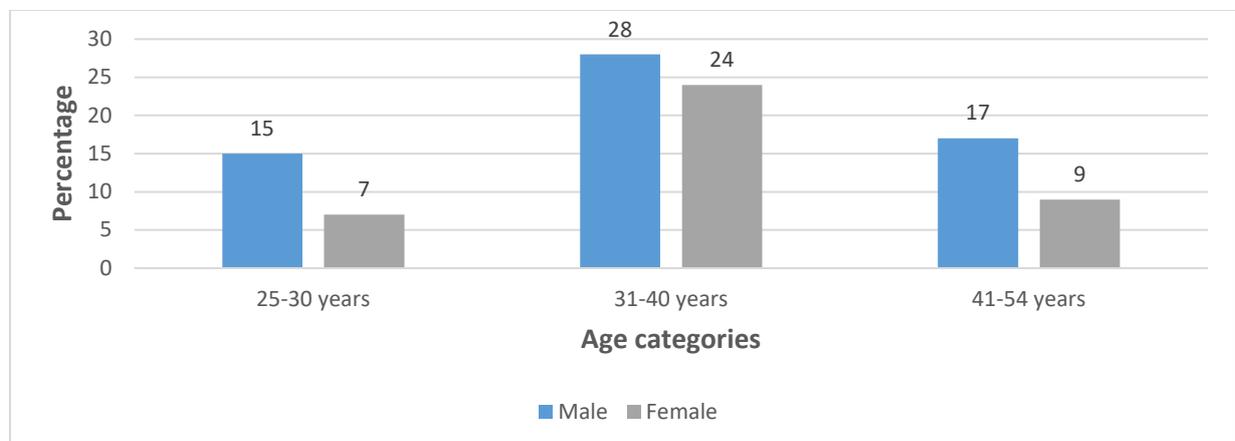
**Figure 5.9: Frequency of forms of BI training participants had received**

Of those who had received training in BI (n=157), 92 (58%) indicated having received training in only one approach while only one participant reported having received training in six approaches. The frequency statistics showed that, of those who had received BI training, 66 professionals (42%) had received some form of accredited training. The largest proportion with accredited training said they had obtained their training in governmental organisations (n= 58, 79%) while a much smaller figure (n=8, 12%) said they had received their training in private organisations.

**Cross-tabulation statistics of the demographic information**

This section describes the cross-tabulation statistics for the demographic information.

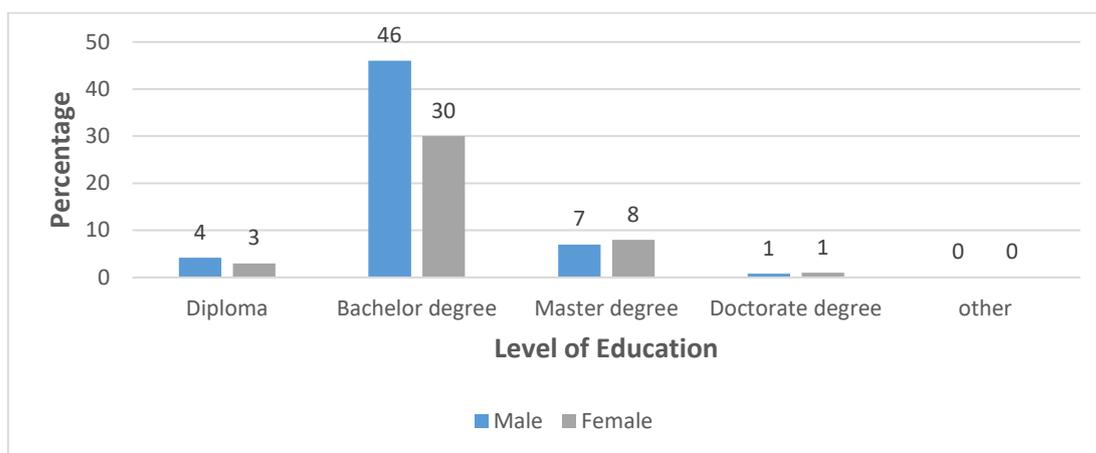
***Gender and age***



**Figure 5.10: Cross-tabulation statistics for gender and age**

Of the professionals, 59% were male and 41% were female, with a mean±SD age of 36±6 for males and 36±5 for females. The males were aged 25-54 while the females ranged from 25-50. As Figure 5.10 shows, the sample included a larger proportion of the 31-40 year-old category (52%), divided between males (28%) and females (24%). The modal age range of female and male professionals was 31-40 years.

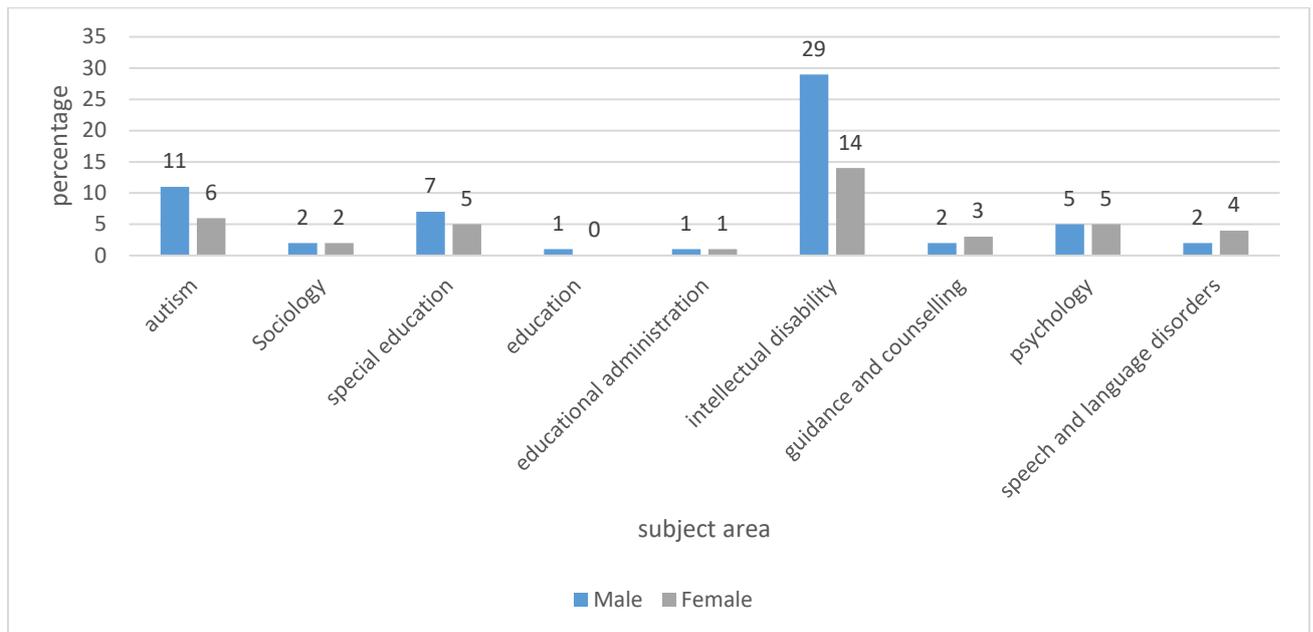
***Gender and level of education***



***Figure 5.11: Cross-tabulation statistics for gender and level of education***

A large proportion of the professionals in the sample (males = 46%; females = 30%) reported a bachelor’s degree as their highest level of education. The modal level of education of female and male professionals was a bachelor’s degree.

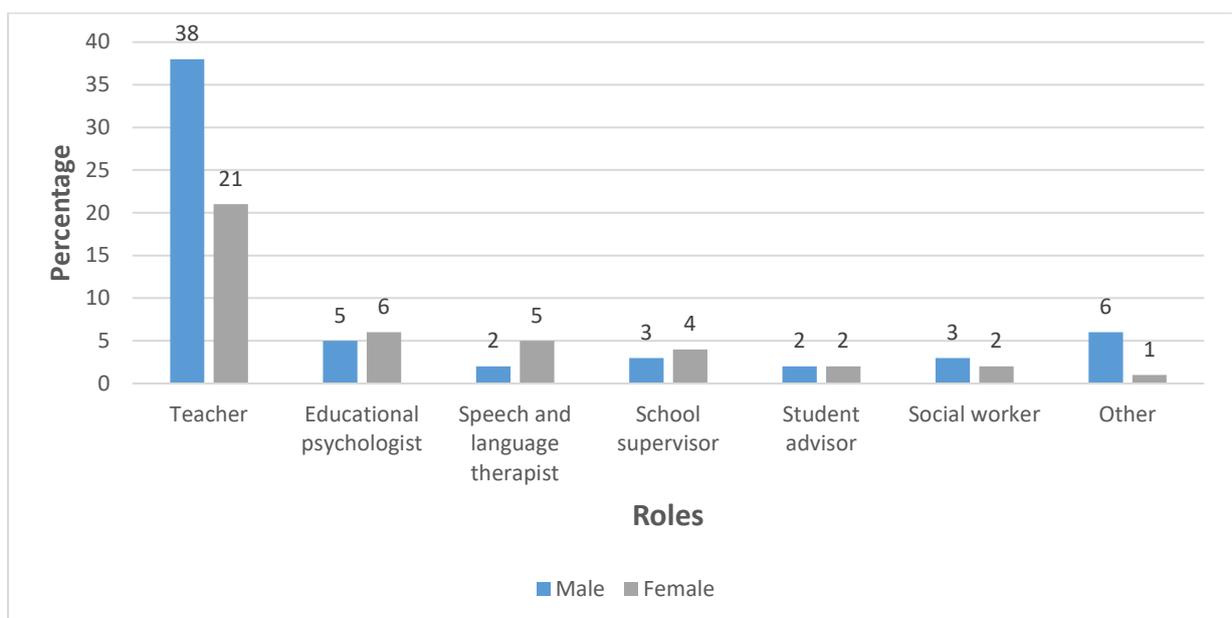
### Gender and subject area



**Figure 5.12: Cross-tabulation statistics for gender and subject area**

Fewer females (14%) than males (29%) in the sample were specialised in intellectual disability in their advanced qualification. The modal subject area of female and male professionals was intellectual disability.

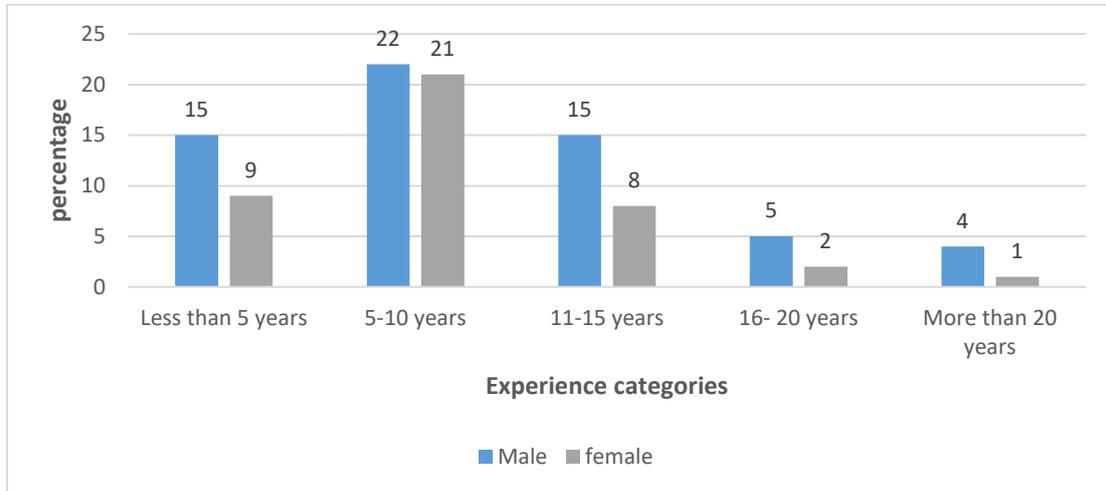
### Gender and role



**Figure 5.13: Cross-tabulation statistics for gender and role**

A large proportion of males and females in the sample (59%; males = 38%; females = 21%) reported working as teachers. The modal role of female and male professionals was a teacher.

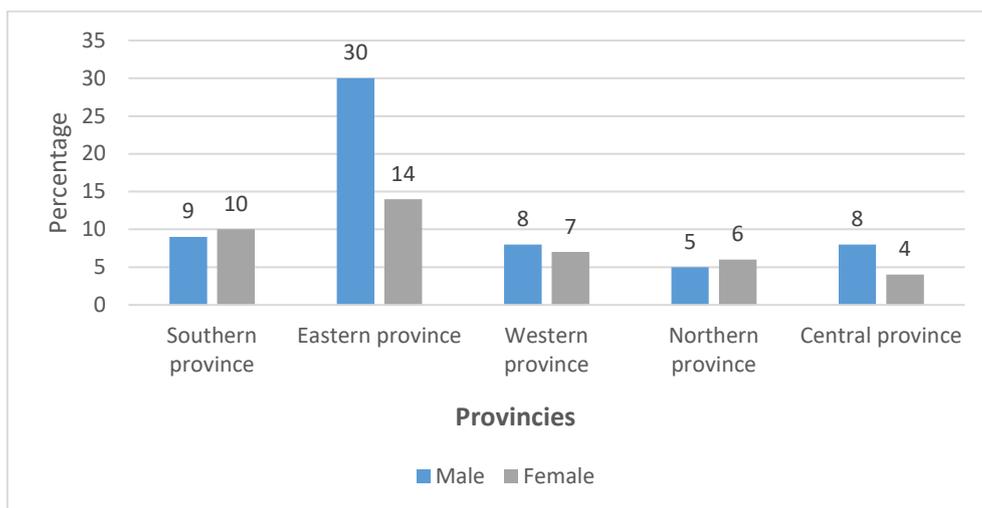
**Gender and experience**



**Figure 5.14: Cross-tabulation statistics for gender and experience**

A slightly higher proportion of males (22%) than females (21%) in the sample reported having 5-10 years of experience working in their current roles. 4% of males and 1% of females had more than 20 years’ experience in their current roles. The modal range of years of experience of female and male professionals was 5-10 years.

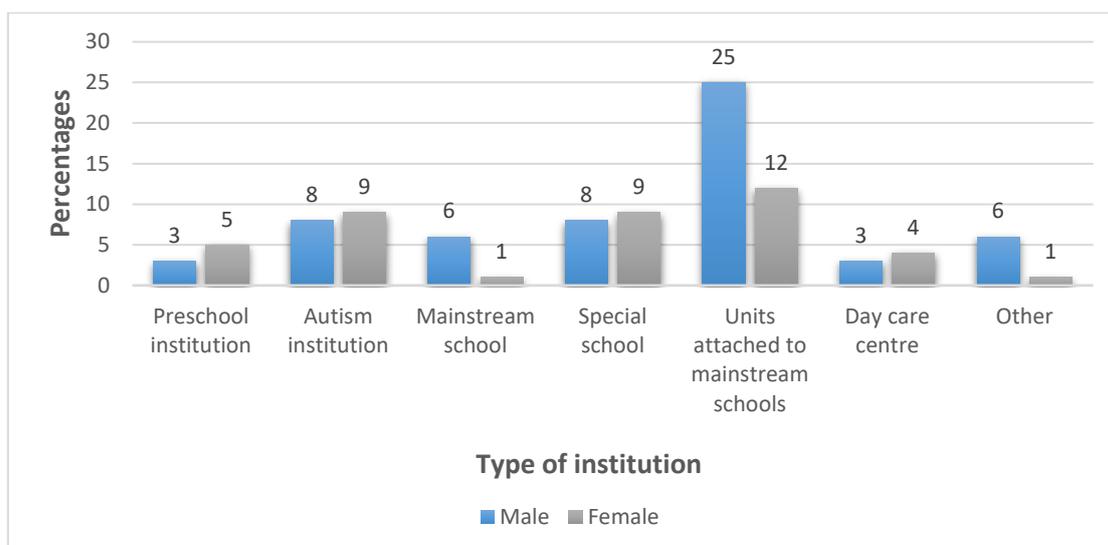
**Gender and province of working**



**Figure 5.15: Cross-tabulation statistics for gender and province of working**

A larger proportion of males (30%) than females (14%) in the sample worked in the Eastern Province. Of the participants from the Eastern Province, 66% were males and 34% were females.

### ***Gender and type of institution***



***Figure 5.16: Cross-tabulation statistics for gender and type of institution***

Double the percentage of males (25%) to females (12%) in the sample reported that they worked in units attached to mainstream schools. The modal type of institution in which female and male professionals worked was units attached to mainstream schools.

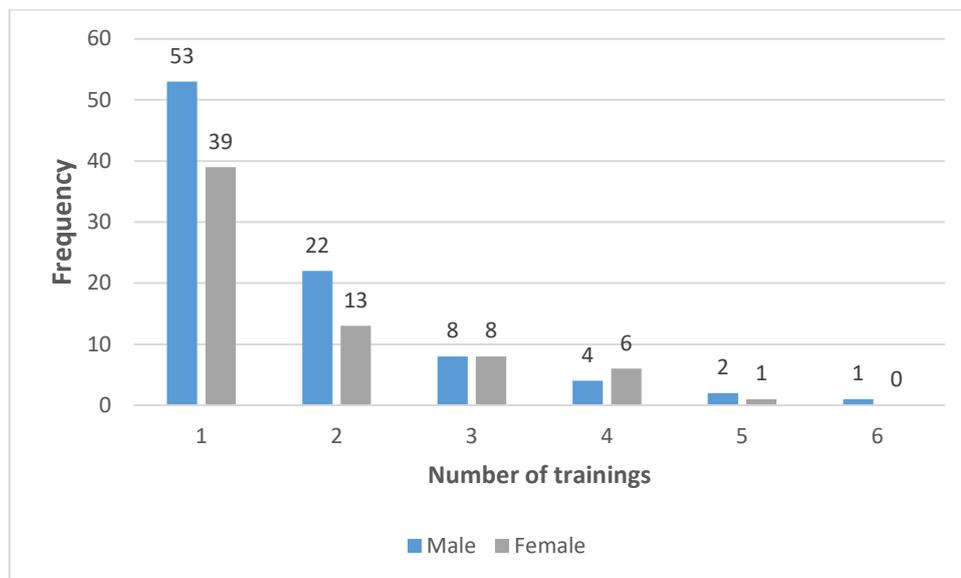
### ***Gender and training in BI***

Form of training	Gender	
	Males (n)	Females(n)
ABA	26	22
EIBI	21	7
Pivotal response treatment	19	18
Positive behaviour support intervention	42	41
Discrete trail training	23	20
The Early Start Denver Model	17	8

***Table 5.3: Training in BI for males and females***

The crosstabulation statistics reveal that 90 males (25.5%) and 67 females (19%) from the sample had BI training. Positive behaviour support intervention was the most frequently reported training by both males (n=42) and females (n=41).

### ***Gender and number of approaches to training***



***Figure 5.17: Cross-tabulation statistics for gender and number of approaches to training***

More males (n=53, 15.1%) than females (n=39, 11.1%) in the sample reported that they had received a single training approach to BI. The modal number of approaches to training in BI of female and male professionals was a single training approach. Only one male had received six different approaches to training while no female had received this number of approaches to training in BI.

This section has presented the frequency and cross-tabulation statistics of the participants' demographic information. The following section presents the descriptive and inferential statistics for the scale questions.

#### ***5.3.2 Part two: Descriptive and inferential statistics of the scale questions***

This section presents the descriptive and inferential statistics for the scale questions. It sets out the descriptive statistics in terms of frequencies and cross-tabulations for the scale questions as well as the inferential statistics by looking at the differences amongst educational professionals' responses based on selected demographic information. The Mann-Whitney test (non-parametric equivalent of the t-test for two independent samples) and Kruskal-Wallis statistical test (non-parametric equivalent of the analysis of variance for three or more independent samples) were used to determine whether there were statically significant differences between educational professionals' responses to the questionnaire based on the demographic characteristics.

To ease presenting the descriptive and inferential statistics, five groups of questions were generated, and the scale questions were assigned to those groups: expectation questions (group one), opportunity questions (group two), collaboration questions (group three), motivation questions (group four), and individual questions (group five). The five groups' questions are outlined in the five tables displayed throughout this section (Tables 5.4-5.8), with a specific code assigned to each question (these codes are based on the sequence of questions in the original questionnaire). The descriptive and inferential statistics of the first three groups' (one, two, and three) questions are presented and discussed together as they are linked to each other. The descriptive and inferential analysis of groups four and five questions are displayed and discussed for each group separately.

**Descriptive and inferential statistics for the expectation, opportunity, and collaboration questions**

As the questions included in these three groups are connected, they are discussed together in this section. Tables 5.4, 5.5, and 5.6 visualise these questions. The descriptive analysis for these questions within the first three groups is presented first, followed by the inferential analysis.

<b>Group one:</b> This group comprises nine questions related to the extent to which educational professionals expect parents to collaborate in the different stages of BI for ASD children.	
<i>Code</i>	<i>Questions</i>
9.1	To what extent do you expect parents to request meetings with educational professionals?
9.2	To what extent do you expect parents to attend planning and reviewing BI team's meetings?
9.3	To what extent do you expect parents to participate in goal development for BI?
9.4	To what extent do you expect parents to collaborate in planning and reviewing BI?
9.5	To what extent do you expect parents to work in collaboration with other professionals in implementing BI?
9.6	To what extent do you expect parents to attend BI sessions with the team of professionals?
9.7	To what extent do you expect parents to participate in BI sessions with the team of professionals?
9.8	To what extent do you expect parents to implement BI tasks with their children in the home environment?
9.9	To what extent do you expect parents to attend workshops provided by intervention providers about BI for their children?

*Table 5.4: Expectation questions*

<b>Group two:</b> This group comprises seven questions concerning professionals' perceptions of the extent to which parents are provided with opportunities to collaborate in the different stages of BI for children with ASD.	
<b>Code</b>	<b>Questions</b>
<b>10.3</b>	To what extent are parents given the opportunity to attend planning and reviewing BI team's meetings?
<b>10.5</b>	To what extent are parents given the opportunity to participate in goal development for BI?
<b>10.7</b>	To what extent are parents given the opportunity to collaborate in planning and reviewing BI?
<b>10.9</b>	To what extent are parents given the opportunity to work in collaboration with other professionals in implementing BI?
<b>10.11</b>	To what extent are parents given the opportunity to attend BI sessions with the team of professionals?
<b>10.13</b>	To what extent are parents given the opportunity to participate in BI sessions with the team of professionals?
<b>10.16</b>	To what extent are parents given the opportunity to attend workshops provided by intervention providers around BI for their children with ASD?

*Table 5.5: Opportunity questions*

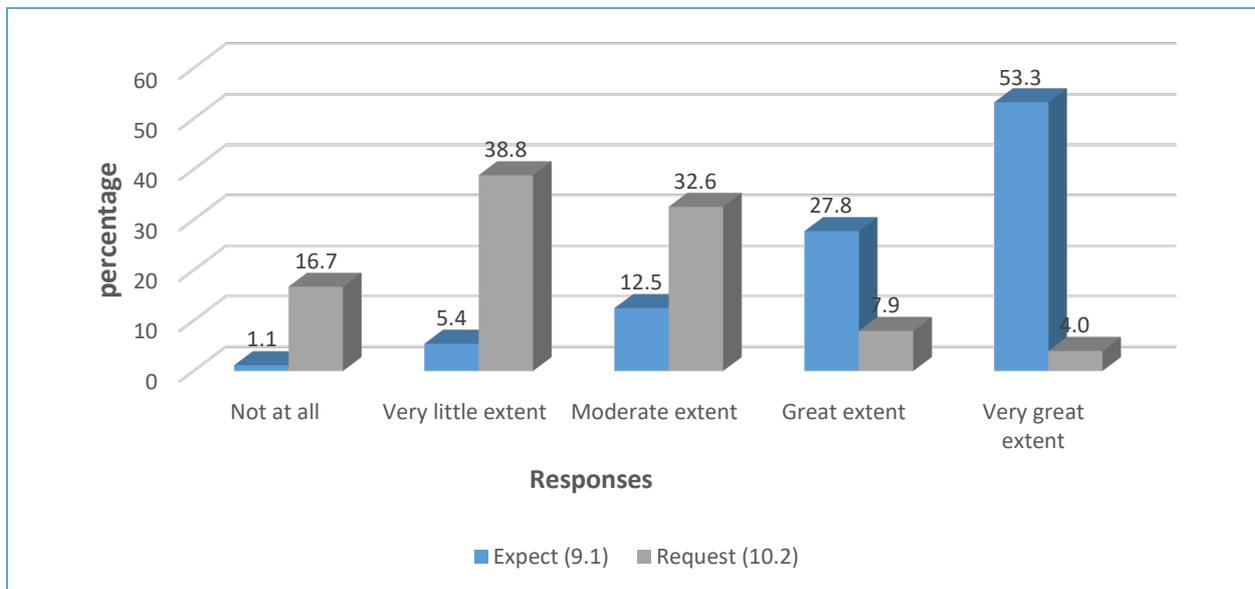
<b>Group three:</b> This group comprises ten questions concerning professionals' perceptions of the extent to which parents work in collaboration with educational professionals in the different stages of BI for children with ASD.	
<b>Code</b>	<b>Questions</b>
<b>10.1</b>	To what extent do parents generally respond to educational professionals' requests for contact?
<b>10.2</b>	To what extent do parents request meetings with educational professionals?
<b>10.4</b>	To what extent do parents attend planning and reviewing BI team's meetings?
<b>10.6</b>	To what extent do parents participate in goal development for BI?
<b>10.8</b>	To what extent do parents collaborate in planning and reviewing BI?
<b>10.10</b>	To what extent do parents work in collaboration with other professionals in implementing BI?
<b>10.12</b>	To what extent do parents attend BI sessions with the team of professionals?
<b>10.14</b>	To what extent do parents participate in BI sessions with the team of professionals?
<b>10.15</b>	To what extent do parents engage with tasks and routines which help to achieve the agreed intervention goals?
<b>10.17</b>	To what extent do parents attend workshops provided by intervention providers about BI for their children?

*Table 5.6: Collaboration questions*

### *Descriptive statistics for the expectation, opportunity, and collaboration questions*

The presentation of the descriptive statistics for the scale questions within these groups (see tables 5.4, 5.5, and 5.6) was based on linking the questions in the three groups to each other so as to identify the differences between the expected level of parental collaboration, the opportunities provided for parents to collaborate, and the current level of professional-parent collaboration in the different stages of BI. The descriptive statistics for the three groups are presented under the following headings.

#### *Parents' requests for meetings with professionals*

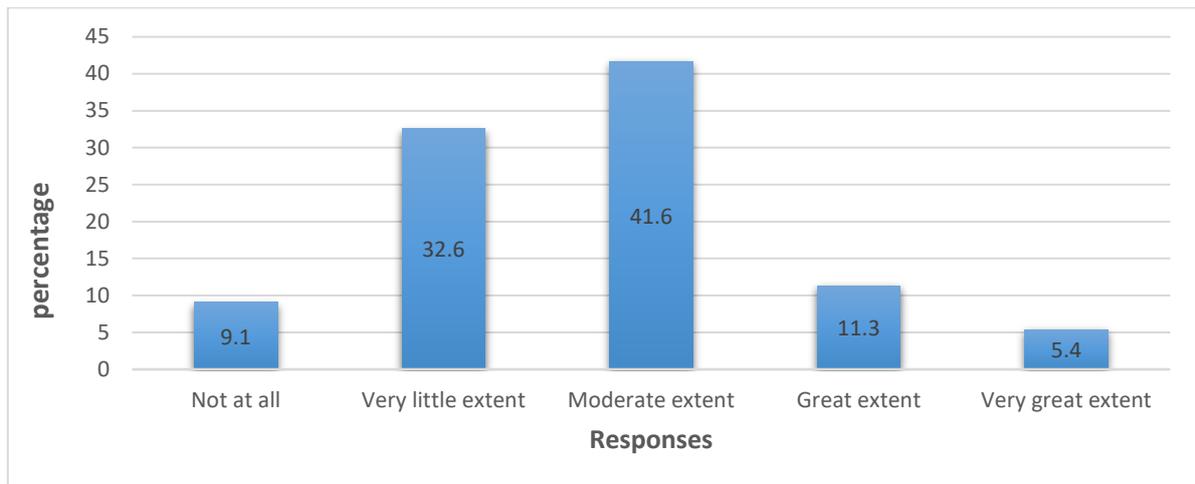


**Figure 5.18: Parents' requests for meetings with professionals**

**For question 9.1-** To what extent do you expect parents to request meetings with educational professionals? - the single most common response professional response (53.3%) was to a 'very great extent' while the single least common response (1.1%) was 'not at all'. Gender-wise, 59% of males selected to a 'very great extent' while 45.1% of females did so. In terms of region, professionals from the Eastern Province were most likely (62.3%) while professionals from the Northern Province were least likely (37.8%) to respond with 'very great extent'.

**For question 10.2 -** To what extent do parents request meetings with educational professionals? - the most common response (38.8%) was to a 'very little extent' and the least common response (4%) was to a 'very great extent'. Compared to other regions, a larger proportion of professionals from the Central Province answered to a 'moderate extent' (38.6%).

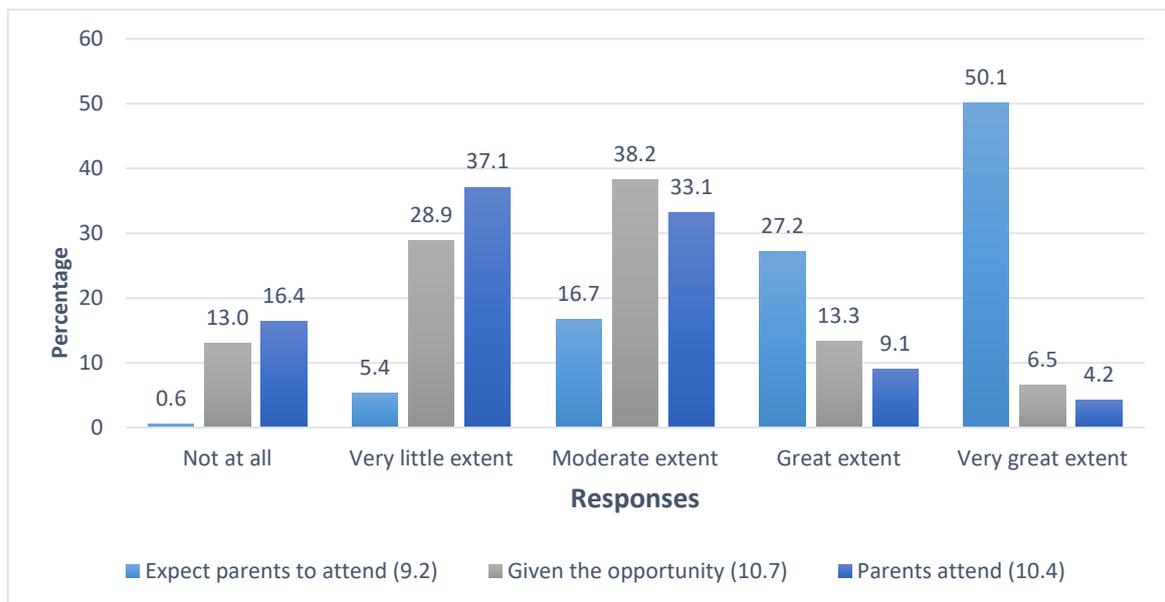
*Parental responses to professionals' requests for contact*



**Figure 5.19: Parental responses to professionals' requests for contact**

**For question 10.1** - To what extent do parents generally respond to educational professionals' requests for contact? - the most common response was to a 'moderate extent' (41.6%) while the least common response was to a 'very great extent' (5.4%). In contrast to other provinces, a larger number of professionals from the Eastern Province (21.2%) felt that parents respond to a 'moderate extent' to professionals' requests for contact while a smaller number (3.1%) of professionals from the Northern Province responded with 'moderate extent'

*Parents' attendance in planning and reviewing BI team's meetings*



**Figure 5.20: Parents' attendance in planning and reviewing BI team's meetings**

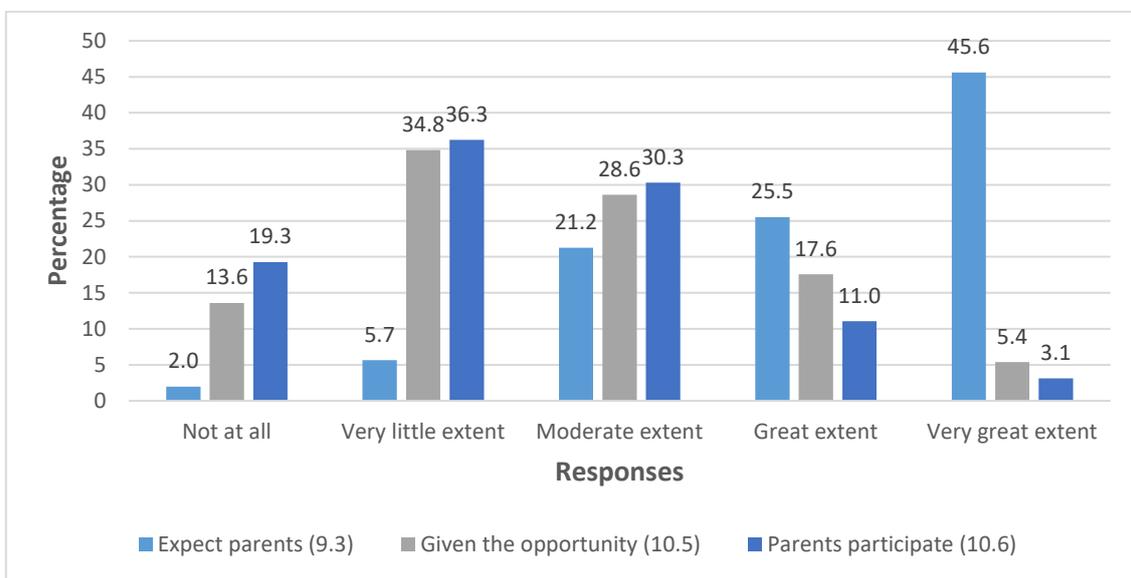
**For question 9.2** - To what extent do you expect parents to attend planning and reviewing BI team's meetings? - the most popular response (50.1%) was 'very great extent' and the least

common response (0.6%) was ‘not at all’. Teachers were more likely (48.4%) to select ‘very great extent’ (32.3%) or ‘great extent’ (16.1%) while social workers were the least likely (2%) to respond in the same way. In comparison to other provinces, professionals from the Eastern Province (60%) were most likely to expect parents to attend the planning and reviewing of the BI team’s meetings to a ‘very great extent’.

**For question 10.7** - To what extent are parents given the opportunity to attend planning and reviewing BI team’s meetings? – the single most common response (38.2%) was to a ‘moderate extent’ while the least common response (6.5%) was to a ‘very great extent’. In contrast to other provinces, a larger proportion of professionals from the Eastern Province (10.4%) responded with ‘very great extent’ while a smaller proportion of professionals from the Southern Province (0%) responded with ‘very great extent’.

**For question 10.4** - To what extent do parents attend planning and reviewing BI team’s meetings? – the most common response (37.1%) was ‘very little extent’ while the least common response (4.2%) was to a ‘very great extent’. A smaller proportion of females (21%) than males (35.4%) believed that parents were given the opportunity to attend planning and reviewing BI team’s meetings to a ‘very little extent’.

*Goal development for BI*



**Figure 5.21: Parents’ participation in goal development for BI**

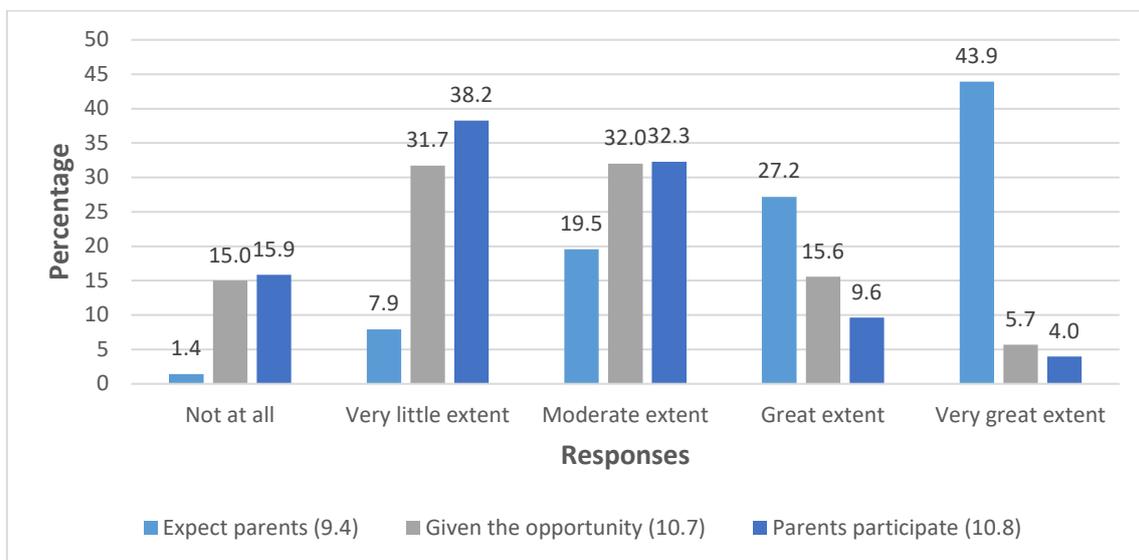
**For question 9.3** – To what extent do you expect parents to participate in goal development for BI? – the most common response (45.6%) was to a ‘very great extent’ and the least common response (2%) was ‘not at all’. Province-wise, professionals from the Eastern Province were

most likely (51.9%) while professionals from the Northern Province were least likely (37.8%) to respond with ‘very great extent’.

**For question 10.5** - To what extent are parents given the opportunity to participate in goal development for BI? – 34.8% of professionals answered to a ‘very little extent’ while, at the opposite end of the response rate, only 5.4% selected to a ‘very great extent’. Professionals from the Northern Province were most likely (43.2%) while professionals from the Eastern Province were least likely (32.5%) to respond with ‘very little extent’.

**For question 10.6** - To what extent do parents participate in goal development for BI? – the single most popular response (36.3%) was to a ‘very little extent’ while the least common response (3.1%) was to a ‘very great extent’. A higher proportion of males (53.1%) than females (41.7%) responded with a ‘very little extent’. Compared to other provinces, a larger percentage of professionals from the Northern Province (48.6%) believed that parents participated to a ‘very little extent’ in goal development for BI.

*Parents’ collaboration in planning and reviewing BI*



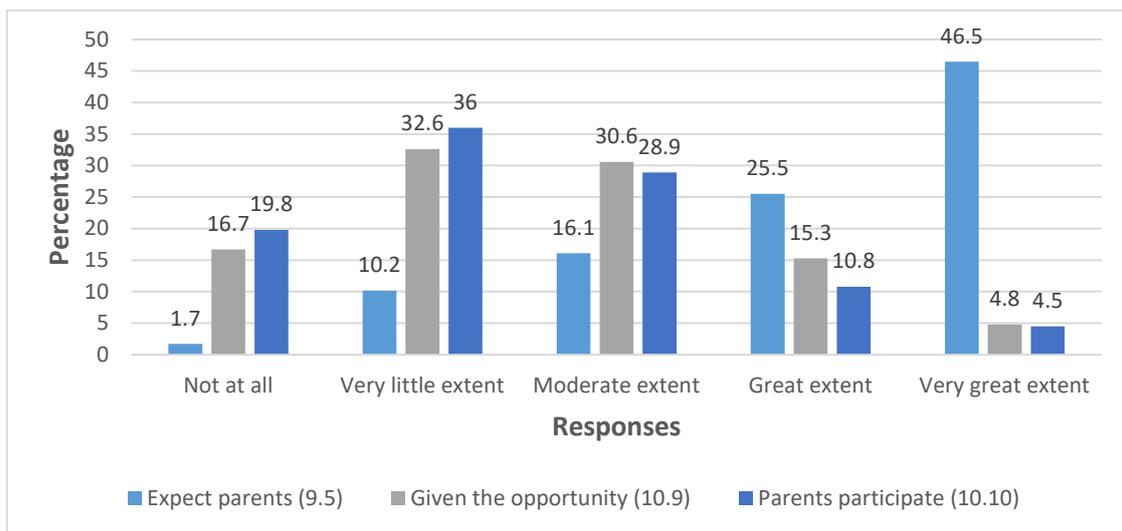
**Figure 5.22: Parents’ participation in planning and reviewing BI**

**For question 9.4** - To what extent do you expect parents to collaborate in planning and reviewing BI? - 43.9% of professionals selected to a ‘very great extent’ and only 1.4% chose ‘not at all’. A slightly larger proportion of males (46.4%) than females (40.3%) answered to a ‘very great extent’. In terms of region, professionals from the Eastern Province were most likely (52%) and those from the Central Province were least likely (26.4%) to expect parental collaboration in planning and reviewing BI to a ‘very great extent’.

**For question 10.7** - To what extent are parents given the opportunity to collaborate in planning and reviewing BI? – the most popular response (32%) was to a ‘moderate extent’ while the least popular response (5.7%) was to a ‘very great extent’. In terms of region, a larger proportion of professionals from the Southern Province (42.2%) while a smaller proportion from the Eastern Province (27%) believed that parents are given the opportunity to collaborate in planning and reviewing BI to a ‘very little extent’.

**For question 10.8** - To what extent do parents collaborate in planning and reviewing BI? - 38.2% of professionals selected to a ‘very little extent’ while the least common response (4.0%) was to a ‘very great extent’. The region where the largest proportion of professionals thought that parents collaborated to a ‘very little extent’ in planning and reviewing BI was the Northern Province (51%).

*Parents’ collaboration in the implementation of BI*



**Figure 5.23: Parents’ collaboration in the implementation of BI**

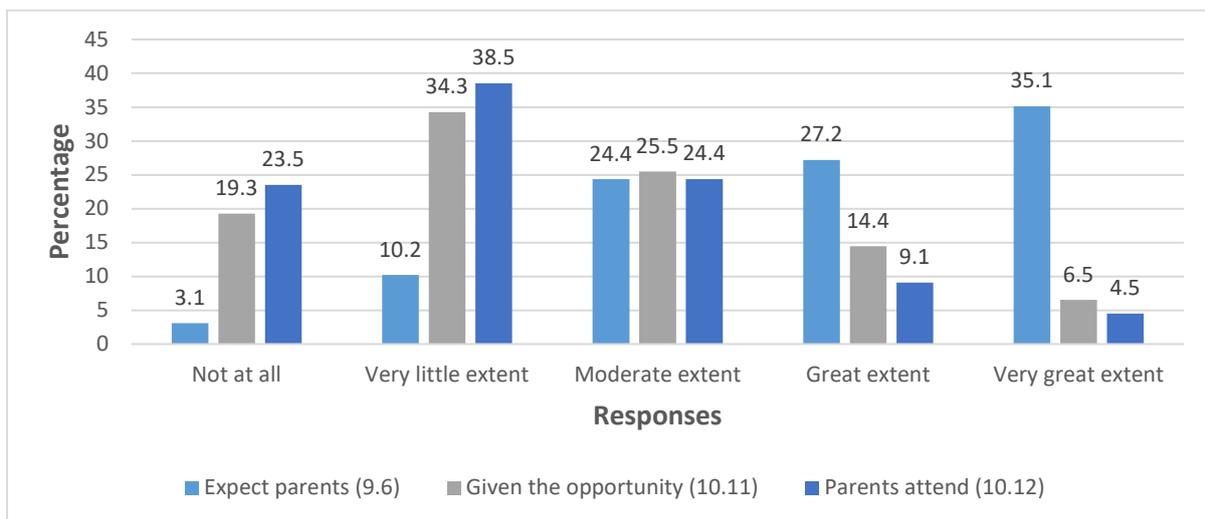
**For question 9.5** - To what extent do you expect parents to work in collaboration with other professionals in implementing BI? - the largest single response (46.5%) was to a ‘very great extent’ while the least popular response (1.7%) was ‘not at all’. Province-wise, professionals from the Eastern Province were most likely (58.4%) while professionals from the Northern Province were least likely (29.9%) to expect parents to a ‘very great extent’ to work in collaboration in implementing BI.

**For question 10.9** - To what extent are parents given the opportunity to work in collaboration with other professionals in implementing BI? - the single largest response (32.6%) was to a

‘very little extent’ while the least common response (4.8%) was to a ‘very great extent’. Provincially, the largest proportion of professionals (33.7%) believing that parents were given the opportunity to a ‘great extent’ (25.3%) or ‘very great extent’ (8.4%) to participate in the implementation of BI was in the Eastern Province. The smallest proportion of professionals holding this viewpoint was in the Northern Province (2.7%).

**For question 10.10** - To what extent do parents work in collaboration with other professionals in implementing BI? – the most common response (36%) was to a ‘very little extent’ and the least common response (4.5%) was to a ‘very great extent’. Professionals from the Southern Province were most likely (46.9%) and professionals from the Eastern Province were least likely (31.2%) to believe that parents were given the opportunity to a ‘very little extent’ to collaborate in implementing BI.

*Parents’ attendance at BI sessions*



**Figure 5.24: Parents’ attendance in BI sessions**

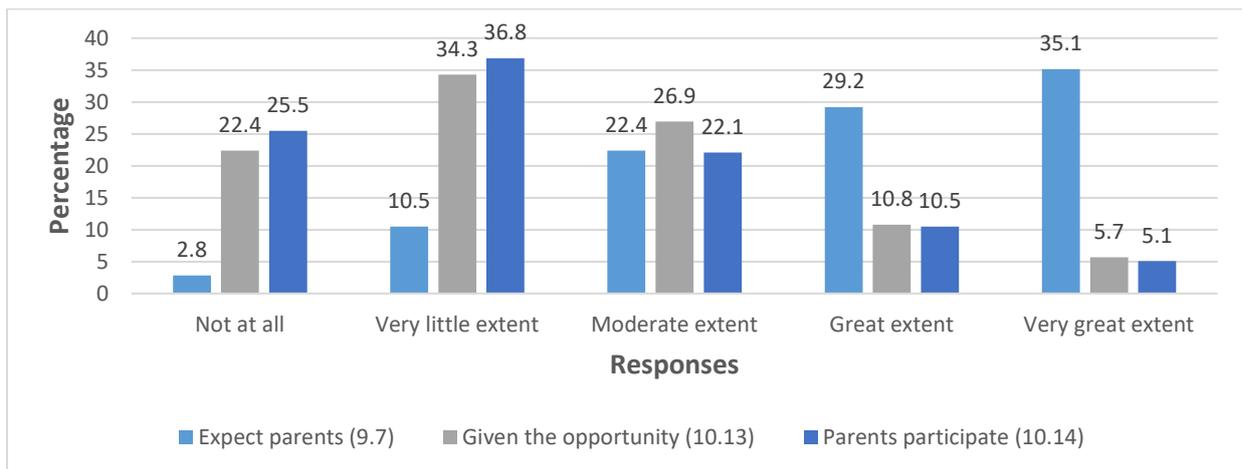
**For question 9.6** - To what extent do you expect parents to attend BI sessions with the team of professionals? - the most common response (35.1%) was to a ‘very great extent’ and the least common response (3.1 %) was ‘not at all’. Province-wise, professionals from the Eastern Province were most likely (42.9%) while professionals from the Central Province were least likely (22.7%) to respond with ‘very great extent’.

**For question 10.11** - To what extent are parents given the opportunity to attend BI sessions with the team of professionals? - the most common response (34.3%) was to a ‘very little extent’ whereas the least popular response (6.5%) was to a ‘very great extent’. Provincially, a

larger number of professionals from the Southern Province (43.8%) while a smaller number of professionals from the Eastern Province (24.7%) said to a ‘very little extent’.

**For question 10.12** - To what extent do parents attend BI sessions with the team of professionals? - 38.5% of professionals opted for to a ‘very little extent’ while the least common response (4.5%) was that parents attend BI sessions to a ‘very great extent’.

*Parents’ participation in BI sessions*



**Figure 5.25: Parents’ participation in BI sessions**

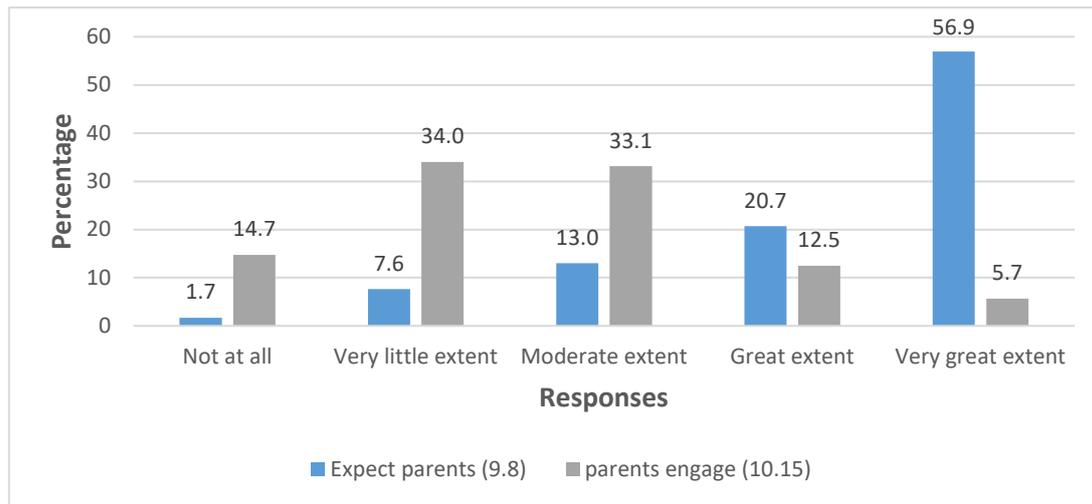
**For question 9.7** - To what extent do you expect parents to participate in BI sessions with the team of professionals? - 64.3% of professionals selected to a ‘very great extent’ (35.1%) or ‘great extent’ (29.2%) while only 13.3% chose to a ‘very little extent’ (10.5%) or ‘not at all’ (2.8%). Province-wise, professionals from the Eastern Province were most likely (45.5%) while professionals from the Northern Province were least likely (21.6%) to expect parents to participate in BI sessions to a ‘very great extent’.

**For question 10.13** - To what extent are parents given the opportunity to participate in BI sessions with the team of professionals? - the most common professional response (34.3%) was to a ‘very little extent’ while only 5.7% responded with a ‘very great extent’. A smaller proportion of males (30.1%) than females (40.3%) selected to a ‘very little extent’. Province-wise, professionals from the Southern Province were most likely (42.2%) while professionals from the Eastern Province were least likely (28.6%) to believe that parents were given the opportunity to participate in BI sessions to a ‘very little extent’.

**For question 10.14** - To what extent do parents participate in BI sessions with the team of professionals? - the most common response (36.8%) was to a ‘very little extent’ whereas the

least frequent response (5.1%) was ‘very great extent’. More females (43.8%) than males (32.1%) selected to a ‘very little extent’. Province-wise, a larger proportion of professionals from the Southern Province (42.2%) believed that parents participated in BI sessions ‘not at all’ while professionals from the Eastern Province were least likely (12.3%) to hold this opinion.

*Parents’ collaboration in implementing tasks of BI*

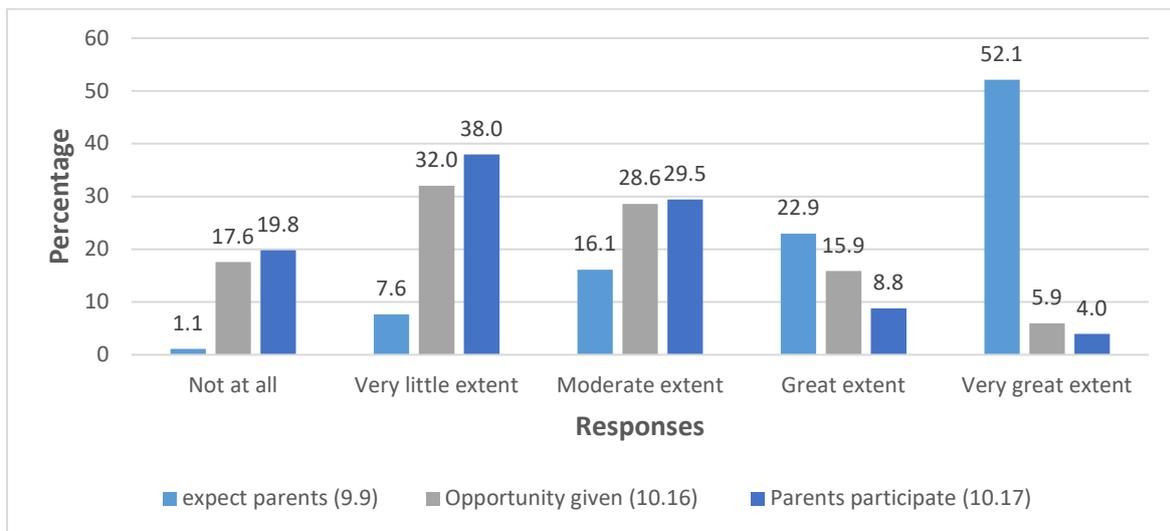


**Figure 5.26: Parents’ implementation of BI tasks**

**For question 9.8** - To what extent do you expect parents to implement BI tasks with their children at the home environment? - the largest percentage of professionals (56.9%) chose to a ‘very great extent’ while the least common response (1.7%) was ‘not at all’. Gender-wise, a higher proportion of males (59.6%) than females (41.1%) chose to a ‘very great extent’. Provincially, professionals from the Eastern Province were most likely (78.6%) while professionals from the Southern Province were least likely (35.9%) to expect parents to implement tasks of the BI with their children at home to a ‘very great extent’.

**For question 10.15** - To what extent do parents engage with tasks and routines which help to achieve the agreed intervention goals? - a larger number of professionals (34%) responded with a ‘very little extent’ while fewer professionals (5.7%) responded with a ‘very great extent’.

*Parents' attendance at workshops*



**Figure 5.27: Parents' attendance at workshops**

**For question 9.9** - To what extent do you expect parents to attend workshops provided by intervention providers about BI for their children? - the single most popular response (52.1%) was to a 'very great extent', compared to the least common response (1.1%) of 'not at all'. A larger proportion of professionals from the Eastern Province (64.3%) expected parents to attend workshops to a 'very great extent' while a smaller proportion of professionals from the Northern Province (37.8%) expected parent to the same extent.

**For question 10.16** - To what extent are parents given the opportunity to attend workshops provided by intervention providers around BI for their children? - the most common response (32%) was to a 'very little extent' while the least popular response (5.9%) was to a 'very great extent'. A larger proportion of professionals from the Southern Province (48.4%) while a smaller proportion of professionals from the Eastern Province (24.7%) believed that parents were given the opportunity to attend workshops to a 'very little extent'.

**For question 10.17** - To what extent do parents attend workshops provided by intervention providers about BI for their children? – the most popular response was to a 'very little extent' (38%) while the least common response was to a 'very great extent' (4%). A larger number of professionals from the Southern Province (37.5%) while a smaller number of professionals from the Eastern Province (12.3%) responded with 'not at all'.

The sections above have presented the descriptive statistics for the expectation, opportunity, and collaboration questions (outlined in Tables 5.4, 5.5, 5.6). The next section presents the inferential statistics for these questions.

### ***Inferential statistics for the expectation, opportunity, and collaboration questions***

This section presents the inferential statistics for the questions in groups one, two, and three (see Tables 5.4, 5.5, 5.6). The statistics are presented for every group separately in order to identify any differences between professionals' responses regarding the expected level, opportunities provided for parents to collaborate, and current levels of parental collaboration, based on the professionals' demographic information. The inferential analysis for each group is discussed separately.

#### **Expectation questions (group one): *The extent to which educational professionals expect parents to collaborate in BI***

Generally speaking, the descriptive statistics for questions 9.1-9.9 (see Table 5.4) show that a large proportion of professionals expect parents to collaborate in the different stages of BI to a 'great or very great extent' (refer to section 5.3.2).

#### *Differences across gender*

The Mann-Whitney test was used to examine whether there were statistically significant differences between males and females for questions 9.1-9.9. No statistically significant differences were found between males and females for questions 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, and 9.9 ( $U \geq 13759.5$ ,  $P \geq 0.136$ ). However, a significant difference was found in questions 9.1 ( $U = 13040.5$ ,  $P = 0.019$ ) and 9.8 ( $U = 12808.5$ ,  $P = 0.008$ ). A cross-tabulation statistic for question 9.1 illustrated that a larger proportion of males (59%) than females (45.1%) expected parents to request meetings with professionals to a 'very great extent'. Similarly, for question 9.8, a larger percentage of males (59.6%) than females (41.1%) expected parents to participate in BI sessions with a team of professionals to a 'very great extent'.

#### *Differences across province*

Based on Kruskal-Wallis statistics, significant differences were found between professionals from different provinces in questions 9.1-9.9 ( $\chi^2 \leq 63.563$ ,  $P \leq 0.01$ ), except for question 9.3 ( $\chi^2 = 8.265$ ,  $P = 0.82$ ). A cross-tabulation for the eight questions generally showed that a higher proportion of professionals from the Eastern Province indicated that they expected parents to a 'very great extent' to collaborate in the different stages of BI.

### *Difference across role*

The Kruskal-Wallis statistical test revealed a statistically significant difference for questions 9.1-9.9 between professionals with different roles ( $\chi^2 = \leq 13.614$ ,  $P = \leq 0.034$ ). Generally, the descriptive statistics for these questions revealed that a larger percentage of teachers expected parents to collaborate in the different stages of BI to a 'very great extent' or 'great extent'. In comparison, a smaller proportion of social workers (in all questions) expected parents to collaborate in the different stages of BI to the same extent.

**Opportunity questions (group two):** *The extent to which parents are provided with opportunities to collaborate in BI*

The descriptive statistics for questions 10.3-10.16 (see Table 5.5) generally suggest that professionals think parents were involved at a minimal level of collaboration in the different stages of BI (see Section 5.3.2).

### *Differences across province*

The Kruskal-Wallis statistical test revealed significant differences between professionals from different provinces in these questions ( $\chi^2 = \leq 46.489$ ,  $P = \leq 0.04$ ). Cross-tabulation statistics indicated that professionals from the Eastern Province were generally more likely than those from other provinces to think that parents are provided with opportunities to collaborate in the different stages of BI to a 'very great extent' or a 'great extent'.

**Collaboration questions (group three):** *The extent to which parents are currently working in collaboration with educational professionals in BI*

Generally, the descriptive statistics for questions 10.1-10.17 (see Table 5.6) revealed that a larger percentage of professionals perceived parents' degree of collaboration as minimal in the different stages of BI. However, for question 10.1, a higher proportion of professionals (41.6%) believed parents respond to educational requests for contact to a 'moderate extent' while a smaller proportion (5.4%) reported a 'very great extent' for the same question (see Section 5.3.2).

### *Difference across provinces*

The Kruskal-Wallis statistical test indicated that there were statistically significant differences among professionals from different provinces in all questions ( $\chi^2 = \leq 35.441$ ,  $P = \leq 0.013$ ). Overall, the descriptive statistics for these questions showed that a larger number of

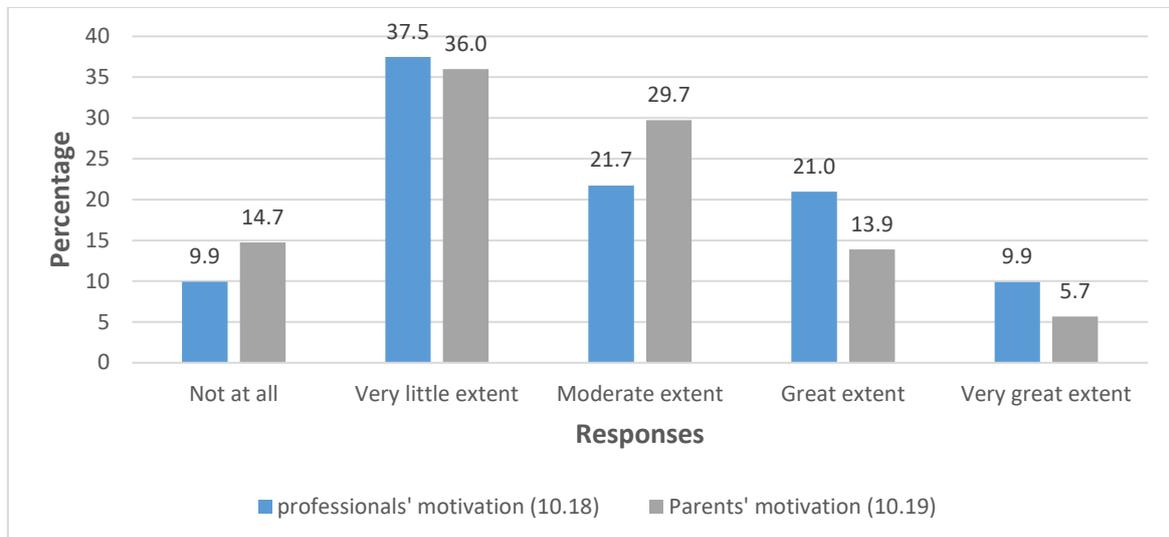
professionals from the Eastern Province considered parents' collaborations in the different stages of BI to be at a moderate level while generally parents' level of collaboration in BI were frequently perceived by professionals from other provinces as minimal.

***Descriptive and inferential statistics for the motivation questions***

Due to the connection between questions within this group, they are discussed together in this section. Table 5.7 visualises these questions. The descriptive and inferential statistics related to these questions are discussed in this section.

<b>Group four:</b> This group consists of two questions pertaining to professionals' perceptions of the extent to which educational professionals and parents are motivated to work collaboratively in the different stages of BI for children with ASD.	
No	Questions
10.18	To what extent do you believe that educational professionals are motivated to work collaboratively with parents in the planning, design and implementation of BI?
10.19	To what extent do you believe that parents are motivated to work collaboratively with educational professionals in the planning, design and implementation of BI?

***Table 5.7: Motivation questions***



***Figure 5.28: Parents' and professionals' motivation to work collaboratively***

**For question 10.18,** a larger percentage of professionals (37.5%) believed that professionals are motivated to a 'very little extent' to work collaboratively with parents in the three stages of BI.

### *Difference across provinces*

The Kruskal-Wallis statistical test revealed a statistically significant difference between professionals from different provinces ( $\chi^2= 47.024$ ,  $P= 0.000$ ). The descriptive statistics for this question showed that a larger proportion of professionals from the Eastern Province (49.3%) thought that professionals were motivated to a ‘very great extent’ (16.2%) or ‘great extent’ (33.1%) to work collaboratively in the three stages of BI.

**For question 10.19**, the single most common response (36%) was ‘very little extent’ while the least common response (5.7%) was ‘very great extent’ when professionals aired their views on the extent to which parents are motivated to work collaboratively with professionals in the three stages of BI.

### *Difference across gender*

The statistics showed significant differences between males and females in responding to this question ( $U=12623.0$ ,  $P= 0.007$ ). A cross-tabulation statistic illustrated that a higher proportion of females (57%) than males (46.4%) felt that parents were ‘not at all’ (females = 17.4%; males = 12.9%) motivated or motivated to ‘very little extent’ (females = 39.6 %; males = 33.5%) to collaborate with professionals in the different stages of BI.

### *Difference across provinces*

A statistically significant difference was found between professionals from different provinces in responding to this question ( $\chi^2=51.224$ ,  $P= 0.000$ ). A cross-tabulation statistic showed that a large proportion of professionals from the Eastern Province (43.7%) saw parents as motivated to work in collaboration in the different stages of BI to a ‘very great extent’ (9.7%) or ‘great extent’ (34%). In contrast, a smaller number of professionals from the Northern Province (2.7%) responded in the same way (‘very great extent’ = 0%; ‘great extent’ = 2.7%).

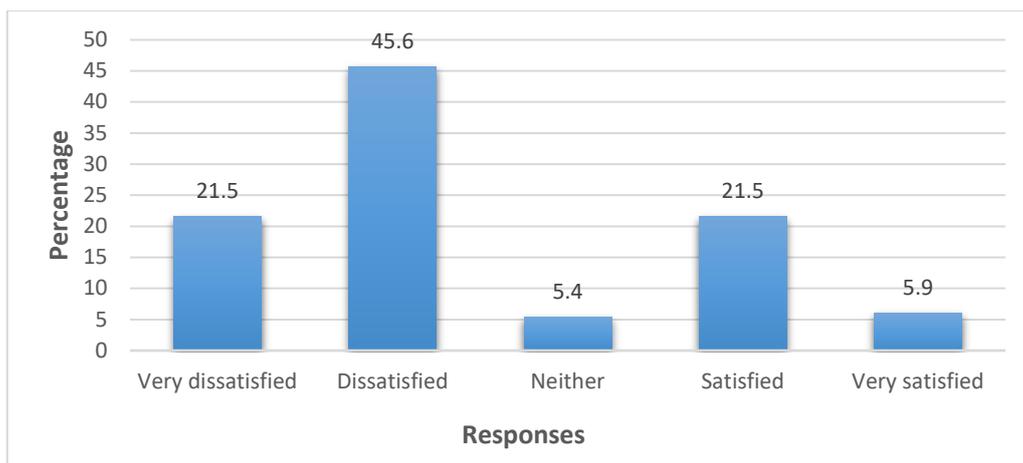
### ***Descriptive and inferential statistics for the three individual questions***

As the questions in this final group are not linked to any of the previous four groups, the descriptive and inferential statistics related to them are discussed for each question separately under this section. Table 5.8 visualises these questions.

<b>Group five: Individual questions</b>	
This group includes three questions:	
Code	Questions
11	How satisfied are you with professional-parent collaboration in the planning, design and implementation of BI?
12	To what extent should parents be involved at every stage of BI (planning, design implementation)?
13	To what extent do you agree that parents should be involved in specific stages of BI (e.g. planning stage) but not in all stages?

**Table 5.8: Individual questions**

**Question 11:** *How satisfied are you with professional-parent collaboration in the planning, design and implementation of BI?*



**Figure 5.29: Professionals' satisfaction with professional-parent collaboration**

**For Question 11,** 67.1% of professionals reported being 'dissatisfied' (45.6%) or 'very dissatisfied' (21.5%) with professional-parent collaboration in the planning, design and implementation of BI.

*Difference across gender*

The Mann-Whitney statistics revealed a statistically significant difference between males and females (U=12284.5, P= 0.002). Based on the descriptive analysis, a larger proportion of females (77.8%) than males (59.8%) reported being 'very dissatisfied' (males = 18.7%; females = 25.7%) or 'dissatisfied' (males = 41.1%; females = 52.1%) with professional-parent collaboration in BI.

### *Difference across roles*

Kruskal-Wallis statistics showed a statistically significant difference amongst professionals with different roles ( $\chi^2= 37.383$ ,  $P= 0.000$ ). The biggest percentage of social workers (93.8%) reported being 'dissatisfied' (75%) or 'very dissatisfied' (18.8%) with professional-parent collaboration in the three stages of BI while a lower percentage of teachers (61.3 %) responded in the same way ('very dissatisfied' = 21.1%; 'dissatisfied' = 40.2%).

### *Difference across provinces*

The Kruskal-Wallis statistical test revealed a statistically significant difference between professionals from different provinces in responding this question ( $\chi^2= 55.266$ ,  $P= 0.000$ ). Based on cross-tabulation statistics, professionals from the Southern Province were more likely (90.6%) to be 'dissatisfied' (56.8%) or 'very dissatisfied' (33.8%) with professional-parent collaboration in the different stages of BI while the group least likely to hold the same views (47.4%) were from the Eastern Province ('very dissatisfied' = 10.4%; 'dissatisfied' = 37%).

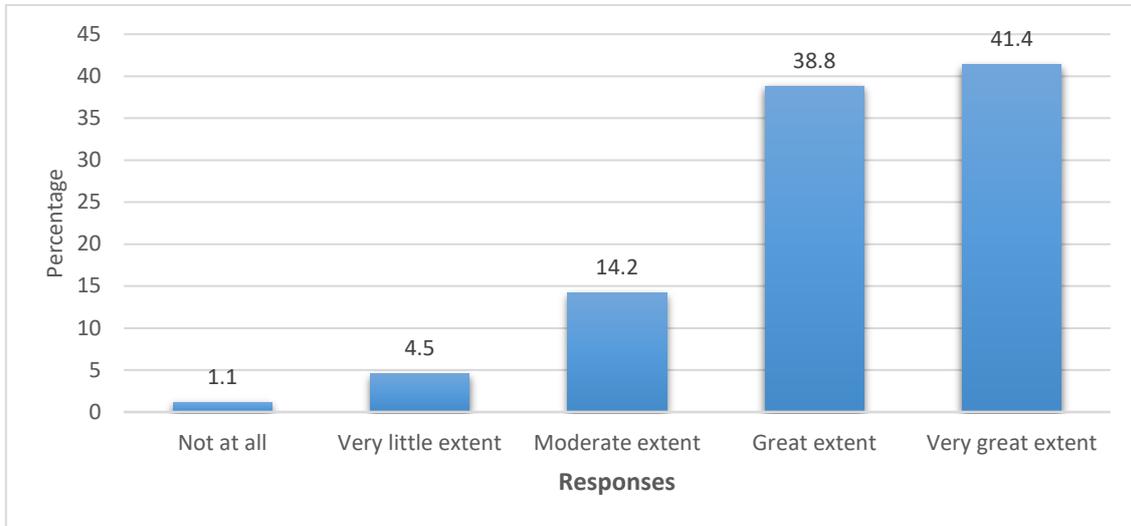
### *Difference across type of institution*

The Kruskal-Wallis statistical test suggested that there was a statistically significant difference between professionals working in different types of institution ( $\chi^2= 30.263$ ,  $P= 0.000$ ). Professionals working in autism institutions (90.3%) were most likely to be 'dissatisfied' (61.3%) or 'very dissatisfied' (29%) with professional-parent collaborative work in the three stages of BI while a smaller proportion of professionals working in mainstream schools (36%) said they were 'dissatisfied' (28%) or 'very dissatisfied' (8%).

### *Differences by level of BI training*

Mann-Whitney statistics revealed a significant difference between professionals with and without BI training in their responses to this question ( $U= 13109.0$ ,  $P= 0.011$ ). The cross-tabulation statistics showed that professionals without training in BI were most likely (81.9%) to be 'very dissatisfied' (40.1%) or 'dissatisfied' (41.8) with professional-parent collaboration in the different stages of BI while only 61.1% of professionals with training were very dissatisfied' (38%) or 'dissatisfied' (23.1%).

**Question 12:** *To what extent should parents be involved at every stage of BI (planning, design and implementation)?*

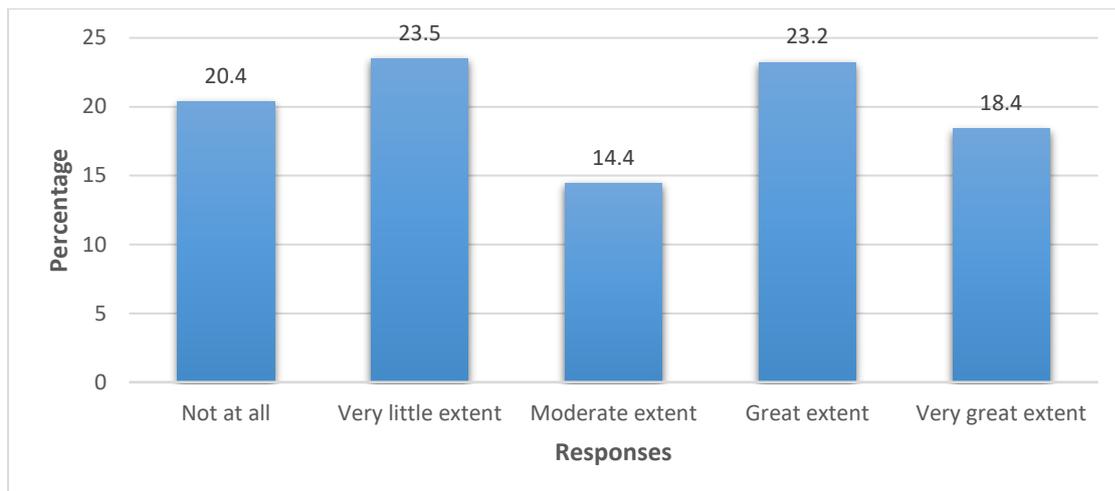


**Figure 5.30:** *Professionals’ responses concerning parents’ involvement at every stage of BI*

A large proportion of professionals (80.2%) felt that parents should be involved to a ‘very great extent’ (41.4%) or ‘great extent’ (38.8%) at every stage of BI.

No statistically significant differences were found between professionals’ in responding to this question based on their demographic information.

**Question 13:** *To what extent do you agree that parents should be involved in specific stages of BI (e.g. planning stage) but not in all stages?*



**Figure 5.31:** *Professionals’ responses concerning parental involvement in specific stages of BI*

The smallest proportion of professionals (14.4%) believed that parents should be involved in specific stages of BI to a ‘moderate extent’.

#### *Difference across gender*

The Mann-Whitney test revealed a statistically significant difference between males and females in this question ( $U=10360.5$ ,  $P= 0.000$ ). In terms of gender, a cross-tabulation for this question showed that a larger proportion of females (61.2%) than males (32.1%) agreed 'not at all' (females = 30.6%; males = 13.4%) or to a 'very little extent' (females = 30.6%; males = 18.7%) that parents should be involved in specific stages of BI.

#### *Difference based on age group*

Kruskal-Wallis statistics indicated a statistically significant difference between professionals from different age groups in responding to this question ( $\chi^2= 47.784$ ,  $P= 0.000$ ). A cross-tabulation statistic showed that 66% of professionals aged 41-54 years agreed 'not at all' (29.7%) or to a 'very little extent' (36.3%) that parents should be involved in specific stages in BI. At the same time, only 12.6% of professionals aged 25 to 30 years agreed to the same degree ('not at all' = 6.3%; 'very little extent' = 6.3%).

#### *Difference based on the level of education*

The Kruskal-Wallis test found a significant difference between professionals with various levels of education in responding to this question ( $\chi^2= 12.675$ ,  $P= 0.013$ ). Cross-tabulation statistics illustrated that 100% of professionals with a doctoral degree were most likely to agree 'not at all' (75%) or to a 'very little extent' (25%) that parents should be involved in specific stages of BI while professionals with a bachelor's degree were least likely (40.8%) to hold the same opinion ('not at all' = 19.1%; 'very little extent' = 21.7%).

#### *Difference across subject area of highest qualification*

The Kruskal-Wallis test revealed a statistically significant difference amongst professionals in different subject areas ( $\chi^2= 43.119$ ,  $P= 0.000$ ). Cross-tabulation statistics indicated that 100% of professionals who stated their subject area as education selected 'not at all' to the question asking whether parents should be involved in specific stages of BI. Only 14.1% of professionals specialised in intellectual disability agreed to the same extent.

#### *Difference across role*

The Kruskal-Wallis test revealed a statistically significant difference amongst professionals with different roles ( $\chi^2= 53.205$ ,  $P= 0.000$ ). Cross-tabulation statistics indicated that the group most likely to agree to a 'very little extent' that parents should be involved in specific stages

of BI was educational psychologists (66.3%). In contrast, the group least likely to hold this opinion was teachers (32.1%).

#### *Difference across experience*

Based on the results of the Kruskal-Wallis test, a significant difference was found between professionals with different years of experience ( $\chi^2=11.182$ ,  $P=0.025$ ). Cross-tabulation statistics showed that 48% of professionals with 16-20 years' experience agreed to a 'very little extent' that parents should be involved in specific stages of BI. The group least likely to agree to a 'very little extent' that parents should be involved in specific stages of BI had more than 20 years' experience (18.2%).

#### *Difference across province*

The Kruskal-Wallis statistical test revealed statistically significant differences between professionals from different provinces ( $\chi^2=100.370$ ,  $P= 0.000$ ). Cross-tabulation statistics revealed that professionals from the Eastern Province were most likely (66.9%) to agree to a 'great extent' (35.1%) or 'very great extent' (31.8%) that parents should be involved in specific stages of BI. Professionals from the Central Province were the least likely (13.6%) to hold this view ('great extent' = 3.9%; 'very great extent' = 9.7%).

#### *Difference by the type of institution*

The Kruskal-Wallis statistical test found significant differences among professionals working in different types of institution ( $\chi^2= 58.999$ ,  $P= 0.000$ ). Cross-tabulation statistics indicated that 51.6% of professionals working in preschool institutions agreed 'not at all' that parents should be involved in specific stages of BI while professionals working in mainstream schools were least likely to agree to the same extent (6%).

#### *Differences by training in BI*

The Mann-Whitney test revealed a significant difference between professionals with and without training in BI in their responses to this question ( $U= 13503.0$ ,  $P= 0.043$ ). Cross-tabulation statistics showed that a larger proportion of professionals with BI training (45%) than without it (33.9%) agreed to a 'very little extent' that parents should be involved in specific stages of BI.

Appendix C.1 shows SPSS printouts of the inferential statistics for the expectation (group one), opportunity (group two), collaboration (group three), motivation (group four), and individual

questions (group four). This section has presented the descriptive and inferential statistics for the scale questions by looking at the differences amongst educational professionals based on selected demographic information. The analysis of the open-ended responses is discussed next.

#### ***5.4 Analysis of the open-ended responses***

This part discusses the analysis of the three open-ended responses included in the questionnaire (see Appendix B.1, Q11, Q12, Q13). These questions aimed to allow the professionals to expand or explain their responses to three Likert questions. The professionals provided fifty-one responses to the three questions: twenty-one responses to Q11, twenty responses to Q12, and ten responses to Q13. The following two paragraphs summarise the responses.

*Satisfaction with professional-parent collaboration in the three stages of BI (Q11):* The professionals were generally dissatisfied with the quality of collaboration and indicated that professional-parent collaboration is lacking in BI. They provided several reasons for the lack of collaboration and their dissatisfaction, including parents' failure to respond to professionals' requests for contact, high teacher workloads, and a lack of school arrangements for professional-parent collaboration. Most professionals identified a lack of assistant teachers and a lack of parents' understanding of ASD as impediments to effective professional-parent collaboration. Additionally, a large number considered providing training in BI for professionals and parents to facilitate collaborative working.

*Collaboration in all stages versus collaboration in specific stages in BI (Q12 & Q13):* Some professionals viewed professional-parent collaboration as important at all stages of BI by indicating that parents are the basis of successful, planning, design and implementation of BI. However, most professionals preferred to not work in collaboration with parents in the design stage and they indicated that due to parents' limited knowledge and understanding of ASD and lack of training in BI, it may not be advisable to involve parents in this particular stage.

#### **5.5 Summary of the key findings**

The questionnaire analysis suggests several key findings. Looking at the differences amongst educational professionals based on their demographic information, the descriptive and inferential statistics of the scale questions suggest several significant differences across gender, level of education, subject area, role, experience, province of working, type of institution, and training in BI. However, these statistics indicate that differences across provinces were statistically significant in all the questionnaire' questions, except question 12 relating to

professionals' perceptions of parental collaboration at every stage of BI. This section discusses the key findings in general and in relation to the Eastern Province in particular.

- Overall, a large proportion of professionals identified a minimal level of professional-parent collaboration in the different stages of BI. Additionally, the descriptive statistics suggested that professionals from the Eastern Province viewed themselves as generally better than other provinces when it comes to providing opportunities for parents to collaborate in the different stages of BI. Further, based on the views of professionals from the Eastern Province, the statistics generally revealed that parents living there were seen as likely to collaborate at a moderate level in their children's BI. In contrast, professionals in other provinces viewed parents as collaborating at a minimal level.
- A full 37.5% of professionals believed that they were motivated to a 'very little extent' to work collaboratively with parents in the three stages of BI. In contrast to professionals from other provinces, a significantly larger proportion of professionals from the Eastern Province (49.3%) thought that they were motivated to a 'very great extent' (16.2%) or 'great extent' (33.1%) to work collaboratively with parents in the different stages of BI.
- Some 36% of professionals viewed parents as motivated to a 'very little extent' to collaborate with them in the different stages of BI. In contrast, a larger percentage of professionals from the Eastern Province (43.7%) saw parents as motivated to a 'very great extent' (9.7%) or 'great extent' (34%) to collaborate with them in the different stages of BI.
- A total of 67.1% of professionals reported being 'dissatisfied' (45.6%) or 'very dissatisfied' (21.5%) with professional-parent collaboration in the three stages of BI. Compared to professionals from other provinces, a significantly smaller proportion of professionals from the Eastern Province (47.4%) reported being 'dissatisfied' (37%) or 'very dissatisfied' (10.4%) with professional-parent collaboration. On the other hand, a larger number of professionals from the Southern Province (90.6%) reported being 'dissatisfied' (56.8%) or 'very dissatisfied' (33.8%) with professional-parent collaboration.
- A large proportion (80.2%) of professionals agreed to 'very great extent' (41.4%) or 'great extent' (38.8%) that parents should be involved at every stage of BI. Provincially, a higher proportion of professionals from the Eastern Province (66.9%) agreed to a 'very great extent' (35.1%) or 'great extent' (31.8%) that parents should be involved in

specific stages but not *all* stages of BI. A smaller number of professionals from the Central Province (13.6%) agreed to the same extent ('great extent' = 3.9%; 'very great extent' = 9.7%).

- It can be concluded from the open-ended responses obtained from the questionnaire that professionals (of which 96% were from the Eastern Province) were not satisfied with professional-parent collaboration and that professional-parent collaboration is not currently practised widely. Professionals generally value collaboration and perceive some barriers to collaborative working.

### **5.6 Refining the research design (the next steps in the research)**

Several key findings emerged from the questionnaire analysis that need to be explained further. The general findings were that professionals expected to a great extent that parents collaborate in the different stages of BI, but professionals were of the view that opportunities provided for parents to do so at all stages of BI are limited. The findings also suggest that professional-parent collaboration is not currently practised widely. The open-ended responses supported these findings and suggested some perceived barriers and facilitators to collaborative working, such as high workloads for teachers, a lack of school arrangements regarding flexible approaches to professional-parent collaboration, and a lack of parental training in BI and understanding of ASD. Based on these results, I developed an additional research question (RQ3) related to facilitators and barriers to professional-parent collaboration in the three stages of BI to explore during the interview phase in order to elaborate on and explain these findings further:

RQ3. What factors facilitate or act as barriers to professional-parent collaboration in the planning, design and implementation of BI for children with ASD in SA?

This question would provide further opportunities to explore and explain professionals' views regarding the current practice of parent-professional collaboration and identify and explain the factors that either facilitate or impede professional-parent collaboration in the different stages of BI (especially the design stage) from the perspectives of both professionals and parents.

Furthermore, the questionnaire data generally suggest that the responses of professionals from the Eastern Province differed significantly from those of professionals from other provinces concerning professional-parent collaboration in the different stages of BI. In contrast to professionals from other provinces, a larger number of professionals from the Eastern Province (66.9%) agreed to a 'great extent' (35.1%) or 'very great extent' (31.8%) that parents should

be involved in specific stages of BI. In the open-ended questions, professionals from the Eastern Province supported their view of not wanting parents to collaborate in the design stage by indicating a lack of parental BI training and their limited understandings of ASD. Considering these findings, I developed another research question (RQ4) for the second interview phase regarding the value of professional-parent collaboration in the three stages of BI:

RQ4. How valuable do educational professionals and parents perceive their collaboration to be in the successful planning, design and implementation of BI for children with ASD in SA?

This question, it was hoped, would enable me to expand these findings further by exploring and explaining in more depth the views of professionals and parents regarding the perceived value of collaboration in the success of BI as well as their preferences pertaining to working collaboratively in the three stages of BI.

In the sequential explanatory mixed-methods design, researchers frequently connect the quantitative and qualitative phases whilst choosing participants for the subsequent qualitative phase based on the results of the first quantitative phase (Creswell et al., 2003). I made the decision to only recruit professionals and parents for the next interview phase from the Eastern Province for several reasons. First, 44% of the professionals who participated in the questionnaire phase were from this province. Second, 96% of the professionals who responded to the open-ended questions were from this province. Third, 100% of the questionnaire participants who volunteered to participate in the interview phase were from this province. Fourth, data obtained from the Eastern Province differed significantly from data obtained from professionals from other provinces. According to Ivankova et al. (2006), researchers who use a mixed methods sequential explanatory design can select their participants for the second qualitative phase based on outliers or extreme cases. Finally, interviewing professionals and parents from this province in the subsequent interview phase could help to explain the questionnaire findings vis-a-vis their preferences for not involving parents in the design stage as well as barriers and facilitators to professional-parent collaboration in the different stages of BI.

## **5.7 Conclusion**

This chapter has presented several aspects related to the analysis of the questionnaire method, phase one of the study. The descriptive statistics for the demographic information of educational professionals were presented first, followed by consideration of the descriptive and inferential statistics for the scale questions. Finally, the key findings of the questionnaire and how these findings informed my decisions regarding the focus and sample for the second interview phase of this study were discussed.

Analysis of the interview method will be discussed in the following chapter. The results of this method are based on sixteen semi-structured interviews (eight with professionals and eight with parents) from the Eastern Province of SA.

## **Chapter 6. Data Analysis Phase Two: Interviews**

### **6.1 Introduction**

This chapter presents the analysis of the interview data, which was derived from sixteen participants (eight educational professionals and eight parents) from the Eastern Province of SA. The interview phase of the study mainly aims to explain and expand the questionnaire results that were discussed in the previous chapter by addressing two research questions which I developed after analysing the questionnaire data. This phase focuses on identifying and explaining facilitators and barriers to professional-parent collaboration and exploring and explaining the value of professional-parent collaboration in the different stages (planning, design and implementation) of BI from the perspectives of educational professionals and parents. First, this chapter starts by restating the two research questions explored through the interview phase and explains how these questions emerged from the analysis of the questionnaire data. Second, it discusses the strategies followed to ensure rigour and quality for the process of interview data analysis. Third, it briefly discusses the thematic analysis approach employed for analysing the interview data. Finally, it presents the six overarching themes identified from conducting the thematic analysis for the interview data.

### **6.2 Research aim and questions**

Overall, my study aims to explore and explain parents' and professionals' perspectives of and experiences with the practice of professional-parent collaboration in the planning, design and implementation of BI for children with ASD. The interview phase aims to address the following two research questions:

RQ3. What factors facilitate or act as barriers to professional-parent collaboration in the planning, design and implementation of BI for children with ASD in SA?

RQ4. How valuable do educational professionals and parents perceive their collaboration to be in the successful planning, design and implementation of BI for children with ASD in SA?

The findings of the questionnaire method (phase one) in this study found that educational professionals generally expected parents to a 'great extent' to work collaboratively throughout BI. However, the professionals indicated that such opportunities were seldom provided for parents to collaborate in the different stages of BI. Overall, the questionnaire findings suggested that professional-parent collaboration in BI is not practised widely in SA. Through the open-

ended responses in the questionnaire, the professionals identified a number of perceived barriers to collaborative working, namely, high teacher workloads, limitations on school arrangements regarding flexible approaches to professional-parent collaboration, a perceived lack of parental training in BI and understanding of ASD, and a lack of assistant teachers. Based on these findings, I developed an additional research question (RQ3) in order to further identify and explain facilitators and barriers to professional-parent collaboration in practice. At that stage, I considered that this question would allow me to further explore and explain professional and parental perceptions regarding the current practice of parent-professional collaboration as well as address factors that either facilitate or impede professional-parent collaboration in BI, something which would indeed generate enhanced explanation and expansion of the questionnaire findings.

Additionally, the questionnaire findings generally suggest that the responses from professionals from the Eastern Province differed significantly from those from other provinces concerning professional-parent collaboration in the different stages of BI. For example, a much higher proportion of professionals from the Eastern Province (66.9%) agreed to a large extent that parents should be involved in specific - but not *all* - stages of BI. In the open-ended questions, the professionals provided many explanations for their responses, indicating that parents should not be involved in the design stage as they lack the requisite BI training for participation in this particular stage. Therefore, I developed another research question (RQ4) regarding the value of professional-parent collaboration in the different stages of BI. This question would enable me to expand these findings further by exploring in more depth the perceived value and importance of professional-parent collaboration in the success of BI from the perspectives of parents and professionals, and their preferences regarding working collaboratively in the three stages of BI (planning, design and implementation).

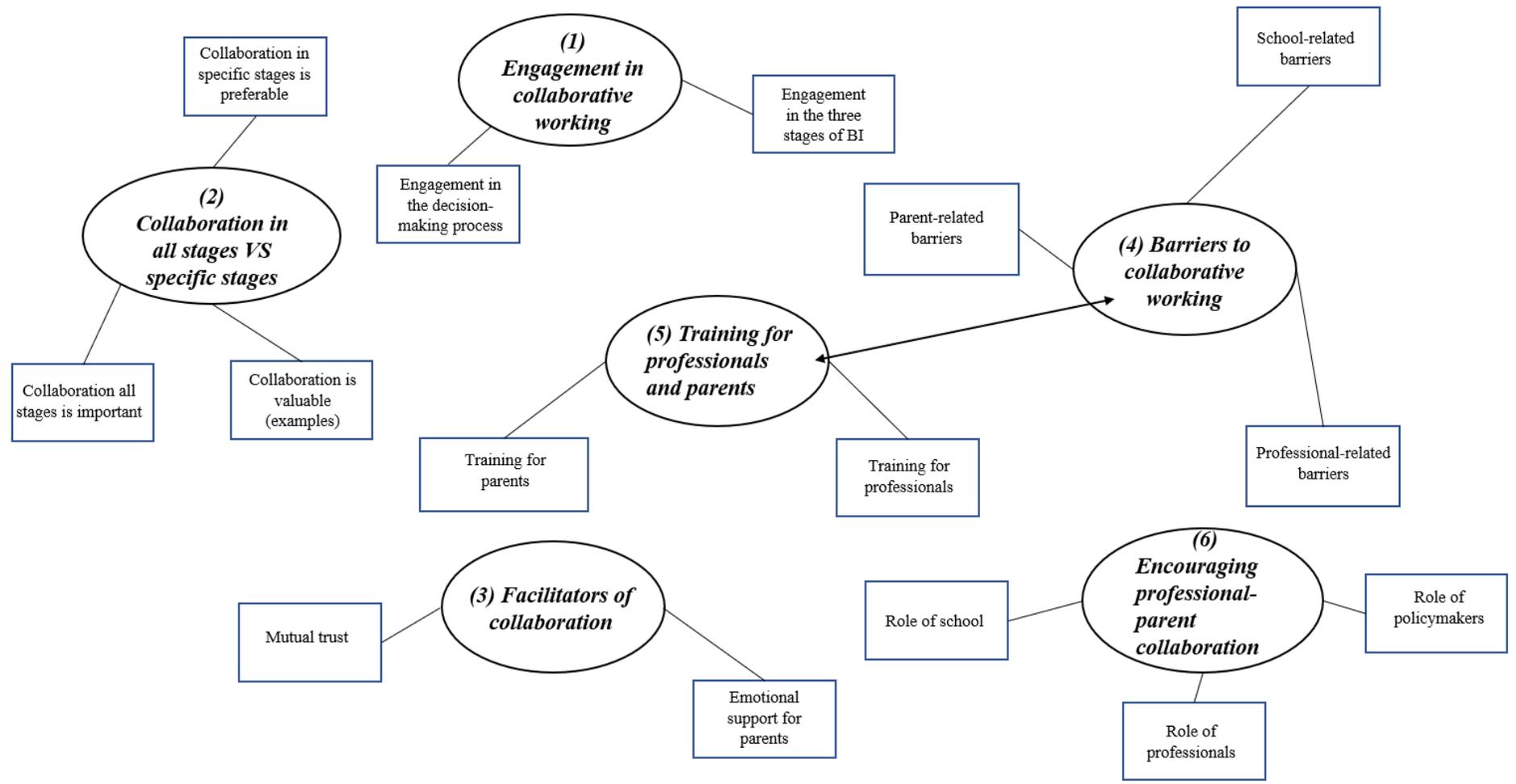
### **6.3 Rigour and quality for the data analysis of interviews**

Several steps and strategies were undertaken to ensure adherence to the principles of trustworthiness for the qualitative data analysis process. Following Magilvy and Thomas (2009), concerning the necessity to include detailed information about interviewees in order to establish transferability for the study to other contexts or with other groups of participants, two demographic information schedules (one for parents and one for professionals) were generated (see Appendix B.6). Providing such information enables the reader to make a judgment concerning the applicability of the interview results to other groups, contexts, or settings.

Before analysing the qualitative interview data, full immersion in it enabled me to understand the participants' accounts and make clearer sense of them. To enhance credibility, it is highly recommended that researchers discuss their coding and thematising process with people who have an appropriate level of experience in qualitative analysis (Holloway, 1997). Therefore, to ensure the credibility of this study, I discussed the identification of initial codes and potential themes with my supervisory team. Further, Golafshani (2003) advises researchers to use quotes from participants' actual words in order to strengthen the credibility of interview findings. Following this advice, the produced thematic analysis contained a large volume of extracts directly extracted from the series of interviews carried out with professionals and parents.

#### **6.4 Conducting the thematic analysis**

I used a thematic analysis approach to analyse the interview data obtained from parents and professionals. This approach can be described as the identification, analysis, interpretation of common themes, ideas, and patterns of meaning within an interview data set (Clarke et al., 2015). As discussed in Chapter Four, I followed a multi-staged approach as proposed by Braun and Clarke (2006) to conduct the thematic analysis for the qualitative semi-structured interview data (see Chapter Four, 4.6.2). The use of this approach to analyse the interview data facilitated the generation of eight primary potential themes in the screening phase (see Appendix C.2). My engagement in the process of reviewing themes resulted in a decision to combine four themes into two themes as these themes were overlapped with each other. Therefore, after refining the themes, I ended with identifying six overarching themes. The graph below is a visual map of the final six overarching themes identified from the interview data. Appendix C.3 provides an audit trail of the steps and procedures undertaken to reach the final six overarching themes.



*Figure 6.1: Mapping of the final six identified themes*

## 6.5 Discussions of the six identified overarching themes

The organisation of this section is based on reporting the six interrelated themes. These themes are based on the reported experiences and the perceptions of professionals and parents regarding their collaboration in the planning, design and implementation of BI for children with ASD. It is important to note that a strong link was found between themes 4 and 5, as both groups interviewed perceived the lack of training (e.g. in collaborative skills and BI) on the part of professionals and parents as a barrier to effective and successful collaborative working. But for organisational reasons, I decided not to merge the two into one theme, as each of the two themes covers multidimensional aspects related to barriers to collaboration, and thus I made the decision to present them separately. Important and relevant extracts for each theme were selected from the entire data set obtained from parents and professionals so as to thematically present and analyse them. An anonymous identification code was assigned to each participant using their initials, and every extract was followed by the relevant participant's code in order to enable the reader to make a judgement of analysis and interpretation. More importantly, aiming to achieve the coverage of the overarching themes, it was assured that the selection of the extracts came from across the entire data set. The six identified themes are discussed next. Appendix C.4 includes an example of a coded and translated parent transcript.

### **Theme 1:** Engagement in collaborative working

This theme illustrates the reported status of professional-parent collaboration in BI. Particularly, it explains the level of engagement in the decision-making process and in the other stages of BI (planning, design and implementation).

The interview data suggested that parents and professionals are not collaborating effectively in the decision-making process in BI. One teacher highlighted, *'The decisions regarding BI are often made by the teacher'* (HG). A speech and language therapist said, *'Decision-making processes are often undertaken by psychologists... Parents do not often participate in these processes'* (MA). A parent was unhappy about this situation, saying, *'The decisions related to BI are always made by the school. Professionals consider themselves experts in BI and view parents as lacking knowledge about these interventions'* (AD, mother).

A father reasoned a lack of parental involvement, stating, *'We are not involved in the decision-making process. Professionals usually give us the impression that we are not experts at BI'* (NA). Some parents also felt that they were not welcome to collaborate. Another father gave an example of unsuccessful involvement in the decision-making process:

*The child's mother and I joined a workshop about ABA therapy ... The mother then visited the school to talk with the staff about the possibility of using this therapy with our autistic girl. We were told that professionals are the only ones who can determine the most suitable BI for the child. If we want to collaborate, they always put us off! We always get the impression that they bothered by our questions and participation (BF).*

Some parents appear to have a strong desire to be involved in the decision-making process of BI, but based on what professionals said in these interviews, they seem to consider the need to train parents before involving them in the decision-making process to make them more capable of effectively participating in this important stage.

The interview data suggested that parents sometimes need to take the initiative or pressure professionals to be involved in the decision-making process. One father confirmed this, saying, *'I usually pressure the school to involve me by informing them that I must be involved in all decisions about my child... This is because I am the one with the most experience of my child's behaviour'* (NA). Some of the views expressed by parents about the importance of their involvement in the decision-making process may reflect the need for parents to take the initiative or pressure professionals to be involved with them in the decision-making process. On the other hand, a father was fine with not being involved, noting, *'I do not participate in the decision-making process... Professionals are experts in BI, and therefore they are more capable than me to make decisions related to this'* (BA). Some parents appear happy leaving this to the professionals.

The findings suggest that some professionals blame parents for the lack of collaboration. For example, one teacher noted, *'A draft of the BI plan is usually sent home for parents to sign... Unfortunately, parents oftentimes do not return the form'* (FZ). A mother, however, explained that for her, *'We do not return the plan back to school because it was constructed without our participation. Even if we suggest some changes to the plan, none are made'* (AA). Given what is said here, the value of engaging in returning the BI plan is questioned by some parents.

However, other parents indicated that they are only involved in the implementation stage and not the planning stage. A mother described her situation by saying, *'I usually contact teachers and psychologists to collaborate with them, but they often tell me that they will develop a plan and will involve me in the implementation stage'* (SH). One father summarised his position by stating, *'Plans are often given to us when it is finalised... We are only implementers for the plan without any engagement with professionals in the planning stage'* (BA). This suggests that

some parents feel that they are only considered as partners in the implementation stage but not in the process of decision-making and planning in their children’s BI.

Both parents and professionals see a lack of parental involvement in the decision-making stage. But some parents acknowledged that they sometimes are involved in the *implementation* stage. For some parents, engagement in the decision-making and other stages required them to take the initiative or pressure professionals to be involved in BI.

**Theme 2:** Collaboration in all stages versus collaboration in specific stages

This theme addresses the preferences of professionals and parents regarding the level of collaboration required in BI: all stages versus specific stages. Based on the experiences and perceptions of both groups, it also provides reasons for the value of collaborative working and displays positive examples of successful professional-parent collaboration.

As shown in Table 6.1, most professionals and parents preferred to collaborate in specific stages of BI (n=12), with only four preferring to collaborate in all stages.

Participants	All stages	Specific stages
Educational professionals	2	6
Parents	2	6
Total	4	12

**Table 6.1: Professionals’ and parents’ preferences concerning the level of collaboration**

Some parents and professionals thought that parents should be involved throughout BI (planning, design and implementation) whereas others believed that collaboration should only occur in the planning and implementation stages.

*Collaboration in all stages*

A limited number of professionals and parents supported professional-parent collaboration in all stages of BI. One teacher asserted, ‘*Parents must be involved in all stages of BI... Parents are the backbone of the entire educational process and without their collaboration, BI cannot succeed*’ (HG). A father agreed with this, saying, ‘*Because the intervention programme is a shared project, both should work collaboratively in the three stages*’ (NA). This suggests that some professionals and parents perceive planning and delivering BI as a shared responsibility and, therefore, it is important to collaborate in all stages to ensure their success.

### *Collaboration in specific stages*

Most parents and professionals in these interviews consider that collaborative working in BI should take place in specific stages, namely in the plan and implementation stages, but not in the design stage. Both groups in these interviews sometimes mentioned parents' lack of specific skills and knowledge required for participation in the design stage. As one educational psychologist recommended, *'I prefer professionals to collaborate with parents in planning and implementing BI... A doable plan should be designed by professionals as they hold appropriate levels of expertise in these interventions'* (SA). One school supervisor highlighted a lack of parental expertise that is important for participating in the design stage, indicating, *'Parents lack of skills and training in identifying and defining problematic behaviour, identifying precedent stimulations, the determination of pre- and post-stimuli for the target behaviour, and the procedural design of the BI'* (FZ).

Professionals' views pertaining to their preference not to involve parents in the design stage were consistent with those of most parents interviewed. A mother, for example, acknowledged parents' lack of training by saying, *'Our role is key in the planning and implementation stages... But participation in the design stage requires academic competence and skills that parents may not have'* (AA). A father expressed his agreement with this sentiment:

*Planning and implementation are the stages where our collaboration is necessary. In the planning stage, parents should be involved in identifying and defining behavioural problems and specifying the broad goals and limits of the BI. Similarly, implementation without parental collaboration is unrealistic and may cause confusion for the child* (BF).

It appears from what professionals and parents say that they prefer to involve parents in the planning and implementation stages but not necessarily in the design stage. Both consider that participation in the design stage requires particular skills and training that parents may not possess.

Professionals and parents provided many reasons for valuing collaborative working in the planning and implementation stages. A school supervisor emphasised the importance of professional-parent collaboration in enhancing good relationships and generalisation of learnt skills:

*It is important for professionals to involve parents in planning and make them see themselves as the main planners. This would increase their motivation to collaborate and establish a positive relationship with professionals and motivate them to collaborate with professionals in the implementation stage, where the main aim is to generalise the learned skills (SA2).*

Parents provided similar reasons. For example, one mother said, *'I think parents should participate in the implementation stage as some behavioural issues may occur at home. This would facilitate generalise the experiences gained across school and home environments'* (AA). Both professionals and parents seem to value their collaboration in the planning and implementation stages as they believe that they complement each other.

Generally, professionals and parents valued professional-parent collaboration in BI. One teacher summarised the importance of collaboration:

*Professionals and parents are two sides of the same coin; they complement each other. Professionals are more familiar with plan, design and implementation methods of BI on one side, while parents are knowledgeable about their children's strengths and weakness on the other side (AB).*

A father underlined the value of collaboration:

*Collaboration means considering parents and professionals' perspectives, and this would help in the planning stage... Collaboration facilitates implementing the intervention in the home and school environments and so generalisability of the learned skills can be accomplished (NA).*

Both groups appear to generally support the importance of professional-parent collaborative working and perceive it as a requirement for achieving positive outcomes for children with ASD, such as maintenance and generalisation of learnt skills.

Moreover, both groups gave examples of successful episodes of collaborative working from their personal experiences. One teacher said, *'I had an autistic child with 'physical aggression... Collaboration with his father was fruitful and led to implementing a successful BI'* (HA). Similarly, a mother described how collaborative working was helpful for her daughter, saying, *'My daughter had the problem of self-harm and self-injury behaviour... We worked with an educational psychologist and teacher throughout BI... Our collaboration was productive as we were able to successfully decrease these behaviours'* (SH). This statement reflects in general what parents and professionals said about the value of collaborative working in BI.

In summary, the comments reveal that both groups support professional-parent collaboration in the plan and implementation stage but not in the design stage, and they are able to give reasons for this stance.

### **Theme 3: Facilitators to collaborative working**

This theme discusses facilitators to professional-parent collaboration in BI: mutual trust and emotional support for parents.

#### *Mutual trust*

Both groups in these interviews frequently mentioned mutual trust as a key facilitator of professional-parent collaboration. One mother indicated the importance of mutual trust, saying:

*'If parents trusted professionals to do their best to help their autistic child, and, likewise, if professionals trusted parents' abilities to support them and appreciated the role they can play, this would be helpful in building a healthy collaborative relationship' (HB).*

A school supervisor questioned parents' trust of professionals and linked it to the lack of collaboration, pointing out, *'Mutual trust is an important aspect in collaborative work, but the problem is parents do not trust our abilities and for this reason they may not want to collaborate with us' (FZ)*. A father provided a reason for not trusting professionals by saying, *'How do you want us to trust professionals when we experience small positive improvements in our children's behaviour!' (SZ)*. What both groups indicate here about the need for mutual trust may reflect the lack of trust between the two parties and therefore both confirm the need for mutual trust prior to working with each other.

#### *Emotional support for parents*

Emotional support for parents was viewed as a facilitator of professional-parent collaboration. As a school supervisor emphasised, *'Sharing parents' suffering and emotionally supporting them when they encounter problems can make them feel that they are not the only ones who care about their child, and therefore encourage them to build a collaborative relationship with professionals' (SA2)*. This is echoed by one mother, who suggested, *'Listening to us and supporting us emotionally are important factors that motivate us to collaborate with professionals' (AD)*.

Some parents indicated that they have a poor quality of life because of a lack of collaboration. For instance, one father talked about the challenges to parental wellbeing, saying, *'We suffer*

*from burnout, whether in term time or in the summer holidays, due to the lack of professional-parent collaboration' (SZ). This need for emotional support from professionals came through in the account of another parent, who stated:*

*Professionals should offer us hope and continued support in order to overcome the burnout we are experiencing when caring for our child and dealing with problematic behaviours. A good level of emotional support for parents is required to encourage their collaboration (SH)*

What professionals and parents emphasised concerning the need for emotional support and continued support may reflect what both groups highlighted about the challenges to parental wellbeing which stem from raising a child with ASD, something which may inhibit them from engaging in collaborative work with professionals.

In summary, what both groups indicated here about facilitators of collaborative working may suggest the need for mutual trust and emotional support for parents as prerequisites for professional-parent collaboration.

#### **Theme 4: Barriers to collaborative working**

This theme examines the different types of barrier and illustrates them with vivid examples from the experiences of parents and professionals in relation to unsuccessful collaborative working. This theme comprises three sub-themes:

##### *Sub-theme 1: Barriers related to parents*

###### *Limited parental understandings of ASD*

One barrier discussed by both groups related to a limited parental understanding of ASD. One teacher noted, '*Many parents have limited knowledge of ASD and thus limited motivation to collaborate with professionals. This type of parent often considers the school as a comforting shelter away from their child for some hours during the day' (HA). Similarly, a teacher shared a negative example of collaborating with parents due to a lack of parental understanding of ASD:*

*I taught a child with aggressive behaviour. I worked with his family to build a BI to reduce this behaviour. It was agreed to follow certain methods and consistently implement them at school and home, but the family did not adhere to the plan and they tended to hit the child when this behaviour occurred. Due to the limited parental understanding of their child's characteristics, the child's behaviour worsened (AD).*

Parents in these interviews frequently mentioned their need for emotional support, reflecting

their lack of understanding of ASD. It appears that parents require an appropriate level of emotional support so as to encourage them to increase their knowledge of ASD.

*Parental desire for rapid solutions to their child's behavioural issues*

Some of the views expressed by professionals about parents were strongly negative. A number of professionals perceived parents as wanting unrealistically rapid and significant improvements in their child's behaviour, demands which could constitute a barrier to a collaborative relationship with professionals. One psychologist described parents by saying, '*Some parents have limited knowledge about the gradual nature of behavioural change. If parents experience no significant improvements in their autistic child in a short period of time, they may straightaway blame professionals and stop collaborating with them*' (SA). A teacher gave an example of an unsuccessful attempt at collaborative work with a mother:

*I had a girl with the problem of self-harm. Through collaboration with her mother, a BI was planned for her. The mother collaborated effectively in the first two weeks of the BI, but then she suddenly stopped communicating with school... When the mother responded to our contact, she said she had given up and could no longer collaborate (ZA).*

Some of these professional perceptions were echoed in comments by parents. One mother, for instance, spoke about the most important aspect for her, stressing, '*The most important thing for me is to notice significant behavioural change for my daughter even if this requires paying a large amount of money*' (AA). Another father spoke of a lack of patience for some parents when working with professionals:

*Professionals sometimes choose a specific BI for the child but due to some reasons beyond the professionals' control, the child may experience a failure in the planned intervention, which is a normal thing when working with such children. When this happens, parents may blame the professionals and stop trusting them and even stop communicating with them (NA).*

It appears from what both groups have said here that parents have a strong desire for rapid and positive developments in their children's behavioural problems. This might reflect what both groups suggest throughout the interviews, namely, that parents have a limited understanding of ASD and of the nature of behavioural change.

## Sub-theme 2: Barriers related to schools

### *Overcrowding in schools and classrooms and a lack of assistant teachers*

Both groups considered overcrowding in schools and classrooms in both ASD institutions and mainstream schools as a barrier to collaborative working. Considering what the professionals pointed out in the interviews, they noted that even when parents visit school, professionals are not able to see them as they work alone with their students and thus always need to remain in class. They mentioned that the only chance for a meeting is when pupils are on a school trip. However, due to the high teacher workload and the large number of students that they teach, they are more likely to be busy with administrative work or preparation for the next day. Hence it might not be possible to arrange to meet with parents even at such times.

One teacher summarised his position about this issue, saying, *'I have six students in my class. How I can deal with them and collaborate with their parents without having an assistant teacher. There really is no time for collaboration'* (ZA). Another mainstream teacher was also unhappy about the student-teacher ratio, noting, *'Working alone with nine children is a very large burden on me... Providing BI for those children and collaborating with their parents is almost impossible to accomplish'* (HA). Such frustration went beyond teachers, with one speech and language therapist, saying, *'I am really exhausted as the training hours in my timetable are above thirty hours per week. This reduces my motivation to collaborate with parents'* (MA). An educational psychologist agreed, noting, *'I work on average with fifteen cases a week, all of which require behavioural support... No time is left for professional-parent collaboration'* (SA).

Some of these professional views were supported by comments made by parents, who also referred to a problem of overcrowding and a lack of assistant teachers. One father was not satisfied with overcrowding in his son's centre, pointing out, *'My son's centre, for example, provides services for sixty-five children, and this is a huge burden on teachers and the educational psychologist'* (SZ). Another mother also spoke about her experience of overcrowding in mainstream schools, stating, *'In my daughter's school, thirty-eight students are enrolled. This is too much for the teacher to teach, especially with the lack of assistant teachers'* (AA).

Based on the comments discussed here, it would appear that both parents and professionals are unhappy with the present situation regarding overcrowding in schools and classrooms, something which is at least partly attributable to a lack of assistance teachers. They appear to

support reducing the teacher-student ratio and suggest the need for more assistant teachers in order to share responsibility with teachers in planning and delivering BI, thereby providing more space for collaborative work.

It should be noted that this viewpoint, although overwhelmingly the case, was not unanimous, and at least one teacher expressed satisfaction with the teacher-student ratio (and by implication with the workload at the school), saying, *'I see that the number of students is very acceptable in each class. I work with five autistics and I have time to communicate and collaborate with all of their parents'* (AB).

#### *Limited arrangements for collaborative working*

Professionals and parents saw the limited ability of school to arrange flexible approaches to collaborative working as another barrier. For example, a speech and language therapist claimed:

*'Schools provide limited arrangements, and this can limit collaboration... Many schools do not even have a text messaging service to facilitate contact... It is rare that schools arrange workshops and meetings to invite parents to collaborate with professionals'* (MA).

These views were reflected in comments made by a school supervisor, who said, *'The approaches provided by the school administration to ease collaboration are limited... No invitation letters are sent to parents, no workshops or meetings are arranged, and no suitable place for collaboration is prepared'* (FZ).

Parents also mentioned this issue, with one mother saying, *'I feel that we are completely ignored as there is a lack of school arrangements that aim to teach us about our child's condition and there are limited sessions where parents and professionals can meet and collaborate'* (HB). Another mother gave an example of how collaboration was hampered by the lack of school planning for professional-parent collaboration:

*'My daughter had the problem of knocking on doors and tables at home in a repetitive manner. I asked the teacher and psychologist to make a home visit to observe the child in order to plan a BI to resolve this problem. Unfortunately, they refused to visit us at home as home visits are prohibited by the school administration'* (SH).

Both professionals and parents seem to hold the view that there is a need to make specific administrative arrangements to facilitate collaborative work between parents and professionals.

### Sub-theme 3: Barriers related to educational professionals

#### *Professionals lacking motivation to collaborate with parents*

A number of professionals interviewed perceived a lack of motivation on their part to collaborate with parents, hindering opportunities for collaborative work with parents. As one speech and language therapist claimed, *'Some professionals view working with those children and their parents as performing a functional task but actually lack the inner motivation to collaborate with parents'* (MA). This was echoed by a parent, who held strong views on professionals lacking motivation, noting, *'Professionals simply perform their work in order to obtain their salaries, and no nothing more than that!'* (SZ). Given what this professional and parent claimed regarding the lack of professional inner motivation to collaborate with parents, this matter could be interpreted as linked to a degree with the issue of high teacher (and other professional) workloads and a lack of assistant teachers. High workloads could be a factor which underlies professionals' lack of motivation to engage closely with parents.

Another mother shared her story with a mainstream schoolteacher:

*My daughter had the problem of screaming and stubbornness... She was often placed at the back of the class because of this. The teacher isolated the child without implementing any intervention to solve this problem. We asked the teacher and the student counsellor in school to collaborate to solve the problematic behaviour, but this never happened (AA).*

This statement underpins what parents and professionals noted about the lack of professional motivation to work collaboratively with parents.

To sum up this theme, both groups appear to consider that there is a need for parents, schools, and professionals to make specific and targeted efforts to ease collaborative working between parents and professionals.

**Theme 5:** The lack of necessary training for professionals and parents to support collaboration in planning and delivering BI

This theme concerns the required training in BI, ASD, and collaboration skills for parents and professionals to engage in effective collaboration. This theme comprises two sub-themes:

#### Sub-theme 1: Training for educational professionals

Both groups considered the lack of training in BI and limited collaborative skills for professionals as factors that negatively affect professional-parent collaboration. One teacher

said, *'Due to the lack of training provided for professionals, some of them may have limited knowledge related to how to implement BI, and also limited communicative and decision-making skills that are important for collaboration'* (HG). Indeed, one educational psychologist claimed that many professionals lacked specific training in autism:

*Some professionals who teach those children are specialised in intellectual disability, not autism. The available training for us is mostly theoretical and delivered by trainers who are academics at universities. I think we need more practical training delivered by experienced professionals* (SA).

The negativity of some professionals on this issue is matched by some parents. One father was dissatisfied with the degree and type of training for professionals:

*I withdrew my child from a governmental school and he is now taught by a Jordanian private trainer because I am not satisfied with the abilities and skills of some professionals... Some of them are not well trained to work with children with ASD and collaborate with their families* (NA).

Both groups' comments here indicate that many professionals lacked specific training in ASD, BI, and collaboration skills, and that this constituted a barrier to professional-parent collaboration. This lack of training may reflect what professionals noted in the interviews about their non-specialist background in ASD and the limited training opportunities provided for them at school or national level.

### Sub-theme 2: Training for parents

Both groups saw parents' lack of training in BI and their lack of the skills needed for collaboration as barriers to professional-parent collaboration. A school supervisor confirmed this, saying, *'Some parents lack interpersonal skills and other positive communication skills. They also need to obtain training in BI in order to be able to participate in these interventions'* (FZ). Similarly, a teacher said, *'Parents should join mandatory training in order to educate them about their roles in the different stages of BI... But in the long term, we could gradually move this from being compulsory to being optional'* (HA). Parents' lack of training in BI and collaboration skills may reflect what parents indicated in the interviews about needing to feel supported and trained in order to be able to effectively to collaborate in their children's BI.

Professionals' accounts of a parental need for BI training were echoed in some parents' comments. For example, one father explained how he required training in order to be able to collaborate effectively with professionals, noting, *'I want to join courses to learn different*

aspects related to BI, such as the different forms of BI, how to participate in them, and what roles can we play' (BA). A mother lamented her lack of training in BI, claiming, 'I did not receive any formal training to improve my ability to collaborate with professionals... I need to join workshops and courses in BI in order to enable me to participate in these interventions' (AA). Another father was also unhappy with his lack of knowledge in BI:

*What is happening in practice is that professionals make a plan for BI and they send it to me to sign. Since I do not have training in BI, I always accept the plan as it is, but I am unhappy with this as I want to participate in the whole process of BI (BF)*

These comments reveal that some parents feel that they are not considered equal partners in the process, and that they require training in BI to be able to participate more fully and successfully in BI.

In summary, both professionals and parents appear to consider the need to receive training related to BI and collaboration skills in order to increase the level of collaborative working.

#### **Theme 6:** Encouraging professional-parent collaboration

This theme explores the role that professionals, schools, and policymakers might play in encouraging professional-parent collaboration in BI. This theme comprises three sub-themes:

##### Sub-theme 1: Role of schools

###### *Holding regular meetings and training workshops*

Some professionals and parents reported that schools have a role to play by organising regular meetings and workshops in order to foster professional-parent collaboration. For instance, one educational psychologist described the role of the school, saying, 'School administration should hold regular meetings and workshops where parents and professionals can meet and discuss aspects related to BI' (SA). Similarly, a father suggested, 'Monthly meetings between professionals and parents should be organised by the school in order to create opportunities for both to engage in active collaborative working' (AA). This point reflects what both groups stressed in these interviews, namely, that there is a need to make specific administrative arrangements related to holding regular meetings and training workshops to facilitate professional-parent collaborative working.

### *Creating a safe and suitable environment for collaboration*

Both groups were of the view that school administrators should create a safe and suitable environment to ease professional-parent collaboration. One school supervisor emphasised the importance of this, pointing out, *'Creating a comfortable and safe physical and psychological environment in the school can build the basis for collaborative working between the two parties'* (SA2). Professionals' comments were supported by parents, with one mother, for example, suggesting, *'Schools should create a safe and welcoming environment; a relaxed school atmosphere encourages more engagement in collaborative working'* (AD). A father also highlighted the need for informal venues where professional-parent collaboration could occur, saying, *'I personally prefer to meet in an informal place, not always in school... It is possible for professionals and parents to work in a neighbourhood club, making the session more friendly than formal'* (BA). It appears from some professionals' and parents' comments that the school's psychological and physical environment are important aspects to be considered in order to facilitate and foster collaborative working.

In an example of how this had worked positively to support collaboration, a school supervisor described what they did in their school, saying, *'We made the sensory room in our school into a space for professional-parent collaboration... This room has been successful in attracting parents to come to school and collaborate with professionals'* (FZ). This comment underpins what parents and professionals noted regarding the need for a suitable environment where collaboration can take place.

### *Multiple channels and ways of communication*

Both groups indicated that channels and ways of communication between parents and professionals should be diversified in order to increase the level of collaboration and make it more productive. One school supervisor, for example, noted that collaboration could be facilitated by *'sending text messages and invitations letters to parents to invite them to attend workshops or meetings with professionals'* (FZ). A mother also suggested that *'school-based meetings, home visits, and video calls should be arranged by administrators in order to facilitate and foster collaborative working [as] having our collaborative meetings always in the school is very boring'* (AA).

Although both groups were generally dissatisfied regarding this issue, they offered suggestions as to how school administration of parent-professional collaboration could be improved, for example by organising meetings, workshops and courses where parents could meet each other

and meet professionals, arranging home visits, and providing academic materials in the form of literature and/or YouTube channels to inform parents.

In summary, both groups appear to see a need for schools to make specific arrangements related to finding creative ways to extend communication and collaboration between parents and professionals and providing a suitable school environment to facilitate collaborative working.

### Sub-theme 2: Role of educational professionals

#### *Explanations and negotiations of parents' role in BI*

Some professionals and parents held that professionals have a role to play in encouraging parental involvement by indicating that professionals should be required to provide explanations to parents about their roles, the importance of their collaboration, and what is expected from them at the onset of BI. For example, one teacher stressed, *'Professionals are required to introduce collaborative working to parents, negotiate their roles with them, and inform them how important their collaboration is'* (HG). A mother agreed with this sentiment, stating, *'Professionals need to inform parents about their roles in BI and the benefits of professional-parent collaboration'* (HB). These comments reflect the fact that parents feel they need to feel supported by professionals.

#### *Documentation of the child's development*

Some of the views expressed by professionals and parents indicate the necessity for the continuous documentation of the child's growth and development in order to encourage parents to collaborate in BI. As one school supervisor suggested, *'Professionals should constantly document the child's development because showing parents successful examples of BI that have been already implemented in school can increase their motivation to collaborate'* (SA2). A mother confirmed the importance of documentation, saying, *'If teachers document what has been accomplished and inform parents about it, this could increase their awareness of teachers' efforts, therefore establishing trust, appreciation of their role and, more importantly, encouraging them to collaborate'* (HB).

This sentiment may reflect what both groups had to say about parents' need to establish trust in the professionals caring for their children. Based on both groups' comments, parents seem to want the development of their children to be documented and shared with them in order to develop and foster trust in the professionals, value their work, and collaborate with them.

### Sub-theme 3: Role of policymakers

Some parents and professionals thought that policymakers in SA have a role to play in laying the ground for professional-parent collaboration. One mother was unhappy about the current legislation, noting, *'Special education in SA does not ensure that collaboration is enacted within schools. Due to this, collaborative working may not be practised widely in schools'* (SH). One teacher emphasised the need for strict legislation, suggesting, *'Policymakers should be encouraged to issue legislation to strictly regulate collaboration'* (HA). Another mother suggested the recruitment of bodies to *'supervise collaborative working and ensure that it is happening in schools'* (AA). It appears from some professionals' and parents' comments that they have reservations about the current legislative framework on collaboration, stressing the importance of supervision of professional-parent collaborative practice by schools in order to ensure that it is actually happening in practice.

In summary, given what parents and professionals have intimated here, both groups appear to want schools, professionals, and policymakers to more actively encourage and facilitate professional-parent collaboration.

## **6.6 Conclusion**

This chapter has provided an overview of the thematic analysis method used to analyse the interview data obtained from sixteen participants (eight parents and eight professionals) pertaining to their experiences and perceptions of professional-parent collaboration in BI for children with ASD in SA. Six overarching themes were identified through the thematic analysis of the interview data.

The following chapter further discusses the interview and questionnaire results, which are integrated and considered in relation to the research questions and the reviewed literature.

## Chapter 7. Discussion

### 7.1 Introduction

This chapter provides discussions and interpretations of the findings from both the questionnaire and interview phases which were presented in the previous two chapters. The findings are discussed in relation to the two sets of research questions and the existing literature. The former research questions were set to be explored through the questionnaire method and the latter questions were emergent questions which were explored through the interview method and expanded on and provided explanations for the questionnaire findings. My study used a mixed methods explanatory sequential design as described by Creswell and Plano Clark (2011). The interview method was intended to elaborate, clarify, and explain the findings of the questionnaire method. Therefore, this chapter is organised around a discussion which integrates the results of each pair of research questions, a design consistent with the sequential nature and ‘complementarity’ of the study. Schoonenboom and Johnson (2017) suggest a number of connecting points in mixed methods research, including research questions. As noted, to ease the blending of the findings of the two phases, the research questions were divided into two pairs, each consisting of several general topics.

To recap, this study aims to answer the following research questions:

RQ1. To what extent do educational professionals expect parents to collaborate in the planning, design and implementation of BI for children with ASD in SA?

RQ2. To what extent do educational professionals consider they are currently working in collaboration with parents in the planning, design and implementation of BI for children with ASD in SA?

RQ3. What factors facilitate or act as barriers to professional-parent collaboration in the planning, design and implementation of BI for children with ASD in SA?

RQ4. How valuable do educational professionals and parents perceive their collaboration to be in the successful planning, design and implementation of BI for children with ASD in SA?

## 7.2 Discussion

### 7.2.1 Part one: *Discussion of the results in relation to research questions one and four*

This part discusses, combines, and interprets the results of RQ1 and RQ4. The combined results are then linked to the review of the existing relevant literature. It is worth noting here that my study focuses specifically on collaborative working in the three stages of BI, but the focus of some studies cited in this chapter are on collaborative working in behavioural and educational interventions generally, individualised educational plans, or the education of children with ASD. As the interview data obtained from parents and professionals provided a thick explanation of and expansion to the questionnaire findings, I decided to explain and interpret the combined findings (mixed findings) on the basis of the interview findings. Based on the analysis of the questionnaire and interview data, two topics which emerged from the findings will be used to structure the discussion.

#### *Topic one: the importance and value of professional-parent collaboration*

Generally speaking, the questionnaire findings suggested that a large proportion of professionals - from all the questions asking about what they expected in terms of professional-parent collaboration in BI - generally expected parents to collaborate in the different stages of BI a 'very great extent' or 'great extent'. Likewise, analysis of the open-ended responses in the questionnaire suggested that professionals emphasised the importance of parental involvement in BI. These findings are further supported by the interview findings as, generally, almost all parents and professionals reported that they valued collaboration in BI.

The combined questionnaire and interview findings regarding the importance of professional-parent collaboration are consistent with what other researchers have found in the Saudi context. The participating parents in Alotaibi and Almalki's (2016) study reported that early intervention programmes for children with ASD should be based on parental participation in order to ensure the success of these interventions. The parents who participated in Alotaibi and Almalki's study also felt that their active participation in interventions would help them to build a better relationship with their child and inform them about how to improve their children's behavioural and communicative skills. Similarly, the participating parents of Alajmi's (2014) study valued collaboration with teachers and considered that working jointly can enhance positive long-term outcomes for the child and the family alike.

These findings, although specific to the Saudi context, are reflected in the wider literature. The participating parents and teachers in Meade's (2011) and Goldman et al.'s (2019) studies highly valued collaboration in the education and interventions of children with ASD. Additionally, Roberts et al. (2011) found parental involvement to be a requirement for a successful EIBI, and thus the roles and expectations of parents should be clearly defined and explained at the outset of the intervention programme to foster collaboration and minimise disagreement (Murray et al., 2008). Further, Tucker and Schwartz (2013) found that parents perceived themselves as willing to collaborate with schools in planning for their children. Those parents appeared to consider their collaboration as important to share knowledge and expertise, set achievable goals, and decide on the appropriate means and level of support for their children.

The findings of the current study on the valuing of professional-parent collaboration are unsurprising. They reflect the expectations underpinning policy, legislation and guidance from SA's MoE regarding the importance of such collaboration. As discussed in Chapter Two, the Organisational Directory of Educational Programmes for Autism in SA (2012) emphasises that professional-parent collaboration must take place throughout the planning and implementation of the educational activities and intervention programmes for children with ASD.

*Topic two: parents' and professionals' preferences and expectations regarding working collaboratively*

The questionnaire findings suggest that 80.2% of the professionals believed that parents should be involved at every stage of BI to a 'very great extent' or 'great extent'. The questionnaire findings pertaining to the preference for involving parents at every stage in BI are supported by some researchers in the literature on SA. Bassam and Tork (2019) found that participating mothers expressed their preference to not only participate in the implementation stage of the intervention programme but also to participate in all stages of these interventions, including the decision-making stage.

However, my study's questionnaire findings partially contrasted with the interview findings in relation to the preference of working in collaboration at all stages of BI. The interview findings suggested that three-quarters of parents and professionals said they preferred to collaborate in specific stages, namely planning and implementing, rather than at every stage, while only a quarter of interviewees expressed a preference to collaborate at all stages.

One possible interpretation for these apparently inconsistent results concerning professional and parental perception of the required amount of collaboration may relate to the selection of

the interview sample. The entire interview sample was selected from the Eastern Province. The questionnaire findings suggested that more than four fifths of professionals from this province preferred professional-parent collaboration to take place in specific stages. This may have influenced the findings, as the sample of the participating professionals in the interview phase was a subset of the professionals who completed the questionnaire. Obtaining inconsistent findings may be attributable to the difference in sample size and type of population participating in the two phases of the research. The sample of the questionnaire was 353 educational professionals, whereas only sixteen (eight parents and eight professionals) participated in the interview.

Parents' views generally chimed with professionals' views concerning not being involved in the design phase. Both groups emphasised a parental lack of specific skills and knowledge needed to design BI, such as the determination of pre- and post-stimuli of the target behaviour, the procedural design of the BI, and knowledge of behaviour modification techniques. This finding is supported by Al-Towairqi et al. (2015), who found that parents reported that their participation throughout their children's interventions was linked to their having sufficient knowledge about the intervention programme. In the present study, it seems that parents and professionals believe that as professionals have had specific training, it is more appropriate for them to design interventions without parental collaboration.

However, these interview findings contrast with the findings of Bassam and Tork (2019), who found participating mothers expressed a preference for participation in all stages and perceived it as a requirement for a successful intervention programme. It is possible that the difference between my study and some others may be attributable to the geographical focus of the former, namely interviewing participants from the Eastern Province of SA. It might be that parents who live in this province lack particular skills and training that would enable them to collaborate in the design stage. It is also possible that these parents may not have been sufficiently supported by local professionals.

Based on the interview findings, a number of reasons have been proposed by professionals and parents for the importance of collaboration in the planning and implementation stages but not the design stage. The interview data suggests that collaboration in the planning stage is necessary because parents are seen by themselves and by professionals as a main source of information for this stage. They believe that this stage should be based primarily on parents' and professionals' observations of the child behaviour in the home or school settings. This

finding concurs with Alajmi (2014), who found that participating Saudi parents expressed their desire to participate in the planning stage. These parents felt that participation in the planning stage is vital in order to share important information about the child relating to his or her strengths and weakness and likes and dislikes, knowledge which ensures a degree of consistency between school and home practices.

Other researchers in the wider literature support the findings of my study pertaining to the perceived necessity for professional-parent collaboration in the planning of BI for children with ASD. The majority of the participating teachers (96.5%) and all parents (100%) in Syriopoulou-Delli (2016) highly valued mutual collaboration and communication in the education of children with ASD. They believed that parent-teacher collaboration in the planning for children with ASD positively improved the quality of home practices implemented by parents. Similarly, the participating professionals and parents in Udaze (2016) and Goldrich et al. (2018) considered that professional-parent collaboration when planning for children with ASD improved academic, social, and behavioural outcomes for children with ASD.

The professionals and parents interviewed in my study explained the reasons behind their preferences for professional-parent collaboration taking place in the implementation stage. One reason was that collaboration can play an essential role in enhancing the generalisation of the learnt skills in the home and school environments. Another reason highlighted by both groups was that some behavioural problems may occur at home and thus it is important to involve parents in implementing BI. Other Saudi studies have revealed similar findings, with ASD teachers emphasising the importance of involving parents in the implementation stage of their children's interventions. Teachers in Alatifi's (2019) study considered the home as the natural environment for children, and so parents, with the assistance of school professionals, should have a key role in implementing early interventions. Additionally, parents in Alajmi's (2014) study considered that collaboration in this stage can promote the generalisability and sustainability of learned behavioural skills, as what is implemented in school can be implemented in the same way at home.

These findings, although specific to the Saudi context, are reflected in the wider literature. The findings of Kazdin et al. (2006) revealed that parent-therapist collaboration was related to improvements in the intervention programme and enhanced the child's outcomes and practices implemented by parents at home, including child-parent interaction and the child's general behaviour. Further, Goldman et al.'s (2019) study suggested that parents' implementation of a

school-home intervention for children with ASD in the home environment was helpful in reducing off-task behaviour and cultivating a positive obvious behavioural change.

To sum up, the questionnaire and interview findings generally suggest the importance of professional-parent collaboration in BI. Most professionals in the questionnaires valued and expected parents to collaborate in BI to a large extent. However, there was a partial inconsistency between the questionnaire and interview findings concerning the level of parental participation expected. In the questionnaire phase, most professionals expected parents to collaborate at every stage of BI, while the interview findings suggest that the two parties should only collaborate in the planning and implementation stages but not the design stage.

### ***7.2.2 Part two: Discussion of results in relation to research questions two and three***

This part discusses, combines, and interprets the results of RQ2 and RQ3 (see section 7.1). The combined results are then linked to the extant literature. As the interview data obtained from parents and professionals provided rich explanation of and expansion on the questionnaire findings, I decided to explain and interpret the combined findings on the basis of the interview findings. Based on the analysis of the questionnaire and interview data, four topics emerging from the findings will be used to structure the discussion.

#### *Topic one: Current practice regarding professional-parent collaboration*

Generally, the professionals surveyed thought that opportunities provided for parents to collaborate in the different stages of BI were limited. The interview data expanded on these findings. Most parents interviewed reported that they were not given sufficient opportunity to participate in the decision-making process and were given less opportunity to be involved in stages other than implementation. The findings concerning the lack of parental participation in the decision-making processes are consistent with the findings of a Saudi study by Obaidat (2014), in which parents considered that decision-making in the education of their children with ASD was usually undertaken by professionals, and parents often felt that they were marginalised and disengaged in the process.

It is possible that professionals may not want to involve parents in the decision-making as they are apprehensive about parents interfering in their work or evaluating them. It may be, however, that professionals do not believe that they are not knowledgeable enough to participate in the decision-making process. A study on SA by Alarfaj (2018) found that special education teachers viewed themselves as the experts in the education of children with ASD and perceived

parents as lacking knowledge about ASD and available interventions. Such beliefs may impact the ways in which professionals communicate or collaborate with parents. Professionals who hold this type of belief rarely communicate or collaborate with parents unless there is something negative or urgent involving their child. This is consistent with Dubis (2015), who found that when parents' input was undervalued or ignored, they tended to minimise or even cease their communication and collaboration with the school professionals.

Another possible explanation for these findings may be that professionals believe that parents' lack understanding of ASD and the importance of their collaboration in BI, and thus may not have the readiness and willingness to participate in the decision-making process. The interview data from the current study suggests that some professionals interviewed held negative views of parental knowledge and understanding of ASD. This chimes with what most Saudi mothers in Hemdi and Daley's (2019) study felt, namely that they needed to learn more about their child's condition, believing that they had limited information and knowledge about their children. Similarly, Omar (2014) found that Saudi and Egyptian families had limited awareness of the importance of early intervention services for their children and their potential role in such interventions. Therefore, a perceived lack of parental understanding about ASD and collaboration in BI might explain the tendency for professionals not to involve parents in the decision-making processes.

Findings from the questionnaires in my study generally show that many professionals considered that parents currently collaborate in the stages of BI but to a limited extent. The interview findings offer some possible explanations for this. Professionals and parents in the interviews indicated that the latter were given only a limited opportunity to collaborate with professionals in their children's BI. Most parents interviewed indicated that they were not actively engaged by professionals in the three stages of BI.

These combined questionnaire and interview findings are supported by the Saudi literature. For example, Alajmi (2014) found that the participating parents expressed their dissatisfaction with the communication and collaboration between parents and service providers of early intervention in Riyadh, SA's capital. They indicated that they were not involved in their children's interventions but also expressed a desire to become involved in supporting their children with ASD. The findings of another study conducted in Mecca, by Alzahrani (2017), concluded that professionals did not often follow the recommended practice for early interventions for children with SEN concerning parental involvement in early childhood years.

Additionally, Al-Zaraa's (2008) study evaluated the level of quality assurance indicators in the educational programmes for children with ASD in SA and found that the lowest level of quality assurance indicators was found in the domain related to parental involvement in the education of their children with ASD.

These findings, although specific to the Saudi context, are reflected in some existing studies suggesting that, despite the general agreement on the importance of professional-parent collaboration in supporting children with ASD, parents and teachers considered that in practice there are often significant limitations to the level of collaboration (Fish, 2006; Wood et al., 2009). Fish's (2006) study found that parents considered that their roles in their children's educational programmes were undervalued and they were not treated as equal partners with school professionals. They reported a lack of information about the educational assessment process and the construction of educational programmes for their children with ASD. However, other studies outside the Saudi context, for example by Spann et al. (2003) in the USA and Shammari and Yawkey (2008) in Kuwait, found that parents felt included in the planning and implementation of their child's plan. Additionally, Stoner and Angell (2006) found that American parents reported their involvement in many roles when they interacted with educational professionals, involving being supporter, negotiator, advocate, and monitor. Further, research conducted in the UK by Potter (2016) and Potter (2017) suggested higher levels of involvement reported by fathers of children with ASD in their children's education and daily care routines, such as attending school-based meetings and intervention sessions and participation in interventions. It appears from the inconsistency of these studies' findings that the level of collaboration between parents and professionals in the education and interventions of their children with ASD may be influenced by many factors, such as children's, professional's, and parent's characteristics, as well as school arrangements for collaboration.

The interview findings also suggest that even when parents are given opportunities to participate, both professionals and parents see them as restrictive. The interviewed parents indicated that they had demonstrated a willingness to participate but their desire was not met. However, a small number of professionals (in the questionnaire and interview) and parents (interviewed) in this study seem to suggest that professional-parent collaboration can at times happen only in the implementation stage. This finding concurs with Tucker and Schwartz's (2013) claim that parents are often given a finished version of the plan. This practice can give parents the impression that their participation is unimportant and undervalued. Consequently, parents may not be given the opportunity to provide input and actively participate in the

education of their children with ASD. However, a study on SA by Alajmi (2014) found that parents were not actively engaged in any stage, even the implementation stage. Parents indicated that they are later informed about the intervention and given some suggestions for use at home. They reported that the child was always taken by the interventionist but required to stay in a private place on their own and later the interventionist would inform the parents about what had happened in the intervention session and give them some suggestions and solutions to use at home. The difference between my study's findings and those of Alajmi (2014) may be attributed to sample differences. Their sample involved fathers of children with ASD enrolled in public ASD centres in Riyadh while my sample involved broader perspectives from educational professionals and parents (fathers and mothers) whose children were enrolled in both private and public schools in SA's Eastern Province.

More than two thirds of the professionals surveyed, and the majority of professionals and parents interviewed, generally reported higher levels of dissatisfaction with their collaborative working in the three stages of BI. This finding concurs with Alajmi (2014), Zablotzky et al. (2012) and Al Jabery et al. (2012), who all found that parents were dissatisfied with their communication and collaboration with educational professionals. However, some of the literature from outside SA contrasts with this. Parents in Renty and Roeyers (2005) and Potter (2017) and teachers and parents in LaBarbera (2017) reported high levels of satisfaction with collaborative working in the education and support of children with ASD. Blair et al. (2011) found in their study in South Korea that parents were satisfied with their involvement in a positive behaviour support programme and that they were fully involved in the whole process of these programmes. The difference between my study's findings and those of others in the wider literature may be attributed to the difference in the research context. None of the mentioned studies were conducted in SA. For example, Blair et al.'s (2011) study involved three South Korean mothers. For this reason, it could be that their findings may be very specific to the three mothers who participated in their study.

A number of possible reasons that might help explain professionals' perceived dissatisfaction with professional-parent collaboration in BI were suggested in the interviews. One possible reason, as the interview data suggested, might be overcrowding in schools and classrooms and a lack of assistant teachers. Most participating teachers in this study saw the teacher-student ratio as a barrier to professional-parent collaboration. This high ratio leads to a higher teacher workload and in turn reduces the time available for collaborative work with parents.

However, the interview data revealed that two of the fathers interviewed were fully engaged in their children's BI. However, these fathers also stressed that they needed to actively encourage professionals to be involved in BI. A possible partial explanation for this finding is suggested by the interview data; the children of the two fathers attended private ASD schools. Therefore, it is possible that the practice of professional-parent collaboration in private schools differs in quality and quantity from governmental schools. Obaidat (2014) found that parents whose children attended private special education schools reported more active involvement in their children's education than parents in governmental schools. Obaidat also suggested that private school professionals are more skilled at collaboration. In the same regard, Haimour and Obaidat (2013) found that ASD teachers working in private special education schools in SA had a better knowledge of ASD and more training in behavioural and educational intervention than their governmental school counterparts. Al-Shammari (2019) suggested that private schools may be economically motivated to provide high quality services to parents in order to increase the number of children enrolled (the competitive force of the market).

A further possible reason for two of the interviewees perceiving that they were fully engaged in BI is that both were parents with higher education level qualifications. These parents may have had access to resources (e.g. human and social capital) to enable them to understand the implications of ASD, but also their professional skills may have enabled them to engage with educational professionals and thus made collaboration easier. In line with this, the findings of a study based in SA by Alnemary et al. (2016) concluded that parents educated below degree level had less knowledge of ASD than parents educated to a higher level, and also that the former were more likely to use traditional and religious treatments, such as reciting the Quran and consuming camel's milk, due to their limited knowledge of evidence-based educational interventions. In this regard, Saudi researchers (Hanafe & Qaraqish, 2010; Obaidat, 2014) have argued that there are differences in terms of socioeconomic status and parental level of engagement in parent-professional collaboration. It is possible that some parents have more access to the necessary resources and support that may positively influence their level of involvement in their children's BI. Conversely, parents from a lower socioeconomic status might have less access to resources that help them raise their awareness about ASD, adversely impacting their level of involvement in their children's BI (Alnemary, 2017).

In summary, the educational professionals surveyed generally perceived that opportunities provided for parents to collaborate in the different stages of BI as limited. The professionals (in the questionnaire) and the parents and professionals (in the interview) indicated that parents

were not given enough opportunity to participate in the decision-making process as well as in the three stages of BI, apart from implementation. The questionnaire findings showed that a large number of professionals consider parental collaboration in the different stages of BI to be limited. Most professionals surveyed and parents and professionals interviewed said they were ‘dissatisfied’ or ‘very dissatisfied’ with the level of collaboration in BI.

#### *Topic two: Facilitators to professional-parent collaboration*

The findings from the questionnaires and interviews indicated a perceived lack of professional-parent collaboration in the different stages of BI. The interview findings, however, suggested that where it does happen there are several important facilitators for a successful collaboration practice. The latter findings identified perceived facilitators to professional-parent collaboration, including emotional support for parents and mutual trust between parents and professionals. Additionally, both groups, in the interview phase, suggested some roles for schools, educational professionals and policymakers to facilitate and encourage professional-parent collaboration.

#### *Emotional support as a facilitator for professional-parent collaboration*

The interviewed parents discussed their experience of burnout and their need for emotional support. They felt that professionals should offer hope, continued support, and positive encouragement to them to participate in their children’s BI in order to overcome their potential stress and burnout. The majority of parents also indicated that they experienced great pressures in raising their children and dealing with behaviours they experienced as problematic, and thus they believed that provision of emotional support could encourage their collaboration in BI. Hanafe and Qaraqish’s (2010) findings are consistent with the findings from the current study, namely, that the parents interviewed perceived emotional support, understanding their psychological needs and respecting their beliefs as important factors to increase their engagement in collaborative working.

This finding also concurs with Hemdi and Daley (2019), LaBarbera (2017) and Matthews et al. (2020), whose research concluded that parents believed if they were treated as partners whose needs were understood and whose knowledge was valued, they could be instrumental in building a solid collaborative relationship with professionals to support their children. The findings concerning parents’ experiences of stress and the need for parental emotional support is consistent with those of a Saudi-based study by Hemdi and Daley (2019), in which parents reported that having a child with ASD is a main cause of depression and stress and that

emotional support and hope offered by professionals could reduce their stress and improve their psychological wellbeing.

Some of the findings from the Saudi context are reflected in the wider literature. Booth et al. (2018) found that providing parents with emotional support by listening to their difficulties and supporting them in problem-solving was perceived by parents to increase their ability to cope with their child's difficult behaviour, decreased their own distress, and supported them to engage with their child's education.

It may be that by receiving training in responding to behaviours they find difficult, parental stress is reduced. Bassam and Tork (2019) found that informing parents about the behavioural and educational interventions available for their children reduced the level of stress for parents of children with ASD and increased their sense of competence in responding to their children's behaviours. Al-Towairqi et al. (2015) found that parents of children with ASD considered that training and support increased their understanding of ASD and also supported their emotional wellbeing. Similarly, Alquraini et al. (2018) argued that parents' engagement in a four-month relationship-based intervention was linked to perceived improvements in stress for more than three quarters of parents and a decline in the levels of depression for four-fifths of parents. Based on these considerations, the findings appear to suggest that raising children with ASD may cause parental stress and difficulties in dealing with their children's behaviours. Therefore, supporting parents emotionally and fulfilling their BI training needs could improve their psychological wellbeing and increase their collaboration with BI professionals.

#### *Mutual trust as a facilitator for parent-professional collaboration*

Both groups interviewed in the current study indicated the need for mutual trust. They felt that if parents trusted professionals to do their best to help their child and, likewise, if professionals trusted the abilities of parents to support them and appreciated the role they can play, professional-parent collaboration could be established. Both groups interviewed viewed mutual trust as a facilitator for working collaboratively. The notion of trust came through the accounts in the interviews in the current study with both professionals and parents expressed the view that parents do not trust their skills and abilities. Likewise, many parents interviewed expressed the view that professionals do not trust their knowledge and abilities. This is interesting in the light of Hanafe and Qaraqish's (2010) findings that mutual trust was the most influential factor in establishing collaboration.

My study's finding related to the perceived importance of mutual trust concur with what was found in the wider literature. Several studies suggest that when the degree of perceived mutual trust is high, parents and professionals collaborate effectively and build positive relationships, and that parents offer more support to educational professionals (Azad et al., 2018(a); Blue-Banning, 2004; Rodger, et al 2008; Stoner and Angell, 2006).

#### *School, educational professionals and policy-makers' roles in facilitating and encouraging professional-parent collaboration*

The interviewed parents and professionals suggested the roles that schools, educational professionals and policymakers might play to facilitate and encourage professional-parent collaboration.

#### *Schools' role*

Both groups interviewed stressed that schools should organise regular meetings and workshops, create an appropriate learning and physical environment, and find creative ways to extend communication and collaboration between parents and professionals. These findings are in line with those in other literature on SA. Al-Aoufi (2011) found that parents believe schools should increase the opportunities provided for parents to fully engage in their children's early interventions. Parents emphasised the need for more meetings with professionals, more workshops and seminars, and more resources (e.g. books and social media channels) to increase the information available to them. Al-Qahtani (2016) found that teachers believed that this required the school administration to draw up plans, define methods for professional-parent communication and collaboration, determine an appropriate place and time for parents to meet school professionals, and constantly monitor the progress and implementation of these plans in order to facilitate active collaborative working.

These findings are also seen in the international literature. A study by Syriopoulou-Dellia and Polychronopoulou (2019) suggested effective school management and organisation for parent-teacher collaboration and communication as a facilitator for collaborative efforts undertaken by parents and professionals. Rodriguez et al.'s (2014) study suggested that parents should consider school efforts (e.g. school admin) to facilitate parental involvement in their children's learning. Accordingly, Granger et al. (2012) and Tucker and Schwartz (2013) found that school arrangements for supervisory meetings with parents facilitated parent-professional collaboration, allowed parents to keep up-to-date with their child's intervention, and provided parents with an opportunity to share their views concerning their child's BI.

Within the Saudi educational context, the government gives an annual budget to each school in the country. This budget is given to school principals to spend on school activities. But some educational professionals interviewed in this study claimed that this money was sometimes spent on matters the teachers considered to be of secondary importance, such as graduation ceremonies. The data generated in this study suggests that parents and professionals were dissatisfied with the arrangements and resources schools put in place to facilitate collaboration. Both groups interviewed considered the need to develop a professional-parent text messaging service, organise workshops and training sessions for parents, and send letters directly inviting parents to be involved. The findings of the current study support other Saudi research suggesting that parents did not feel that they were able to collaborate with professionals due to the limited resources and arrangements put in place by schools (Alarfaj, 2018; Hemdi & Daley, 2019). One potential explanation suggested by both groups in the current study pertains to how the role of school in facilitating collaboration may be hindered by difficulties administrations face using their budgets to boost professional-parent collaboration.

#### *Educational professionals' role*

Generally, the results of the questionnaire suggest that professional-parent collaboration in BI for children with ASD is limited. The interviewed parents explained the role that professionals might play in boosting the amount of professional-parent collaboration. They were dissatisfied with the professionals' role and believed that professionals should explain and negotiate the parents' role with them at the outset of BI in order to encourage their involvement. In line with this finding, Al-Aoufi (2011) found that parents felt they received very limited information about the forms of interventions implemented for their children or about what was expected from them in their children's interventions. Additionally, Benson et al. (2008) and Tucker and Schwartz (2013) found that providing opportunities for parental involvement, providing parents with information about their child's programme, and agreement on roles and support for parents, all facilitated parental involvement in the education of children with ASD.

Additionally, the interview findings in the current study suggested that parents and professionals perceived the necessity for the continuous documentation of the child's development in order to encourage parents to collaborate in BI. Most professionals perceived the documentation of the child's development as helpful for increasing the likelihood of parents being involved in BI. They stated that professionals can facilitate professional-parent collaboration by determining the respective roles of parents and professionals and keeping

parents informed about the developments that their child has made. These findings are supported by Alajmi's (2014) study, which suggested that parents saw negotiating their roles and having active communication with professionals from the outset of an intervention supported their engagement until the completion of the intervention.

One possible explanation for these findings is that negotiating and making explicit the role of parents may increase the level of commitment they have to collaborate with professionals, as they are clear about what is expected from them in the different stages of their children's BI. Likewise, in relation to the documentation of the child's development, it is possible that discussing with parents the documented positive outcomes that their child has achieved may motivate them to collaborate further, especially if they see positive outcomes for their child in terms of behaviour and social skills.

#### *Policymakers' role*

Both groups interviewed considered that policymakers have a potential role to play in encouraging and facilitating professional-parent collaboration. More than half of the parents and professionals interviewed appear to consider the need for supportive legislation and strict regulations concerning the importance of collaboration as well as the appointment of supervisory bodies to ensure that collaborative working is occurring to facilitate collaboration. This finding concurs with Al-Qahtani (2016), who found that parents and professionals expressed a need for more clarity in this area setting out expectations for collaboration.

Despite the current policy emphasis on parent-professional collaboration in SA, my study's findings suggested that there may be a need to ensure that this is enacted within schools. However, my study's interview findings discussed above could be explained in terms of supervision and enforcement of legislation and policies. Indeed, the necessity for control and a more obligated collaboration system was a key concern for many parents and professionals. Based on the findings from the interviews and my experience of the special education system in SA, school supervisors do exist in the majority of ASD schools and institutions. However, as the interview findings suggest, supervising or evaluating the use of BI and professional-parent collaboration is not the responsibility of school supervisors. This may be a further explanation for the limited professional-parent collaboration in BI for pupils with ASD.

Overall, the combined findings suggest a perceived lack of professional-parent collaboration in the three stages of BI. The qualitative interview findings suggest several facilitators for successful professional-parent collaboration, including emotional support for parents and

mutual trust between them and professionals. Both groups interviewed proposed roles that schools, educational professionals and policymakers might play to facilitate and encourage professional-parent collaboration.

### *Topic three: Barriers to professional-parent collaboration*

#### *Barriers related to parents*

##### *A limited parental understanding of ASD*

The open-ended responses in the questionnaire suggest that some professionals considered parental level of understanding of ASD to be a barrier to professional-parent collaboration. Both groups in the interviews explained this by indicating that parents might have a limited awareness of their child's condition and about the importance of collaborative working.

This finding is supported by numerous Saudi studies suggesting a lack of parental understanding of ASD. A Saudi study by Bassam and Tork (2019) employed a self-report survey with mothers of children with ASD and found that most mothers reported a limited level of understanding of ASD. Additionally, four fifths of mothers in another Saudi study by Hemdi and Daley (2019) reported a limited understanding of ASD characteristics and symptoms. They also indicated that they required more information and knowledge to enable them to understand their children's condition and effectively participate in their education. Similarly, parents in another Saudi study conducted by Alotaibi and Almalki (2016) stated that they had to find information through the internet in order to understand more about their child's diagnosis. However, they reported that most ASD research on the internet is written in English and was hence largely inaccessible to them.

These findings may reflect the early stage of scholarship within SA about ASD and the limited awareness of it throughout society. Based on my personal experience gained from conducting this research and living and working in Saudi society, I believe that many parents have different perspectives and beliefs pertaining to the treatment of children with ASD. Some seem to be hoping for a miraculous cure. Others view their child's disability as a punishment or test from God. For them, it might be stressful living with a child with ASD, and as a result they may turn to unscientific and/or unproven treatments. It could be that parents who are more knowledgeable about their children's condition are also more aware of the importance of professional-parent collaboration and value it more (Solish and Perry, 2008).

### *Parents' preference for rapid solutions to their child's behavioural issues*

The professionals and parents interviewed indicated another perceived parent-related barrier to collaboration, namely, a marked desire for rapid solutions to their child's behavioural issues. Both groups provided explanations for parents' preference for rapid solutions to their child's behavioural problems, and they both indicated issues that may lead parents to wanting quick solutions. Among these are a lack of parental understanding concerning the gradual nature of behavioural change and a belief by some parents that ASD can be completely cured using cultural and religious treatments such as reciting the Quran and consuming camel's milk.

It is possible that, as Carlon et al. (2014) claimed, parents are surrounded by many interventions that claim to be effective in enhancing general outcomes or even promising to remove the effects of ASD. Lack of knowledge of ASD and evidence-based practices and a lack of professional support may lead parents to navigate the internet and choose some strategies that lack evidence, or which may even be harmful to their children. In this regard, a Saudi study by Hamdallah and Rashed (2015) suggested that Saudi ASD teachers reported that parental expectations are sometimes unrealistically high, which is a source of pressure for special education teachers. When the outcomes of the intervention are below parents' expectations, this may inevitably impact on teacher-parent collaboration in interventions.

In this respect, Al-Zaalah et al. (2015) found that two thirds of parents reported the use of the internet as a main source of information in order obtain information about ASD and the intervention options available. Half of parents also reported that using the internet as the main source of information significantly increased their fears and worries about their children. Over 50% of the participants responded that they believed that most children with ASD can be fully cured of their condition. Hemdi and Daley (2019) warn that most of the information on the Arabic websites is neither empirically supported nor written by researchers or professionals.

### *Barriers related to schools*

#### *Overcrowding and the need for assistant teachers*

Both the questionnaire and interview data revealed similar findings relating to the perceived school-based barriers to collaboration. The open-ended responses in the questionnaire and interview data indicated that overcrowding in classrooms and the lack of assistant teachers were both barriers to professional-parent collaboration. The interview data suggested that in ASD schools the number of children ranges from five to seven per class while in units attached

to mainstream schools the number may be as high as nine. Professionals and parents suggest the demands of work should be reduced in order to enable teachers to effectively teach these children and find the required time and energy to collaborate with their parents.

Based on the interview data, a high workload for professionals, a large number of students in ASD classrooms and schools, and a lack of assistant teachers were all perceived to be an impediment to professional-parent collaboration. The professionals interviewed felt that they had little to no time to meet with parents during the school day as they work alone in class and cannot leave for any reason. They also indicated that this means that even when parents visit the school, the professionals are not always able to see them.

My study's interview findings are supported by Al-Aoufi (2011), who found that the mothers participating in his study indicated that ASD teachers work with more than five pupils per class, although they believed that working with more than three per class was difficult. Al-Saqqaf and Al-Zaraa (2019) found that teachers in one Saudi city reported that they worked with more than three children in their specialist classrooms. They claimed that teaching this number makes it difficult to create a specific work system for all children. In a further Saudi study, by Al-Qahtani (2016), ASD teachers reported their high workload to be a barrier to collaboration with parents.

In the Saudi educational context, professional-parent collaboration in BI may not appear to be an easy task in light of the challenges and difficulties encountered by professionals and parents. Most parents and professionals interviewed considered overcrowding in schools as a barrier to effective collaborative working. As discussed in the context of SA (see Chapter Two), the Organisational Directory of Educational Programmes for Autism in SA (2012) has said that the number of students with autism must not exceed three per class. It is worth noting that there is a contradiction between what is written in the regulations and what exists in practice in relation to the number of students per classroom. The findings of this study revealed that the high teacher-pupil ratio negatively influences (indeed undermines) the ease with which official policy guidelines (which encourage collaborative working) can be implemented in schools.

#### *Limited arrangements for collaborative working*

The open-ended responses in the questionnaire and the interview suggest that the lack of arrangements for collaborative working is considered by parents and professionals to be a barrier to productive practices. Many professionals surveyed or interviewed, along with the interviewed parents, described the need for schools to make arrangements which would enable

parent-professional collaboration. Both groups interviewed were generally dissatisfied and recommended that schools organise meetings, workshops and courses as opportunities for parents to meet each other, arrange home visits, and provide academic materials in written or video (i.e. YouTube) form. In line with these findings, Hanafe and Qaraqish (2010) found that follow-up records and reports were perceived by teachers and parents as the primary form of communication between parents and school and there was a lack of face-to-face meetings, workshops and training provided for parents.

The role of schools in making arrangements to facilitate collaboration is reflected in the literature beyond the Saudi context. Consistent with the findings of my study, parents who participated in Tucker and Schwartz's (2013) study expressed their willingness to collaborate with professionals, but they reported a number of school related barriers that prevented active engagement. The barriers mentioned by parents and professionals included: difficulties related to communication with schools; lack of participation in supervisory meetings; limited school administration arrangements; and few opportunities provided for parents to meet with other parents.

#### *Barriers related to educational professionals*

The questionnaire and interview findings also suggested a perceived barrier to collaboration related to educational professionals. This involved a perception amongst both parents and professionals that the latter are not always motivated to collaborate with parents.

#### *Professionals' motivation to work collaboratively*

Approximately two fifths of the professionals surveyed in this study said they were 'motivated to a 'very little extent' to collaborate with parents in the different stages of BI. The interview data supports this and suggests possible reasons for the low level of motivation for professionals. Both groups lamented the issues of overcrowding in classrooms and the lack of assistant teachers, especially in government schools. It is possible that the two issues may in some way negatively impact professionals' motivation to collaborate with parents in BI. Many professionals interviewed indicated that they did not have enough time and lacked the effort to collaborate with parents due to the high pupil-teacher ratio. The professionals interviewed felt that this reduced the opportunity for collaborative working with parents. It might be that the professionals are busy with teaching activities and other administrative tasks, resulting in a lack of time and energy to collaborate with parents. Additionally, most parents interviewed were

dissatisfied with what they saw as a lack of motivation to work in collaboration on behalf of the various professionals.

These findings are consistent with Alarfaj's (2018) study, which suggested that ASD teachers reported a limited level of motivation to work with autistic children and collaborate with their families, due to heavy workloads and a lack of assistant teachers to support them. Alnema (2017) found that parents perceived professionals to be lacking in motivation and this led them to travel abroad to countries such as Jordan and Egypt to obtain higher quality services for their children with ASD.

To sum up, the questionnaire and interview findings revealed perceived barriers to professional-parent collaboration in BI. Parent-related barriers are a perceived parental lack of understanding of ASD and a desire for unrealistically rapid solutions to their child's difficulties. School-related barriers are overcrowding in schools and classrooms, a lack of assistant teachers, and limited school arrangement for collaborative opportunities. A professional-related barrier is a lack of motivation to work collaboratively with parents, possibly due to high workloads.

#### *Topic four: Training opportunities for professionals and parents*

##### *Training for professionals*

###### *Training in BI*

Over half of the professionals surveyed reported that they had not received any form of training in BI. Nearly three fifths of those who had receiving training reported obtaining only one form of training in BI. Both the professionals and the parents revealed in the interviews that more training for professionals in BI was required.

My findings are supported by other Saudi researchers. Hemdi and Daley (2019) found parents in their study were of the opinion that professionals working with their children had a limited knowledge of evidence-based interventions. A further Saudi study, by Alzahrani (2017), found that approximately four-fifths of the participating professionals working in early intervention programmes indicated that they did not receive any further training since starting to work with children with ASD. Alatifi (2019) found that autism teachers reported having no pre-service training on behavioural and educational interventions. They also reported a lack of in-service training other than formal training in PECS. The teachers in Alatifi's study were of the view

that training in behavioural and educational interventions would build their confidence in working with children with ASD.

Consistent with my findings, Alotaibi's (2015) study suggested that teachers believed they have limited knowledge of BI. Although Al-Zaraa (2012) found that teachers had a good knowledge of behavioural modification strategies, this inconsistency with my own findings might be due to the emphasis on behaviour modification in general in Al-Zaraa's study, as opposed to my study's focus on BI based on ABA principles.

My questionnaire and interview findings pertaining to the perceived lack of training in BI for professionals could be seen in the light of the qualitative interview data suggesting that there are limited training opportunities available to professionals. Despite the limited formal training for professionals, the training opportunities provided, as claimed by the professionals, are mostly theoretical, and usually delivered by academics who are far removed from the practical aspects of training in BI. The interviews with the professionals revealed that the available training needs to focus more on practice issues.

My study's findings related to a lack of knowledge and training in BI for professionals are unsurprising given the limited number of specialised centres that provide training services for professionals in SA. Hussein and Taha (2013) acknowledged that in SA only two organisations provide training in educational and BI for professionals, one in the Red Sea city of Jeddah and the other in the capital, Riyadh. Other organisations around the country only provide diagnostic, counselling or intervention services in which BI is not included. Another reason for the perceived lack of training may be that behaviour analyst as a profession is not among the listed approved professionals in SA (Saudi Arabian Cultural Bureau, 2014). This might be a further reason for the lack of training for educational professionals in SA, as the presence of such a profession is important for training professionals in evidence-based interventions (Dillenburger et al., 2014).

It can be assumed from the interview data that the professionals want approaches to training to be informed by the practical context. Alnema (2017) found that teachers preferred support and training to be delivered by experienced professionals in the field of ASD. They considered that receiving training from professionals with higher levels of experience in ASD would support their understanding of the practical aspects of behavioural and educational interventions.

### *Skills in professional-parent collaboration*

Most of the professionals interviewed mentioned that professionals may be lacking in some of the skills required for collaborative working. These findings are consistent with what was reported in a Saudi study by Al-Aoufi (2011), in which mothers suggested the need for professionals to develop interpersonal and communication skills to enable collaborative work with parents. According to Moh and Magiati (2012), professionals can sometimes fail to initiate collaborative working due to a lack of the skills important for engaging with parents in intervention programmes. One possible explanation, suggested by Burrell and Borrego (2012), is that professionals might not be aware of the (latest) methods and strategies that are effective in engaging parents in interventions, such as negotiations with parents about their roles in intervention, making shared decisions, and developing goals in a collaborative manner.

### *Knowledge of ASD*

The questionnaire and interview data in the current study revealed that a large number of the professionals who were teachers reported their undergraduate specialism as the intellectual disability pathway and that they had limited knowledge of ASD. Other researchers in Saudi have found that most ASD teachers have been trained in intellectual disability (Alzahrani, 2017; Alnema, 2017). The findings concerning the lack of specialised teachers in ASD are not surprising as the General Authority for Statistics (2015-2016), under the category 'education and training', lists only two of the eleven public universities in SA as offering specialised programmes in ASD. A study by Haimour and Obaidat (2013) offers contrasting results to this, finding that special education teachers demonstrated a high level of knowledge of ASD. However, it should be noted that most of the participants in their study had specialised in ASD.

The interview data of the current study revealed that other professionals, such as educational psychologists and speech and language therapists, were not considered by professional and parent participants to have appropriate knowledge to support children with ASD and their families. Based on the interview data, educational psychologists working with these children usually hold a bachelor's degree in general psychology and lack extra qualification(s) or training in ASD prior to working in this area. Based on the interview data, this also applies to speech and language therapists, as professionals in this field usually graduate with an undergraduate degree in hearing impairment and then are immediately appointed as speech and language therapists without obtaining any training in ASD. Therefore, it is possible that a lack

of information about and understanding of ASD may be attributable to insufficiency in these professionals' educational qualifications and training.

### *Training for Parents*

The combined questionnaire and interview findings suggested that the lack of training in BI and collaborative skills for parents (e.g. interpersonal and communication skills) is among the factors adversely impacting professional-parent collaboration and engagement in BI. In the questionnaire's open-ended responses, the professionals emphasised that the parents cannot be fully involved in the different stages of BI because they lack training in and knowledge of BI. The interview data supported and explained the questionnaire data. The vast majority of parents and professionals interviewed agreed on the lack of training in BI and collaborative skills for parents and perceived it as contributing to the lack of collaborative working. The parents acknowledged their need for training in aspects of BI to develop knowledge of these interventions.

Despite the policy and legislative imperatives set out in Chapter Two, both groups interviewed expressed dissatisfaction with the limited training opportunities provided for parents and saw this a barrier to engaging in active collaborative working in BI. Many studies conducted in the context of SA supported these findings. For example, Al-Aoufi (2011) found that parents were dissatisfied and reported a lacked confidence in their ability to participate in their children's early intervention programmes because of what they saw as a lack of the requisite skills and knowledge that would enable them to actively participate in their children's interventions. Similarly, Hemdi and Daley (2019) saw a shortage of training opportunities related to behavioural and educational interventions. The parents in their study emphasised the need for support and training in order to enable them to engage with schools in managing their children's behaviours. A further Saudi study, by Husawi and Al-Qahtani (2015), suggested that a lack of parental training in collaborative and communicative skills is one obstacle preventing parents from participating in their children education. This is echoed in Obaidat (2014), who also found parents to be dissatisfied with early intervention in a Saudi city due in part to a lack of the training deemed necessary for successful involvement in intervention sessions. Obaidat suggested that this lack of training may reflect a lack of awareness on the part of service providers that the parents believe they need this training to enable them to participate in intervention programmes.

The combined findings are consistent with findings from the wider literature that mothers viewed their lack of knowledge and training in strategies and techniques for intervention as an obstacle hindering their involvement in their children's EIBI (Granger et al., 2012) and early childhood interventions (Bjorck-Akesson and Granlund, 1995). The wider literature also suggests that parents who have received training and support in BI were more comfortable and satisfied with the intervention in general and their relationship with service providers in particular (Keenan et al., 2010).

The findings here on the lack of training for parents are not unexpected, as training opportunities provided by the MoE in SA are usually available for educational professionals but not parents. As discussed in Chapter Two, the Organisational Directory of Educational Programmes for Autism in SA obligates schools to provide parents of children with ASD with the training they need in order to enable them to participate in their children's education and interventions. Thus, it is the responsibility of individual schools to provide training opportunities for parents. It appears from the interview data, however, that schools face difficulties in providing training opportunities for parents. Some professionals in the current study attributed this to budget constraints in schools. Schools may avoid training for parents due to the high costs involved (Obaidat, 2014). The interview data suggested that it might not be prioritised over other investments made by schools.

In summary, the combined findings revealed a lack of training in BI and collaborative skills - required to support collaborative work- for both parents and professionals. The interview data suggested that the training opportunities currently provided for professionals are theoretically oriented and that a more practical training in BI is required. Additionally, the interview findings suggested a need for a more specialist understanding of ASD among professionals working within this sphere. Further, the combined findings suggested that parents in particular were perceived to be lacking in BI training, leading them being considered ill equipped to participate in the different stages of BI. The professionals and parents interviewed considered that limited formal training opportunities were provided for parents at national or school level.

### **7.3 Conclusion**

This chapter has discussed the findings of the two methods used in the two phases of this study: questionnaire and interview. The findings from each method were discussed and presented individually and then integrated to address the four research questions. Interpretation of the findings took place in the mixing phase (discussion stage). Generally, both parents and

professionals were dissatisfied with the levels of professional-parent collaboration in BI. The professionals in the questionnaire valued professional-parent collaboration and expected parents to a great extent to collaborate in the three stages of BI for children with ASD. However, in the interviews both the parents and professionals preferred that the former not be involved in the *design* stage due to parental lack of training and skills required to work collaboratively and effectively at this stage. The professionals interviewed held that parents currently collaborate in the three stages of BI in limited ways. However, the interview findings suggested that working in collaboration sometimes occurs in the implementation stage but not in other stages.

The interview findings suggested several perceived facilitators of successful professional-parent collaboration, including emotional support for parents and the establishment of mutual trust between parents and professionals. The interview findings suggested several perceived barriers to collaboration: parent-related barriers, school-related barriers, and a professional-related barrier. The combined findings revealed a lack of ASD knowledge on the part of professionals and a need for training in BI and skills in collaborative working for professionals. The interview data suggested that professionals see the current training opportunities as primarily theoretical in emphasis, and that a more practical-based BI training is required. The questionnaire and interview findings suggested that parents and professionals view the lack of parental training related to BI, ASD, and skills in collaboration prevent them from collaborating in the different stages of BI.

The following - and final - chapter offers conclusions, implications for policy, practice, and future research.

## **Chapter 8. Conclusions and Implications**

### **8.1 Introduction**

This study has explored and considered a number of potential explanations for professionals' and parents' perspectives on the practice of professional-parent collaboration in the planning, design and implementation of BI for children with ASD in SA. The study aimed to: first, determine the extent to which educational professionals expect parents to collaborate in the planning, design and implementation of BI; second, determine to what extent educational professionals consider they are working in collaboration with parents in the planning, design and implementation of BI; third, identify factors which either facilitate or hinder professional-parent collaboration in BI; fourth, establish whether professionals and parents perceive their collaboration to be important for a successful BI. This final chapter starts by restating the study's research questions. It then provides a summary of the study's key findings, draws overall conclusions based on these findings, considers its contributions to the knowledge base, addresses its limitations, and suggests some implications for policy, practice, and future research directions.

### **8.2 Research questions**

As a reminder, this study was tasked with exploring the following research questions:

RQ1. To what extent do educational professionals expect parents to collaborate in the planning, design and implementation of BI for children with ASD in SA?

RQ2. To what extent do educational professionals consider they are currently working in collaboration with parents in the planning, design and implementation of BI for children with ASD in SA?

RQ3. What factors facilitate or act as barriers to professional-parent collaboration in the planning, design and implementation of BI for children with ASD in SA?

RQ4. How valuable do educational professionals and parents perceive their collaboration to be in the successful planning, design and implementation of BI for children with ASD in SA?

### **8.3 Summary of the key findings**

The findings drawn from the questionnaire and interview phases are summarised under the following headings.

#### ***Value and importance of professional-parent collaboration***

The study's overall findings on professional-parent collaboration indicated that professionals and parents in the interview and questionnaire phases valued professional-parent collaboration in the three stages of BI, including the decision-making stage.

#### ***Parents' and professionals' preferences and expectations concerning working in collaboration in the three stages of BI (planning, design and implementation)***

The professionals and parents interviewed considered planning and delivering BI to be a shared responsibility in which both parties complement each other. However, there was inconsistency between the questionnaire and interview findings concerning the level of parental participation expected in the three stages of BI. Generally, the professionals in the questionnaire expected parents to a large extent to participate in all three stages. However, these questionnaire findings partially contrasted with the interview findings, which revealed that three-quarters of parents and professionals seemed to prefer not working in collaboration in the *design* stage due to perception that parents might lack the knowledge of ASD and requisite training in BI.

Many professionals and parents interviewed gave reasons for the importance of professional-parent collaboration in the planning and implementation stages. The interview data for both parents and professionals suggested that collaboration in the planning stage is necessary because parents are a key source of information, and therefore this stage should be based on both parental and professional information as these can be complementary. Additionally, both groups appeared to suggest that they prefer professional-parent collaboration in the implementation stage. The findings here revealed that this may be due to the role collaboration can play in the generalisation of learnt skills in the home and school contexts. Also, some behavioural problems may occur at home, making it important to involve parents in implementing interventions as this could enable professionals and parents to address these problems in the environment where it normally occurs.

### ***Current practice in relation to professional-parent collaboration in the decision-making process and in the three stages (planning, design and implementation)***

Overall, the professionals surveyed held that parents are only currently collaborating minimally in the planning, design and implementation stages of BI. Likewise, both groups interviewed indicated that parents were not given sufficient opportunity to the extent required to enable them to engage in all three stages of BI. Most parents interviewed reported that they were not given the opportunity to participate in the decision-making process and were given less opportunity to be involved in the stages other than implementation. The interview findings revealed that even when parents were given the opportunity to participate, these were limited. For example, some parents intimated that they were only occasionally allowed to participate in the implementation stage, especially when targeted to resolve problematic behaviours that occur in the home environment. All parents interviewed appeared to want to be involved in the planning and implementation stages of BI but were not afforded the opportunities to do so.

### ***Facilitators and barriers to professional-parent collaboration***

#### *Facilitators to professional-parent collaboration*

Overall, the findings from the questionnaires and interviews indicated a perceived lack of professional-parent collaboration in the three stages of BI. The interview findings, however, suggested that where it does happen, there are several important facilitators which may support professional parent collaboration. These include a relationship of mutual trust between parents and professionals and professionals providing emotional support and empathy throughout the process. The parents interviewed viewed emotional support from professionals for parents as key to encouraging parental collaboration in BI. They also indicated that they wanted professionals to positively encourage them to enable them to overcome the stress and burnout they can experience when caring for their children. The interview data also suggested a need for mutual trust between parents and professionals in order to facilitate collaboration. Both groups seemed to be of the view that if parents trusted that professionals were doing their best to assist their child, and professionals trusted the abilities of parents to support them and recognise the role they can play, this would be helpful in establishing a healthy collaborative relationship based on trust.

Both groups, when interviewed, elaborated on the role that school, educational professionals, and policymakers might play to facilitate and encourage professional-parent collaboration. Both groups seemed to feel that schools should hold regular meetings and training sessions,

create a safe and suitable environment (physical environment and school climate), and offer a flexible approach to communicating with parents. The interview data from both groups also suggested that professionals could do more to explain and negotiate the parent's role at the outset of BI and in assessing progress through the intervention, and that this would facilitate collaboration. Further, both groups interviewed considered that policymakers at the national level have a role to play in setting the grounds for collaborative working. Both groups indicated that despite the current legislation and policy emphasis on parent-professional collaboration, there is a need for supervisory bodies to ensure this is enacted in schools in SA.

#### *Barriers to professional-parent collaboration*

Generally, most professionals, either surveyed or interviewed, along with interviewed parents, were dissatisfied with the levels of professional-parent collaboration in BI. More than two thirds of the professionals surveyed indicated they were 'very dissatisfied' or 'dissatisfied' with current levels of professional-parent collaboration. Findings from both phases of this study revealed a number of perceived barriers to collaborative working.

#### *Barriers related to parents*

The interview findings highlighted a number of barriers related to parents. The professionals interviewed suggested a lack of parental understanding and knowledge of ASD hindered effective collaboration. The interview data suggested another parent-related barrier to collaboration was a perception within both groups that some parents had unrealistic ideas about how swiftly their children's behavioural issues can be resolved. According to both groups, parents struggle with the time required before positive outcomes are seen. Both groups also provided some reasons for parents' desire for rapid solutions, such as a lack of understanding that behavioural change takes time and a belief that ASD can be combatted using religious and traditional treatments wholly unsupported by the science.

#### *Barriers related to schools*

Both the questionnaire (open-ended responses) and interview data revealed similar findings pertaining to the perceived barriers related to the role of schools, suggesting that overcrowding in classrooms and the lack of assistant teachers were barriers to professional-parent collaboration. ASD teachers interviewed were unsatisfied with the student-teacher ratio. Professionals interviewed reported a lack of time to meet with parents during the school day and that even if parents visit the school they cannot be seen by overworked professionals. In

addition to being busy in class, at the end of the school day they are also busy with planning and administration, which further limits their availability to meet parents.

The open-ended responses in the questionnaire and the interview data suggested that changes would need to happen at the school level to ensure processes and arrangements were in place to enable parents and professionals to meet more often. On the whole, both groups interviewed were generally dissatisfied and identified several arrangements lacking in schools, including meetings, workshops, courses, parents meeting with other parents, and home visits.

#### *Barriers related to educational professionals*

The questionnaire and interview findings also revealed a barrier to collaboration related to educational professionals, involving a perception amongst both parents and professionals that some of the latter lack the *motivation* to work with parents. Both groups indicated overcrowding in classrooms and the lack of assistant teachers as possible reasons for this. Many professionals indicated in the interviews that they lack the time and energy to collaborate with parents due to work demands. The professionals interviewed felt that these circumstances reduced the opportunity for collaborative working with parents.

#### ***The lack of necessary training for professionals and parents to support collaboration in planning and delivering BI***

##### *Training for professionals*

The combined data suggested the need for training in BI for professionals. Over half of the professionals surveyed indicated that they had not received any kind of training in BI. Nearly three fifths of those who reported having received training in BI said they had received only one form of training. The interview findings suggested a perception among parents and professionals that professional knowledge is limited in the area of BI. The professionals saw the available training opportunities as primarily theoretical in nature, while what is needed is practice-based training related to BI. The interview findings also suggested that the professionals need to develop skills that are central to effective collaboration, such as interpersonal communication and shared decision-making skills.

The interview findings revealed that teachers and other professionals believe a large proportion of autism teachers and other professionals supporting children with ASD could benefit from specialist training in ASD. Both groups indicated that most teachers working in this sphere are not specialised in ASD, but rather have been trained in areas such as intellectual disability. The

interview data also suggested that teachers and other professionals, such as educational psychologists and speech and language therapists, lack appropriate training for working with children with ASD and their families.

#### Training for parents

Findings from both phases suggested that parents see themselves, and are seen by professionals, as lacking in BI-related training and collaborative skills, a situation which leads them to being considered poorly equipped to participate in the different stages of BI, especially the design stage. The interview findings indicated that neither group was aware of any formal training opportunities provided to parents, at either the national or school level.

### **8.4 General conclusions**

This study has explored the practice of professional-parent collaboration in the planning, design and implementation of BI for children with ASD in SA from the perspective of educational professionals and parents. Generally, it is suggested that professional-parent collaboration is considered valuable to the success of BI by both parents and professionals. The professionals surveyed appeared to expect parents to collaborate in the three stages of BI. However, the interview data from both groups suggested that, due to a lack of parental training in BI, parents were not expected to collaborate in the design stage. This study also found that both groups believed that parents were not given enough opportunities to collaborate with professionals. The interview findings suggested emotional support for parents and mutual trust between them and professionals would facilitate the success of professional-parent collaboration. This study also highlighted the roles that schools, educational professionals and policymakers might play in facilitating and further encouraging professional-parent collaboration.

Generally, most professionals, either surveyed or interviewed, along with the interviewed parents, were dissatisfied with the current practice of professional-parent collaboration in BI. The combined data recorded a number of perceived parent-related, school-related, and professional-related barriers to successful professional-parent collaboration in BI. Further, the findings suggested that both groups viewed professionals and parents as limited in their knowledge of ASD, their BI-related training, and the skills needed for collaborative working.

### **8.5 Contribution to knowledge base**

This study makes a unique contribution to the field in several ways, including the research base in the Saudi context, the fact that it drew upon both professional and parental views, and its

methodological contribution to international research. To the best of my knowledge, my study is the first in the Saudi context to focus on the practice of professional-parent collaboration in BI for children with ASD. A limited number of recent studies in the Saudi context have investigated professional-parent collaboration (Alajmi, 2014; Alotaibi and Almalki, 2016; Al-Qahtani, 2016; Alzahrani, 2017; Al-Zaraa, 2008; Dubis, 2015; Hanafe and Qaraqish, 2010; Husawi and Al-Qahtani, 2015; Obaidat, 2014). All of these studies had different aims to mine, which thus means this study makes a pioneering contribution to knowledge in SA by investigating professional-parent collaboration in BI. It provides insights for policymakers, professionals, schools, and parents who are seeking to understand the current status of professional-parent collaboration in BI for children with ASD in SA.

Professional-parent collaboration is a new phenomenon in the Saudi literature, and it is not commonly discussed or researched within this context. Therefore, this study enriches the current Saudi literature base by adding new knowledge about professional-parent collaboration in this geographical context from the perspectives of both parents and educational professionals. This study highlights the value of collaborative working, the current lack of professional-parent collaboration in BI for children with ASD and the current lack of training in BI for parents and professionals, and explores the facilitators and barriers to professional-parent collaboration. Therefore, my study offers a departure point for other researchers within the Saudi context to conduct further research in the area of professional-parent collaboration for children with ASD in terms of effective BI.

Additionally, my study also contributes to the wider field of ASD studies. Autism teachers or/and parents of children with ASD were the participants in much of the existing research, and few studies have attempted to involve professionals from a range of professional backgrounds (Bjorck-Akesson and Granlund, 1995; Blue-Banning et al. 2004; Solish and Perry, 2008; Udaze, 2016). Therefore, the fact that this study drew upon both professionals' and parents' perceptions is in itself a novel contribution to the field. Involving both males and female educational professionals from different provinces in SA from a range of professional backgrounds (ASD teachers, educational psychologists, speech and language therapists, social workers, student advisors and school supervisors) is also novel. The same can be stated for involving both mothers and fathers of children diagnosed with ASD whose children are attending governmental, community, and private schools. By involving parents and educational professionals in one investigation, this study has avoided privileging the views of one group over another. The sample diversity enhances the value of the study and provides a richer picture

for the collaborative working practice in BI by seeking the perspectives of those expected to participate in BI in the school context.

Furthermore, this study makes an original methodological contribution to the field by using a mixed methods approach to investigate the status of professional-parent collaboration in BI. While most Saudi and international researchers have employed either quantitative or qualitative methods, few have adopted a mixed-methods approach (Benson et al., 2008; Blue-Banning, 2004; Dubis, 2015; Garbacz, 2016; Rodriguez et al., 2014; Stoner et al, 2005; Tucker and Schwartz, 2013). In combining both quantitative and qualitative methods, my study joins this small group and makes an original contribution to the field of ASD.

### **8.6 Limitations of this study**

Although this study makes a significant contribution to the knowledge base on professional-parent collaboration in BI for children with ASD, several limitations should be acknowledged.

The first limitation relates to the questionnaire sample. The sample was relatively small (353 respondents). This could be explained by the timing of the dissemination of the questionnaire, which was done only two weeks before the school summer holidays in SA. Consequently, this may have led to a limited number of professionals responding. Moreover, 44% of the sample who did respond to the questionnaire were from the Eastern Province. This might be attributed to the use of a snowball sampling strategy, which possibly resulted in a large proportion of participants completing the questionnaire hailing from that part of the country, where my networks are larger. The participation of a more balanced number of respondents from each of the country's provinces could have revealed different findings and enhanced the generalisability of the findings.

The second limitation also relates to the representativeness of the questionnaire's sample. Due to the lack of a national database for the actual number of educational professionals working with ASD children and affiliated with the MoE, the exact number of the whole target population was unknown, making it difficult to determine and recruit an appropriate sample size. For this reason, non-probability sampling strategies were employed to recruit participants. As a result, the sample was limited to 353 educational professionals. A larger sample could have resulted in more generalisability and confidence in the findings.

The third limitation concerns the use of an online questionnaire as a data gathering method. Since the questionnaire was carried out online, participants with limited or no access to the

internet, with limited experience in using technology, or with less familiarity with completing online surveys, were less likely to complete the questionnaire.

The fourth limitation relates to the small interview sample size and the non-random selection of the sample. Only sixteen participants (eight professionals and eight parents) participated in the interviews. It could well have been that the professionals who agreed to participate in the interviews were more likely to have had a particular interest in the issue of collaboration on BI. As four of the professionals interviewed hold a master's degree, it could be that professionals with higher educational levels had higher levels of interest and motivation to collaborate with parents. It could also be that the parents who participated in the interviews were particularly motivated to collaborate in their children's BI, as six of the parents interviewed held higher education qualifications. Therefore, the findings of the interviews should be interpreted with caution.

The fifth limitation of this study is related to the interview sampling method. As the parents interviewed were selected by contacting several school gatekeepers from my existing professional networks, selection bias cannot be ruled out and may have influenced the selection of participants. Additionally, the interview participants were only selected from three major cities in the Eastern Province. The views they shared may not be representative of the wider population. Therefore, the interviews can be seen as indicative rather than reflective in terms of their applicability to the wider population. The inclusion of participants from a larger number of cities in the Eastern Province and from other provinces across SA may well have revealed provincial differences as well as ensuring a wider applicability of the interview results.

A final limitation of this study relates to the translation of the questionnaire and the semi-structured interview schedules. Despite the efforts made to ensure the validity of the translation process, the two versions of the questionnaire and the schedules (Arabic and English) may not have been completely identical. English and Arabic languages are different in idiomaticity and structure, something which may in some way have affected the translations.

## **8.7 Implications**

Overall, the findings of this study indicate that although professional-parent collaboration in BI was considered by both professionals and parents as important and valuable, it is not currently practised widely. Although the Saudi Government has made enormous efforts to

improve the services provided for children with ASD (see Chapter Two) it has been argued that further refinements are needed to further improve the quality of services provided for those children and their families (Alquraini, 2014).

Despite the existence of policies and legislation - detailed in Chapter Two - requiring professional-parent collaboration in the educational process, the findings from this study suggested that there are issues to be addressed in order to develop professional-parent collaboration in practice. It was interesting to find that professional and parents have similar views and concerns about their collaborative working in BI. This study suggested that professionals surveyed or interviewed, and parents interviewed, generally valued professional-parent collaboration, but they considered that they are not actively engaged in collaboration in the three stages of BI. The interview data revealed several facilitators and barriers to effective professional-parent collaboration. Based on these findings, my study suggested various practical implications for practice, policy, and future research.

### ***8.7.1 Implications for practice***

My study's findings suggested a number of starting points for schools in addressing barriers to professional-parent collaboration on BI for children with ASD. Among the steps that schools might undertake is the provision of more opportunities for professional-parent collaboration by arranging regular meetings and flexible approaches to communication, such as school visits, telephone calls, video calls, and home visits, where possible. These strategies may enable schools to provide a foundation on which to build active parent-collaboration. This study found that parents do not consider themselves actively engaged in their children's BI, and that they are experiencing high levels of stress parenting a child with ASD. Therefore, another important implication concerns the role that professionals should undertake in encouraging parents' participation in their children's BI. In particular, professionals should build positive relationships with parents, show empathy and support parents emotionally, explain and negotiate parents' role in BI with them at the outset of the BI, and keep parents abreast of any improvements in their child's behaviour. These processes of collaboration may increase parental motivation to collaborate in their children's BI.

Secondly, the findings revealed a perceived lack of parental understanding of ASD, something seen as a barrier to professional-parent collaboration. Thus, one obvious implication is that raising parental awareness of their children's condition should be a priority. However, given the small sample size and the limitations noted above, it may be important for schools to

explore parents' perceptions of their need for additional information and involving parents in this may be a useful starting point for collaboration.

Thirdly, this study identified emotional support and mutual trust as facilitators for professional-parent collaboration. These factors need to be understood by professionals and school administrators working with parents and should be seen as an important aspect of professional training.

Fourth, the findings of this study also revealed that both parents and professionals might benefit from parental training and expertise in BI to help them engage in collaborative working. Therefore, among the steps that schools might consider should be providing parents with more training opportunities related to BI in order to enhance their confidence for full engagement in collaborative working with professionals. This may have budgetary implications and so should be considered at policy (i.e. national) level. Through the allocated budget, schools could provide packages of parental training covering several topics pertaining to BI, such as, for example, informing parents about the range of BI available and what is known about their outcomes, how to plan and deliver them, and what roles parents might play in the different stages of BI. Parental training could be organised based on the distribution of a 'parents' needs survey' at the beginning of each academic year. This would allow schools to obtain information about the actual needs of parental training. Doing so could also begin the process of involving parents by seeking their views about what training may be helpful and reinforcing the impression that they are active participants in making decisions about what they need in terms of training and that their training needs are genuinely being considered by the school. A similar survey could be distributed at the end of each academic year to monitor how helpful parents found any training offered.

### ***8.7.2 Implications for policy***

This study's findings related to the limits of professional-parent collaboration underscore the role policymakers might play in this area. Although policy and legislation prioritise collaboration, there may be a need for mechanisms which monitor and ensure that this is actually happening. Therefore, supervising, evaluating, and supporting professional-parent collaboration might be considered by policymakers to be among the responsibilities for school supervisors. This could help to monitor and alleviate any difficulties that are hindering collaborative working from happening in practice.

Second, the findings suggested that surveyed and interviewed ASD teachers reported limited motivation to engage in collaborative practices with parents. A heavy teacher workload and a lack of assistant teachers are barriers to professional-parent collaboration. This raises the question of the need for assistant teachers to reduce the teaching workload and provide other learning activities and classroom interventions. Indeed, this strategy could decrease the workload for teachers and provide additional time for other professional duties such as collaborative work with parents.

Third, my study's findings suggested perceived limits to the knowledge of professionals about ASD, a barrier to collaborative work with parents. Thus, policymakers in SA could consider pre-service training for new graduate professionals prior to working with ASD children. Teachers and other educational professionals who are not specialised in ASD could participate in compulsory pre-service academic courses in ASD provided by public universities in order to improve their knowledge of ASD and support them working with those children and their families. This may have implications for the number of programmes offered by Saudi universities that train professionals specialising in the field of ASD. This is in line with earlier recommendations that Arab countries, including SA, are encouraged to provide high standard preparation programmes that move beyond preparing teachers on a general special education track to more emphasis on promoting teachers with a specialised practical element that is needed for working with children with ASD (Al Jabery and Al Khamra, 2013).

On the basis of these findings, higher education institutions in SA could consider regular evaluation and improvements of the quality and quantity of teacher preparation programmes, especially the 'practical training semester', when future improvements are considered for Saudi universities' teacher preparation programmes. In particular, universities could consider the quality of field experience for trainee teachers by extending the timeframe for practical training from one semester to one year. This would grant graduates a greater opportunity to develop contextualised knowledge of working with the children they will be dealing with post-graduation. This is supported by Aldabas (2015), who recommended that student-teachers in special education in SA should receive more intensive pre-service practical training in real classrooms.

Fourth, the interview data revealed that both groups saw a lack of particular practical skills regarding how to develop and deliver BI on the part of professionals. The professionals interviewed viewed the lack of in-service training in BI as a barrier impeding professional-

parent collaboration. Professionals interviewed were dissatisfied with the amount of training and also its emphasis on theory. Policymakers might consider what would be required to provide regular in-service training to support a practical understanding of BI. This might involve more practical content for professionals in order to improve their practical experience. This form of training could be either delivered by experienced professionals and/or university academics with practical and theoretical knowledge of BI. This may support novice professionals aiming to increase their practical skills in planning and delivering BI. Indeed, the training provided for professionals should be designed based on their needs; therefore, decision-makers, in collaboration with trainers and professionals, might poll the views of professionals regarding their training needs using a ‘professionals’ training survey’. The results of such a survey would provide the needed information regarding the type, design, and delivery of in-service training programmes for professionals, thus meeting their relevant needs.

Fifth, professional training programmes in collaboration skills were identified as important in this study. The findings revealed a need for professionals to further develop their skills in collaborative work in order to support parents to be involved in BI. These skills may involve the ability to make shared decisions, build positive communicative skills, establish a trusting rapport with parents, understand parent’s experiences and perspectives, and relate to why some hold the belief that an unrealistically quick and easy solution is important. Training therefore needs to include not just BI content but also the underpinning relationship-building required to work collaboratively. Policymakers, in partnership with schools, should provide the resources and guidance to ensure this happens in practice.

Finally, my study’s findings will be summarised and shared with educational professionals, interested researchers who are affiliated with the special education department, and policymakers in SA. It is anticipated that these findings may be useful in providing researchers, professionals, schools, and policymakers with relevant and up-to-date information and knowledge regarding the current practice of professional-parent collaboration in BI for children with ASD in several ways: the value and the current practice of professional-parent collaboration, the facilitators and barriers to professional-parent collaboration, and means of overcoming these barriers.

### ***8.7.3 Implications for future research***

The findings and conclusions of my study suggest various practical implications worthy of consideration in future research within the field of education.

Firstly, and generally, research from other parts of the world has suggested that professional-parent collaboration is a valuable component in successful education and BI for children with ASD. However, research in this area of interest is still in its infancy in SA. Therefore, it is necessary for future researchers in the Saudi context to continue to conduct more research in this field to further explore the issues raised here. More specifically, my study's findings have revealed that, given the lack of training in BI for both professionals and parents, along with the limited collaborative skills of both parents and professionals, there is an urgent need for further research in this area to explore further the kinds of training related to collaborative skills that professionals and parents need in order to work collaboratively. Additionally, what specific types of BI training is required by both parents and professionals if they are to engage in effective collaboration. For example, do professionals and parents require training in ABA and similar interventions? Or is it preferable that they are trained in general behaviour modification strategies? Also, what amount of training is required by professionals and parents to assist them to engage in collaborative relationship in BI? Investigating these topics would help to broaden our understanding and deepen our knowledge of the training needs of parents and professionals in BI and collaboration skills.

Secondly, although my study focused broadly on barriers to professional-parent collaboration, *it did not explore these in particular*. Therefore, a future line of research could involve investigating the specific barriers in more detail. For example, through the use of qualitative designs, other researchers could explore professionals' motivation for collaboration with parents in more detail, the aim being to inform practice and increase collaboration with parents on BI. Furthermore, it was beyond the scope my study to compare public and private schools regarding barriers to collaboration. Therefore, subsequent research might explore whether professionals and parents in different types of schools experience different barriers to collaborative working. Such research could inform policymakers and school leaders as they attempt to improve practice in collaboration in BI.

Thirdly, my study's findings seem to suggest that parents whose children attend private schools tend to be more involved in their children's BI than those whose children are in public schools. Further quantitative research might compare these groups more rigorously to determine if there are factors which may help further explain the facilitators and barriers to collaborative working on BI. Such research could, in particular, explore and compare training in BI, skills in collaboration, and motivation to work in collaboration for the two groups. Such research could

assist to provide detailed information about the characteristics and skills associated with each group of parents (public schools and private schools).

Fourthly, as the questionnaire's sample size was relatively small and almost half was recruited from one province, future studies could include a larger sample and involve a similar proportion of participants from each of SA's provinces. Such research could reveal different findings and improve the generalisability of this study's questionnaire findings.

Fifthly, as the interview sample was relatively small and the respondents hailed from only three cities in one province, future empirical research in this field could use a larger sample size that represents a wider range of cities across this province, making the results of the interviews more widely applicable to the wider population within this province.

Finally, the questionnaire findings partially contrasted with the interview findings concerning the preference of working in collaboration at all stages of BI. Findings from the questionnaire suggested that parents should be involved in every stage of BI. However, findings from the interviews suggested that parents should not collaborate in the design stage. Since only parents and professionals from the Eastern Province were interviewed in this study, it is important that future researchers carry out qualitative research involving participants from different provinces in order to investigate whether there are differences between the provinces relating to preferences for parental involvement in the different stages of BI.

## **8.8 Summary of the thesis**

A mixed-methods approach was employed in this study to address four research questions related to the practice of professional-parent collaboration in the planning, design and implementation of BI for children with ASD in SA. Specifically, this thesis had the following aims: to determine the extent to which educational professionals expect parents to collaborate in the planning, design and implementation of BI; to determine to what extent educational professionals consider they are working in collaboration with parents in the planning, design and implementation of BI; to identify and explain factors which either facilitate or hinder professional-parent collaboration in the different stages of BI; and to establish whether professionals and parents perceive their collaboration as important in the success of BI. This research involved two phases of data collection and analysis; a questionnaire phase followed by an interview phase. The questionnaire phase aimed to address the first two aims; the interview phase explained and expanded on the questionnaire findings by addressing the latter two research aims.

Generally, the findings of this thesis suggested that although professional-parent collaboration in BI is seen by both professionals and parents as important, it is not, at present, practised widely or effectively. Most surveyed and interviewed professionals and most interviewed parents were dissatisfied with the levels of professional-parent collaboration in BI. The interview findings suggested that emotional support for parents and mutual trust between parents and professionals facilitate the potential success of collaborative working. The findings from both phases revealed perceived parent-related, school-related, and professional-related barriers to successful professional-parent collaboration. Further, the findings from the interview phase indicated that both groups view professionals as lacking knowledge of ASD, training in BI, and collaboration skills. The findings from both phases suggested that both groups perceive parents as lacking training related to BI and collaborative skills, and understanding of ASD, leading them to being seen as poorly equipped to collaborate in the three stages of BI.

Broadly speaking, the findings of my thesis proposed a number of issues that need to be addressed by schools, professionals, and policymakers if professional-parent collaboration is to be improved in practice. The findings further proposed a number of starting points for schools and professionals to address the identified barriers to professional-parent collaboration by ensuring appropriate processes of collaboration and arranging flexible methods to collaborate in order to provide a foundation on which parents and professionals can build active and successful professional-parent collaboration. The findings also considered the role that policymakers might play in reforming the current practice of professional-parent collaboration, including the need for mechanisms which monitor and ensure that collaboration is happening in practice, employing more assistant teachers to decrease teacher workloads, providing in-service training related to BI and collaborative working skills for both parents and professionals, and improving the quality and quantity of teacher preparation programmes.

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# Appendices

## Appendix A

### **Appendix A.1: *The entire process of the ERL (focus, method, phases, synthesis, findings and discussion, and conclusions)***

#### **The focus of the ERL review**

The primary aim of this review was to systematically review the available literature within the primary review topic ‘what is known about the long-term outcomes of early diagnosis for children with ASD?’ The review question was generated purposefully to be broad in order to facilitate finding all related literature under the suggested topic.

#### **Method**

A ERL strategy was used with several objectives: first, finding and locating all available and relevant literature; second, demonstrating transparency and objectivity in the search process; third, minimising the level of subjectivity and bias of the reviewer. Fink’s (2014) methodological approach was adopted to facilitate the search for the available literature. Appendix A.1.1 includes a visual representation of this approach.

The EBSCO (including ERIC, British Education Index, Child Development & Adolescent Studies, Teacher Reference Centre), Social Science Premium Collection, SCOPUS, Web of Science, and PsycINFO databases were navigated in order identify and locate the relevant scholarly published literature. Additionally, grey and unpublished literature was searched through the use of Google, Google Scholar, Open Grey Literature database, Ethos, Dart of Europe e-theses, Newcastle University e-theses, and ProQuest Dissertations & Theses Abstract and Indexing.

#### **Phases of the ERL review**

This ERL was conducted in four phases: screening, practical, mapping, and methodological phase.

##### *Phase one: Screening*

Prior to commencing the systematic search, several scoping reviews were performed in each database selected to determine how much literature was available and whether there was a need

to modify the review question, search terms, and inclusion and exclusion criteria. I conducted the primary search using specific key words and controlled vocabularies (see Appendix A.1.2). Two searches were conducted in the databases and websites in order to locate the relevant literature (see Appendix A.1.3).

I carried out the initial search between 26<sup>th</sup> March 2018 and 13<sup>th</sup> April 2018. By screening the results from their titles and abstracts, the search in the databases and internet websites yielded 173 results which seemed relevant to the review question: thirty-three from EBSCO, thirty-one from Social Science Premium Collection, eighteen from PsycINFO, twenty-three from SCOPUS, 38 from Web of Science, seventeen from Google and Google Scholar, ten from Ethos, and two from ProQuest Dissertations & Theses Abstract and Indexing. The full bibliographical records of the studies and their full text were exported to EndNote referencing software. Using this software helped to identify seven papers as duplications and therefore they were discarded. As a result, 166 papers remained.

A robust search strategy should incorporate evidence of specificity and sensitivity. The former is a reviewing skill deployed to identify the relevant and useful literature. The latter is a skill which enables a researcher to dismiss sources that are not relevant to the study (Fink, 2019). The focus in this phase was on specificity rather than sensitivity, aiming to find as many related papers as possible. The papers identified from each database were included in a specific group in EndNote aiming to gain a complete picture of their range. In addition, several smart groups were created in this software so as to facilitate linking the studies with the same topics or methodologies together, as this would help to discover any similarities and disparities among the reviewed papers.

*Phase two: Practical (applying inclusion and exclusion criteria)*

Meline (2006) distinguishes between two approaches that often used by systematic reviewers: broad traditional and narrow critical evaluation approach. Chambers (2004) argues for applying the broad traditional approach when selecting studies for inclusion in a review. He believes that a meta-analytic approach must be used with all studies, irrespective of whether they are judged high or low in quality. In contrast, Slavin (1987) suggests using the critical evaluation approach to select studies for systematic reviews. This is a strict approach, aiming to include solely high quality studies that meet a predetermined set of criteria of methodological rigour and relevance. I decided to follow Slavin's recommendation and employed the critical evaluation approach in order to select only robust evidence to be included in the final synthesis.

Several inclusion and exclusion criteria were applied in this phase in order to include papers appropriate for the review question. I applied predetermined inclusion and exclusion criteria to locate eligible papers that would go through to the mapping phase (see Appendix A.1.4). Therefore, the emphasis on this phase shifted from specificity to sensitivity. Specifically, I read titles, abstracts and skimmed and scanned the methodology, discussion, and conclusion sections to examine the relevance of the papers to the review question. Relevant papers were then included in a group created in EndNote software to be ready for further reading.

For published literature, from applying the inclusion and exclusion criteria (type of publication, publication language, age of population, date of publication, and relevance to the review), twelve studies were found to be eligible to go through to the mapping phase. A further 125 papers were excluded from the review as they did not meet the selected criteria. Reasons for exclusion included relevance to the review (86 papers), population group (3 papers), full text availability (20 papers), publication type (11 papers), and publication language (2 papers). Following this, I started navigating the papers' reference lists (360-degree searching) for the eligible papers (n=12) alongside the reference lists of papers that were dismissed because of the publication type (n=11). As a result, seven additional papers were found suitable for inclusion in the review. Therefore, adding these together (12+7) made nineteen eligible papers to go through to the mapping phase. Annotations describing why these papers were important for this study were written for the nineteen relevant papers. Reasons for excluding the rejected papers were given and details about them were kept in Endnote.

Applying the inclusion and exclusion criteria to the grey literature resulted in no studies meeting the inclusion and exclusion criteria. Therefore, the 29 papers found in the screening phase were excluded from the review. Reasons for exclusion were irrelevance to the review (21 papers) and publication type (8 papers).

### *Phase three: Mapping*

In this phase, I read every selected paper systematically in order to locate the relevant information. The practice of mapping was undertaken in order to organise and summarise the selected papers and discover any similarities and the differences. In particular, I focused on reading the abstract, method, discussion, and conclusion sections in order to extract important information from each paper. The two tables in Appendix A.1.5 display the important information extracted from each of the nineteen papers included in the review. Extracting this

information provided an overview of the selected papers in terms of the focus, research designs, methods, and research contexts of these studies.

The practice of mapping facilitated grouping the studies in a meaningful way. Of the 19 eligible papers, eight were conducted in the USA, two in the UK, and two in Canada. A further seven studies were conducted in the following countries, one in each: Italy, Denmark, Greece, Australia, India, Israel, and Ireland. The sample size of six studies was relatively small, with fewer than 30 participants in each. Of those, one study included only five participants (O'Connor and Healy, 2010) and the sample size of five studies ranged between eight and twenty-nine participants. The remaining studies had recruited comparatively larger samples of between thirty-six and 1287 participants.

Of the nineteen studies, three (Elmose et al., 2014; MacDonald et al., 2014; Turner et al., 2006) were in the line with the review question as they focused mainly on exploring the relationship between early diagnosis and long-term outcomes for children with ASD. However, the remaining studies, while also to some degree focusing on the outcomes of early diagnosis, had wider aims, with most of them investigating the relationship between early diagnosis combined with early BI and the long-term outcomes for children with ASD. Methodologically, eight studies had longitudinal follow-up designs. The research approach in the other five studies was experimental designs (controlled, uncontrolled, and observational), four employed a survey methodology, two utilised a matched groups comparison design (Clark et al., 2018; Perry et al., 2013), and the final study was a case study of five boys with ASD (O'Connor and Healy, 2010).

#### *Phase four: Methodological*

In this phase, the eligible papers were assessed against their quality and relevance to the review question. Evaluating the studies' relevance to the proposed review question and assessing the quality of evidence are important elements to consider, as meeting the inclusion and exclusion criteria does not guarantee that a study will meet the standards of quality and relevance of evidence for the review (Gough, 2007). Therefore, I decided to assess the nineteen studies against their quality and relevance to the review question.

Several frameworks are used by reviewers to assess the quality and the relevance of studies for systematic reviews (e.g. Furlong & Oancea, 2007; Gough and Elbourne, 2002). The obvious implication is that there is little agreement on the type of quality assessment that should be conducted for systematic reviews. Due to the diversity of research designs and methods used

in the selected studies, in consultation with my supervisory team I decided to make use of the “EPPI-centre (Weight of Evidence) framework for quality extracting information and quality appraisal of primary studies in educational research” (Gough, 2007). Based on the evidence the trustworthiness, appropriateness and relevance of the studies, the judgement of them by applying the EPPI-centre strategy is summarised in Appendix A.1.6.

Reviewer subjectivity and bias were considered throughout the whole process of assessing the quality of the studies. A scoring system was adopted from Fink (2014) to ensure consistency in determining the quality of evidence for the reviewed studies. Specifically, a score out of 100 points was given for each study (100-80 = High, 79-55 = Medium, below 55 = Low). Appendix A.1.7 presents the scoring system for quality assessment. I decided to select the score of 55 as a cut off score for inclusion of the reviewed studies in the synthesis. Therefore, studies with an overall score below 55 were excluded from the review. As a result, nine studies were subsequently excluded from the review (refer to Appendix A.1.6).

Ten studies (with high or medium ranks) went through to the final synthesis (Akshoomoff et al., 2010; Clark et al., 2018; Elmore et al., 2014; Gusty-Lee et al., 2006; Karanth and Chandhok, 2013; MacDonald et al., 2014; O’Connor and Healy, 2010; Perry et al., 2013; Suma et al., 2016; Turner et al., 2006). Of these, three studies were assessed as providing high quality evidence (Akshoomoff et al., 2010; Clark et al., 2018; Suma et al., 2016). Generally, the focus of these studies was on the impact of early diagnosis combined with BI on educational placement, and the long-term outcomes (social, cognitive, behavioural, and language) for children with ASD. Although different measures were used in these studies to assess the relationship between the two variables, they were considered to have answered their set research questions clearly. Additionally, the authors of these studies provided enough detail about their research designs, sampling procedures, and data collection and analysis methods, a factor which positively affected the ratings of these studies to be of the highest quality.

The following section discusses the ten studies included in the final synthesis.

### **Synthesis of the ERL**

This section presents the synthesis of the ten studies included in this ERL. First, it provides a narrative summary of the reviewed studies and offers descriptions of their characteristics. Second, it explains the designs, samples, criteria for diagnosis, and measures used in these studies. Finally, it discusses the themes identified related to the review question.

### ***A narrative summary of the reviewed studies***

Overall, the focus of studies was on the impact of early diagnosis combined with early BI on the long-term outcomes (social, cognitive, behavioural, language, and academic) for children with ASD. Most of these studies involved measures and standardised IQ tests, adaptive skills, language, and social and communication skills aiming to assess the long-term outcomes of ASD children with an early diagnosis.

### ***Description of the reviewed studies' characteristics***

Most studies recruited mixed-sex participants, but, on average (i.e. from all the studies combined) the percentage of boys was higher than girls (78% boys & 22% girls). However, O'Connor and Healy (2010) only involved male participants. A question should be raised about the reason why boys were more involved than girls in these studies. It is possible that boys might be diagnosed and enrolled in the intervention programmes earlier than girls, and therefore the likelihood of their participation in research increases. Another possible explanation might be that parents of boys may be more motivated to participate in research than the parents of girls. Furthermore, it is possible that there is a discrepancy in the ratio of ASD diagnosis between the two genders, with boys (according to the selected studies) four times more likely than girls to be diagnosed (Hartley and Sikora, 2009).

### ***Descriptions of the studies' designs***

Two from ten of the reviewed studies used experimental designs to assess progress and long-term outcomes of children who received early diagnosis and were enrolled into Early Intensive intervention. These studies examined the relationship between several variables and reported descriptive and inferential analysis of their data (Gusty-Lee et al., 2006; MacDonald et al., 2014). Three studies used a follow-up prospective design, two employed longitudinal designs, two employed a matched group comparison design, and one was a case study. All of the studies collected follow-up data about the long-term outcomes of children with ASD.

### ***Sampling***

The sample size of the reviewed studies ranged from small to large. The number of participants varied from five (O'Connor and Healy, 2010) to 267 (Perry et al., 2013) participants. The participants of six studies were recruited from large cohort previous studies. The participants of a further three studies were recruited from the records of intervention programmes. And the participants of one study were selected from a referral autism centre (Elmose et al., 2014).

Five studies involved pre-schoolers, four studies involved school-aged children, and one study included a mixture of pre-school and school-age children (Perry et al., 2013). Most used a randomised sampling strategy to recruit their participants (n= 8), and two of the studies used convenience sampling method (Akshoomoff et al., 2010; Elmore et al., 2014).

Appendix A.1.8 gives a summary of the characteristics for the ten studies included in the final synthesis.

### ***ASD population and criteria for diagnosis in the reviewed studies***

All the studies included a mixture of lower (IQ below 70) and higher (IQ 70 or greater) functioning children with ASD, and so all the studies were similar in this approach.

Eight studies employed the diagnostic criteria of DSM-IV-TR (American Psychiatric Association, 2000). The remaining two studies (Suma et al., 2016; Elmore et al., 2014) utilised the WHO's ICD-10 (the International Statistical Classification of Diseases and Related Health Problems, 2013). Wilson et al. (2013) have categorised the diagnosis of children falling under the WHO's ICD-10 classification into three: children with a delay in the development of language are diagnosed with childhood autism; children without a delay in the development of language are diagnosed with Asperger's; and children who display some symptoms of autism but cannot be classified as having autism are seen as having a persistent or an unspecified disorder in their development, or atypical autism. In contrast, the DSM-IV-TR diagnostic classification involves five disorders: autism, Asperger's syndrome, Rett's syndrome, unspecified pervasive developmental disorder, and childhood disintegrative disorder (Matson et al., 2012, b).

### ***Measures, tests, and scales used in the reviewed studies***

A variety of measures, scales, and tests were employed to gather data about the children involved in their studies. Yet the reliability and validity of several measures should be questioned for several reasons. First, the Mullen Scales of Early Learning and the Early Skills Assessment was used by (Akshoomoff et al., 2010; Clark et al., 2018; Elmore et al., 2014; MacDonald et al., 2014; O'Connor and Healy, 2010). Bradley (1998) questioned the construct validity of these scales and raised the concern that they might not be conceptually appropriate for measuring long-term outcomes, thereby undermining their trustworthiness. Second, some of the scales used in the reviewed studies, such as Vineland Adaptive Behaviour Scales, the Communication and Symbolic Behaviour Scales, Conner's Rating Scales-Revised, and the Strengths and Difficulty Questionnaire, are based on parental reports. This raises the risk that

the parents may intentionally under- or overestimate their children's skills aiming to obtain what they seek (e.g. mainstream placement for their children). Finally, the measure of the Early Skills Assessment employed by O'Connor and Healy (2010) should also be questioned as it was a self-designed measure that has not been matched to a theory and lacks clear information about its protocol, structure, and design (Bradley, 1998).

## **Findings and Discussion**

This section aims to answer the review question, 'What is known about the long-term outcomes of early diagnosis for children with ASD?' It is worth noting that most of the reviewed studies focused on the relationship between early diagnosis combined with early BI and long-term outcomes for children with ASD. It might be that there is an ethical issue in studying the difference between early diagnosis with no intervention versus early diagnosis *with* intervention. As it is not ethical to leave children unenrolled to an intervention in order to compare them with other children who had enrolled in an intervention programme. Therefore, these studies investigated the relationship between early diagnosis in combination with early intervention on the long-term general outcomes.

Presenting a comparison of the findings of the reviewed studies is based on identifying and reporting several themes. A number of themes relevant to the review question were identified in the reviewed studies concerning the relationship between early diagnosis combined with early intervention and the long-term outcomes for children with ASD (see Appendix A.1.9). The decision to employ this qualitative approach, as opposed to a quantitative approach, was made because of that my review question was broad, and therefore it was deemed that using a qualitative approach to synthesise the material would allow me to explore the similarities and differences between the findings of the reviewed studies, thereby guiding me to identify the primary focus for my study.

### ***Discussions of the themes identified***

This section presents the six themes identified in the reviewed studies.

#### ***Theme one: Early diagnosis and school placement (type of placement)***

This theme explains the relationship between early diagnosis and inclusion in mainstream schools. Generally, most reviewed studies found a relationship between early diagnosis and

inclusion of children with ASD in mainstream schools. However, Clark et al. (2018) found no significant difference between children with early diagnosis and children with late diagnosis in terms of their inclusion in mainstream schools. Notably, the three studies explored the effects of early diagnosis combined with early interventions. Children who participated in these studies were enrolled in multiple behavioural and developmental interventions, including EIBI, ABA, the Children's Toddler School Program, and Project DATA (Developmentally Appropriate Treatment for Autism). Therefore, early diagnosis cannot be considered as the only factor that influenced the inclusion of those children in mainstream schools.

***Theme two: The relationship between early diagnosis, and cognitive and intellectual outcomes***

This theme discusses the effect of early diagnosis on the long-term cognitive and intellectual outcomes for children with ASD.

Overall, the studies here found a connection between obtaining an early diagnosis and improvements in cognitive ability for children with ASD. For example, Clark et al. (2018) found that children with ASD who were diagnosed early (before the age of three) had better scores in cognition at school entry age (age five) compared to children with a later diagnosis (diagnosed after the age of three). Concerning intellectual outcomes, the findings of the studies (Elmose et al., 2014; O'Connor and Healy, 2010) suggested a significant increase in IQ for children with early diagnosis of ASD. However, two of the children in O'Connor and Healy' (2010) study demonstrated a decline in their IQ scores.

***Theme three: Early diagnosis and social outcomes (social interaction and communication)***

This theme discusses the relationship between early diagnosis leading to early enrolment in an intervention and social outcomes for children with ASD. A study by Gusty-Lee et al. (2006) was the only one that examined the relationship between early diagnosis social outcomes. This study found that early diagnosis led to early enrolment into the DATA intervention and that children demonstrated positive functional outcomes related to social and communicative skills.

***Theme four: Early diagnosis and the amount of intervention***

This theme offers a discussion of the link between receiving an early diagnosis and the amount of intervention received by children with ASD. The findings by Clark et al. (2018) and Suma et al. (2010) suggested that having an early confirmed diagnosis of ASD was linked to an increase in the amount of intervention that those children received.

### **Theme five:** *Early diagnosis and adaptive behaviour outcomes*

This theme discusses the relationship between early diagnosis combined with BI and adaptive behaviour outcomes for children with ASD.

Overall, the findings of the reviewed studies revealed no clear relationship between early diagnosis combined with BI and positive adaptive behaviour skills (e.g. daily living skills) for children with ASD (Clark et al., 2018; Perry et al., 2013).

However, O'Connor and Healy (2010) found mixed results. Three of the children who participated in their study demonstrated a moderate increase in their adaptive behavioural skills after completing EIBI whereas two children showed a decrease in their adaptive behavioural skills scores after completing EIBI.

### **Theme six:** *Early diagnosis and language outcomes*

This theme discusses the relationship between early ASD diagnosis and language outcomes for ASD children.

Two of the reviewed studies found that diagnosing children with ASD before the age of three was linked to improvements in language outcomes (MacDonald et al., 2014; Turner et al., 2006). Specifically, the children who participated in these studies demonstrated improvements in their language gains in terms of conversational skills, functional language, and communicative skills.

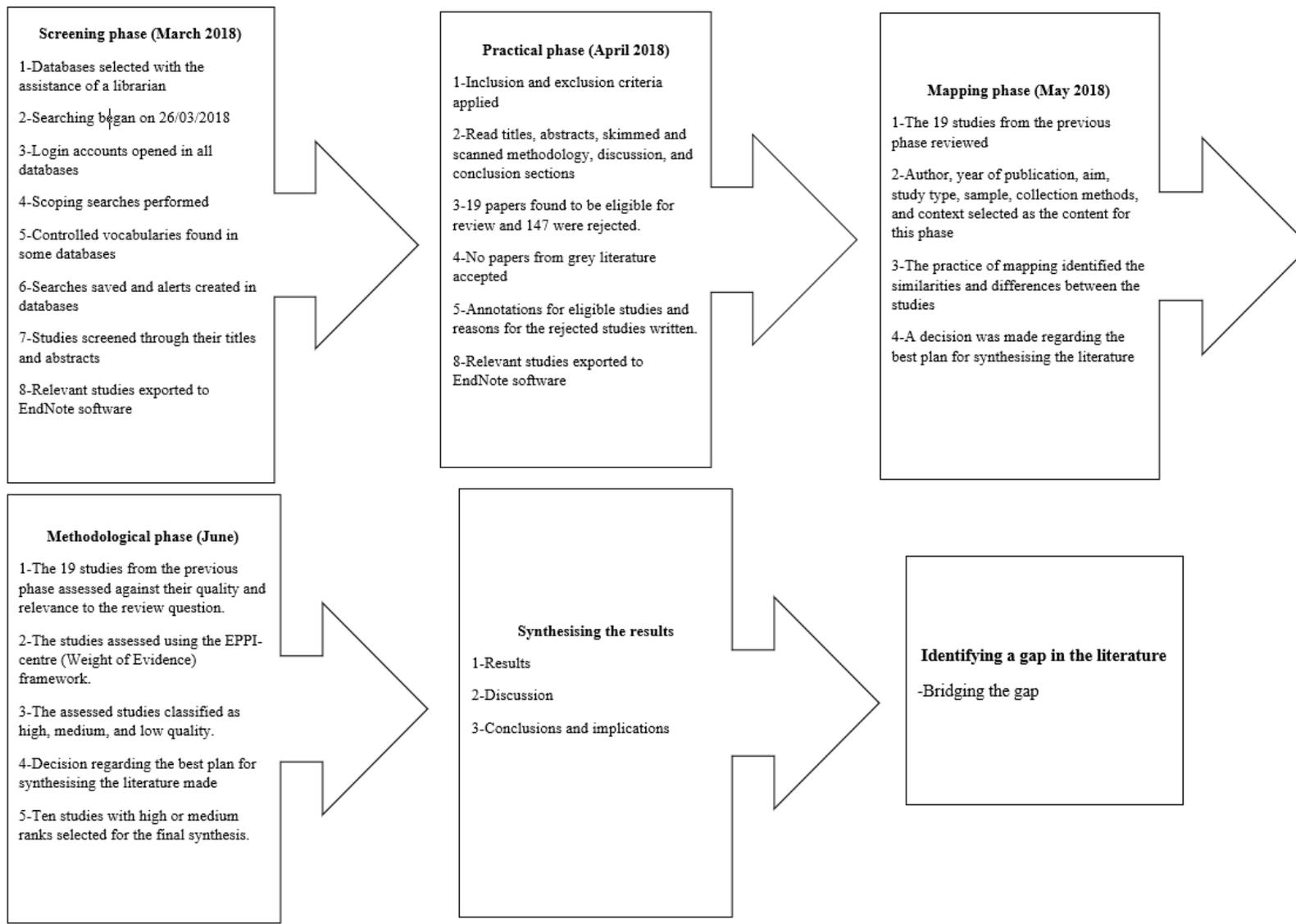
## **Conclusions**

The findings from the ERL generally suggested early diagnosis, combined with an early enrolment in behavioural or developmental interventions, to be helpful in improving the long-term general outcomes for children with ASD (i.e. cognitive, language, social, and intellectual, and academic outcomes). However, two of the studies included in this ERL suggested that early diagnosis combined with interventions were not linked to enhancement in adaptive behavioural skills for children with ASD (Clark et al., 2018; Perry et al., 2013).

The identified themes can be described as broad, as each of them can be considered a particular area of research. Due to the breadth of the review topic and the heterogeneity of the studies, it was extremely difficult to reach a simple conclusion. For example, some authors studied the impact of early diagnosis on the school placement of those children. Others studied the impact of early diagnosis combined with early interventions on several aspects related to long-term

outcomes, such as behavioural, social, language, intellectual, language, and cognitive outcomes. Certainly, each of these aspects could be a distinct area of research under the topic of long-term outcomes. The findings of the reviewed studies related to the long-term outcomes of early diagnosis combined with early interventions for children with ASD were generally consistent as most of the reviewed studies suggested similar findings. Merging the findings revealed that there seemed to be a relationship between early diagnosis combined with early interventions and long-term outcomes for children with ASD. In most studies, an early diagnosis of ASD, combined with interventions, was linked to positive long-term outcomes. It could be that obtaining an early diagnosis may play a role in increasing the likelihood of earlier extra support (e.g. social, cognitive, academic, and language) and an early enrolment into intervention practices for children with ASD. As a result, this may enhance improvements in children's language, social and other long-term outcomes. However, some of the reviewed studies (Clark et al., 2018; Perry et al. 2013) found no clear relationship between early diagnosis combined with BI and long-term adaptive behaviour outcomes for children with ASD. It is possible that different factors either relating to parents, professionals or both may play a role in enhancing positive behavioural outcomes for children with ASD.

**A.1.1:** *Fink's (2014) approach to systematically searching the available literature*



**A.1.2:** *Key words used in the initial searching phase*

<b>Keywords</b>		
<b><i>Population</i></b>	<b><i>Content</i></b>	<b><i>Context</i></b>
Children, infants, toddlers, pre-schoolers, pre-school (Preschool) children, childhood, autism spectrum disorders, ASD, autism, autistic children, autistics, and infinite autism	Early diagnosis (diagnoses), early identification, early assessment, early evaluation, long-term outcomes, long-term benefits	Hospitals, clinics, autistic centres, schools, institutions, institutes, early year's settings, nursery/kindergarten.

**A.1.3:** *The two searches used in the screening phase*

<b>Search 1</b>	Search term 1: AB, TI (autism spectrum disorder OR Pervasive Developmental Disorders or Autis*) AND ("early diagnosis" OR early identification) AND (Outcomes OR benefits) AND (children).
<b>Search 2</b>	Search term 2: AB, TI (diagnos* OR identification) AND AB, TI (autism spectrum disorder OR autistic OR ASD) AND AB, TI (outcomes OR benefits OR advantages) AND AB, TI (Children OR preschool children OR infants OR toddlers OR preschool age OR preschoolers OR kindergarten OR early year's settings).

**A.1.4:** *Inclusion and exclusion criteria in the mapping phase of the ERL*

Inclusion criteria	Exclusion criteria	Justification
<b>Publication language:</b> only English	Other languages	<ul style="list-style-type: none"> <li>• Language was restricted to English as it was the presentation language of my study and also due to practical difficulty of translation</li> <li>• Through the subscriptions of my institution, I could only access English language materials; Arabic, for example (my own language), is not included in these subscriptions.</li> <li>• The inclusion of only English resources may have naturally caused a language-based bias.</li> </ul>
<b>Journal type:</b> education, psychology, and medical journals.		Through the scoping reviews undertaken before starting the ERL, I realised that educational, psychology, and medical journals would be useful for the review topic; therefore, they were included in the literature search.
<b>Settings:</b> studies in educational, psychology, and medical settings		Research related to ASD is usually conducted within these settings: schools, hospitals, and psychological clinics.
<b>Research design:</b> all designs (qualitative, quantitative, and mixed methods)		As my study does not focus on investigating particular research methods, there are no preferences related to the designs of the studies. Therefore, the inclusion of studies with different designs would be helpful to identify the available literature.
<b>Date of publication:</b> between 2005 and 2018.	Studies: published pre-2005	After finishing the scoping reviews, I was satisfied with the range of papers I had found in the selected databases and websites.

<p><b>Type of publication:</b></p> <ul style="list-style-type: none"> <li>- Full text peer-reviewed journal articles</li> <li>-Grey (unpublished literature)</li> <li>-Scholarly grey literature: Doctoral theses, conference proceedings, research reports, (working papers relevant to social sciences).</li> </ul>	<ul style="list-style-type: none"> <li>-literature reviews (systematic, narrative, meta-analysis etc.),</li> <li>Secondary research (letters, editorials, and commentaries articles),</li> <li>-Methodological research, books, book reviews.</li> <li>-Government-based grey literature: (government reports and websites)</li> </ul>	<ul style="list-style-type: none"> <li>• To ensure the selection of the best available studies (peer reviewed journal articles).</li> <li>• Unpublished and grey literature was included in the review: first, to avoid the problem of publication bias (file drawer bias); second, to assess bias in publication and determine whether the findings of grey literature differed from the published literature.</li> <li>• Grey literature (especially, governmental papers, statements and issues) might be conceptually loose and contain potential bias.</li> </ul>
<p><b>Content (Topics):</b></p> <p>Studies that only focus on: early diagnosis, long-term outcomes of early diagnosis for children with ASD.</p>	<p>Asperger and Rett's syndrome</p>	<p>Asperger's and Rett's syndrome are no longer listed in DSM-5 (American Psychiatric Association, 2013) as a categorical diagnosis. ASD is the most up-to-date category.</p>
<p><b>Subjects (population):</b> ASD children, autism, pre-schoolers, toddlers, infants.</p>	<p>Adults, teenagers, youngsters, older, adolescents, and youth.</p>	<p>The focus of this review is on early diagnosis for children with ASD, not adults or groups older than children.</p>

**A.1.5:** *Extracted information from the selected nineteen papers (Tables 1&2)*

**Table 1**

Study	1	2	3	4	5	6	7	8	9	10
Author & Year	(Akshoomoff et al., 2010)	(Gusty-Lee et al., 2006)	(Suma et al., 2016)	(Zablotsky et al., 2017)	(Devescovi et al., 2016)	(Elmose et al., 2014)	(Zuckerman et al., 2017)	(Kelley et al., 2010)	(Stampoltzis et al., 2012)	(Clark et al., 2018)
<b>Aim</b>	Follow up children diagnosed at age 2 and enrolled to inclusive toddler intervention to explore service use & educational placement	Examined the outcomes (cognitive, communicative, functional skills, and educational placement) of children with an early ASD diagnosis who were enrolled in DATA toddler intervention	Assessed the relationship between having an ASD diagnosis and the amount of intervention received, and the impact of the increase of intervention hours on family-child interaction)	Investigated parents' experiences in relation to the diagnosis process for children with ASD	Assessed the effectiveness of early diagnosis combined with early intervention on outcomes (severity of symptoms, cognitive and language, social skills), and reduction in problematic behaviour	Investigated stability of early diagnosis, level of development (IQ, and functioning), and outcomes (intellectual and adaptive) for children with an early diagnosis	Examined the association between the time of diagnosis and the use of specific ASD services	Assessed the impact of early diagnosis on the optimal outcomes for ASD children. Also compared those with lower functioning ASD children to other typically developing and high functioning children	Assessed children's educational characteristics (school placement, development) and compared it to the age of diagnosis, gender, and sub-type of ASD	Compared school age outcomes (cognitive, behavioural and educational) for ASD children with early and late diagnoses who obtained BI
<b>Study type</b>	Follow up prospective study	Uncontrolled experimental design	Longitudinal study	Cross-sectional survey	Experiment-uncontrolled (retrospective design)	Follow-up prospective study	Longitudinal survey	Follow up study	Survey research	Matched groups comparison design
<b>Sample (age)</b>	29 children (age 2) 57 families surveyed 20 children tested (4.4-12.2 years)	8 toddlers under the age of three (7 boys, 1 girl)	79 children (49 boys) with ASD 74 mothers, 4 fathers	1,287 individuals with ASD (6-17 years), and their parents participated in the study	21 toddlers (18 boys, 3 girls); 20-36 months	23 children (18 male) a year and 11 months to 4 years (when they were diagnosed with ASD. -Follow up assessment: 9 years 7 months – 13 years.	722 children (aged 6-11 years)	41 children (10 years and 5 months – 11 years and 5 months)	91 children (4-14 years)	85 children (7-9 years)- 68 boys, 17 girls
<b>Collection methods</b>	Parent' survey & follow-up testing	-Observation -Standardised -Assessment -Parents' contact	-Standardised assessment -Systematic observation: (family-child interaction) -Questionnaire for parents	Telephone and mail survey	-Intervention standardised assessments	-Standardised tests -Parents' interviews	Parents survey (parents' reports)	-Structured parents' interviews -Standardised diagnostic instruments (scales and tests)	Questionnaire	-Standardised tests (assessments) -Questionnaire for parents
<b>Context</b>	USA	USA	USA	USA	Italy	Denmark	USA	USA	Greece	Australia

**Table 2**

Study	11	12	13	14	15	16	17	18	19
<b>Author &amp; Year</b>	<b>(Karanth and Chandhok, 2013)</b>	<b>(Turner et al., 2006)</b>	<b>(Landa et al., 2007)</b>	<b>(MacDonald et al., 2014)</b>	<b>(Perry et al., 2013)</b>	<b>(and Zachor, 2011)</b>	<b>(O'Connor and Healy, 2010)</b>	<b>(Magiati et al., 2011)</b>	<b>(Perry et al., 2011)</b>
<b>Aim</b>	Investigated the academic status of ASD children who completed an early intervention (whether they were included in mainstream schools or special schools)	Assessed the outcomes (cognitive skills, stability of diagnosis, language skills, and communication skills) of ASD children diagnosed at age 2 (7 years post the diagnosis).	Examined social, communicative, and adaptive skills for ASD children with early and late diagnosis.	Assessed the progress and development (cognitive ability, repetitive behaviour attention, play skills) of children with ASD who participated in EIBI	Examined the relationship between participants' chronological and mental (IQ) age with the outcomes (cognitive and adaptive outcomes) of early EIBI for children with ASD	Assessed the impact of mother' age, children' age, verbal and language ability, and symptoms severity on the outcomes of early interventions for ASD.	Evaluated the outcomes of ASD children following an EIBI and mainstream schooling.	Examined the long-term outcomes (adaptive skills, cognitive ability, and behavioural skills) associated with enrolment in EIBI for children with ASD.	Assessed age of participants, cognitive ability, adaptive behaviour, and IQ as predictors for further outcomes for children who received EIBI.
<b>Study type</b>	Post hoc study (follow up survey)	Prospective longitudinal study	Prospective, longitudinal study	Controlled Experimental research	Study1; uncontrolled retrospective file review design Study 2: matched groups comparison design	Experimental	Case study	Longitudinal-Follow up	Observational study (uncontrolled experiment)
<b>Sample (age)</b>	85 children (under the age of 6)	26 children (2-9 years) (22 boys, 4 girls)	125 (14-36 months)	83 ASD children (17-48 months) 58 Typical children (18-59 months)	Conducted two studies: Study 1: (2-14,5 years when starting EIBI) Study 2: older (6-14 years), younger, (2-5 years) Sample: 207 (81% boys)	78 children (15-35 months) (71 boys, 7 girls)	5 children (Boys) 9 & 8 months- 12 years	36 children (22-54 months, at the start of intervention)	332 children-(2-7 years)
<b>Collection methods</b>	Follow up questionnaire parents)	Standardised assessments (tests, measures)	Standardised assessments (tests, measures)	-Standardised assessments (measures) -Observations -Video tapes	Secondary analysis of data from EIBI	Standardised tests, measures, and scales (baseline data- post-intervention data)	-Standardised tests (scales) -Interviews with parents and teachers	-Questionnaires (teachers & parents) -Standardised tests(scales)	-Standardised measures (scales)
<b>Context</b>	<b>India</b>	<b>USA</b>	<b>USA</b>	<b>England</b>	<b>Canada</b>	<b>Israel</b>	<b>Ireland</b>	<b>UK</b>	<b>Canada</b>

**A.1.6: The EPPI (Weight of Evidence)**

Papers/Ratings		W.o.E (A) Trustworthiness	W.o.E (B) appropriateness of design & analysis	W.o.E (C) Relevance of the paper	W.o.E (D) Overall assessment	Decision made √=included X=excluded
1	(Akshoomoff et al., 2010)	High	High	Medium	High	√
2	(Gusty-Lee et al., 2006)	Medium	Medium	High	Medium	√
3	(Suma et al., 2016)	High	High	High	High	√
4	(Zablotsky et al., 2017)	Low	Medium	Low	<b>Low</b>	<b>X</b>
5	(Devescovi et al., 2016)	Low	Low	High	<b>Low</b>	<b>X</b>
6	(Elmose et al., 2014)	Medium	Medium	High	Medium	√
7	(Zuckerman et al., 2017)	Low	Medium	Low	<b>Low</b>	<b>X</b>
8	(Kelley et al., 2010)	Low	Low	Low	<b>Low</b>	<b>X</b>
9	(Stampoltzis et al., 2012)	Low	Medium	Low	<b>Low</b>	<b>X</b>
10	(Clark et al., 2018)	High	Medium	High	High	√
11	(Karanth and Chandhok, 2013)	Medium	Medium	Medium	Medium	√
12	(Turner et al., 2006)	Medium	High	Medium	Medium	√
13	(Landa et al., 2007)	Medium	Low	Low	<b>Low</b>	<b>X</b>
14	(MacDonald et al., 2014)	Medium	Medium	Medium	Medium	√
15	(Perry et al., 2013)	Medium	Low	Medium	Medium	√
16	(Itzchak and Zachor, 2011)	Low	Medium	Low	<b>Low</b>	<b>X</b>
17	(O'Connor and Healy, 2010)	Medium	Low	High	Medium	√
18	(Magiati et al., 2011)	Low	Low	Low	<b>Low</b>	<b>X</b>
19	(Perry et al., 2011)	Medium	Low	Low	<b>Low</b>	<b>X</b>

**A.1.7: Scoring system for quality assessment (adopted from Fink (2014))**

**Table 1**

Standards /studies	(Akshoomoff et al., 2010)		(Gusty-Lee et al., 2006)		(Suma et al., 2016)		(Zablotsky et al., 2017)		(Devescovi et al., 2016)		(Elmose et al., 2014)		(Zuckerman et al., 2017)		(Kelley et al., 2010)		(Stampoltzis et al., 2012)		(Clark et al., 2018)			
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No		
<b>A) Trustworthiness</b>																						
Clear objectives and rationale	√		√		√		√		√		√		√		√		√		√			
Clear research questions and hypotheses	√		√		√			√		√		√		√		√		√		√		
Adequate description of the study's context	√		√		√			√		√		√		√		√		√		√		
Adequate sample size		√		√	√		√			√		√		√		√		√		√		
Details about participants	√				√			√		√		√		√		√		√		√		
Details about data collection analysis methods	√		√		√			√		√		√		√		√		√		√		
Reliability and validity of data collection methods	√			√	√			√		√		√		√		√		√		√		
Reliability and validity of data analysis	√			√	√			√		√		√		√		√		√		√		
Consistency of conclusion with study questions	√		√		√		√		√		√		√		√		√		√		√	
Ethical issues consideration	√		√		√		√		√		√		√		√		√		√		√	
<b>Scores(ratings)</b>	<b>90 (high)</b>		<b>70(medium)</b>		<b>100(high)</b>		<b>40(low)</b>		<b>40(low)</b>		<b>70(medium)</b>		<b>30(low)</b>		<b>40(low)</b>		<b>50(low)</b>		<b>100(high)</b>			
	<b>score (Ratings)</b>																					
<b>B) Appropriateness for answering the review question</b> 1-Suitability of evidence for the review question (50%). 2-Suitability of study design to answer the review question (50%). <b>Judgement= 1+2/2</b>	<b>96 (high)</b>		<b>76 (medium)</b>		<b>96 (high)</b>		<b>60 (medium)</b>		<b>36 (low)</b>		<b>68 (medium)</b>		<b>64 (medium)</b>		<b>40 (low)</b>		<b>70 (medium)</b>		<b>78 (medium)</b>			
<b>C)Relevance of the paper for the review question</b> 1-Relevance of the study's focus to the review (50%). 2-Fitness of study context for the review question (50%). <b>Judgement= 1+2/2</b>	<b>74 (medium)</b>		<b>90 (high)</b>		<b>98 (high)</b>		<b>45 (low)</b>		<b>82 (high)</b>		<b>90 (high)</b>		<b>22 (low)</b>		<b>46 (low)</b>		<b>50 (low)</b>		<b>98 (high)</b>			

Table 2

Standards /studies	(Karanth and Chandhok, 2013)		(Turner et al., 2006)		(Landa et al., 2007)		(MacDonald et al., 2014)		(Perry et al., 2013)		(Itzchak and Zachor, 2011)		(O'Connor and Healy, 2010)		(Magiati et al., 2011)		(Perry et al., 2011)	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
<b>A) Trustworthiness</b>																		
Clear objectives and rationale	√		√			√	√		√			√	√		√		√	
Clear research questions and hypotheses	√		√			√		√		√		√		√		√		√
Adequate description of the study's context	√		√		√		√		√		√		√		√		√	
Adequate sample size	√			√	√		√			√		√		√		√		√
Details about participants		√		√		√		√		√		√		√		√		√
Details about data collection and analysis methods		√		√	√		√		√		√		√		√		√	
Reliability and validity of data collection methods		√	√		√		√		√		√		√		√		√	
Reliability and validity of data analysis	√		√		√			√	√			√	√			√	√	
Consistency of conclusion with study questions	√		√		√		√		√		√		√		√		√	
Ethical issues consideration	√		√		√		√		√		√		√		√		√	
<b>Scores(ratings)</b>	<b>70(medium)</b>		<b>70(medium)</b>		<b>70(medium)</b>		<b>70 (medium)</b>		<b>60(medium)</b>		<b>30(low)</b>		<b>70(medium)</b>		<b>60(low)</b>		<b>70(medium)</b>	
<b>score (Ratings)</b>																		
<b>B) Appropriateness for answering the review question</b>	<b>75 (medium)</b>		<b>90 (high)</b>		<b>50 (low)</b>		<b>65 (medium)</b>		<b>52 (low)</b>		<b>60 (medium)</b>		<b>50 (low)</b>		<b>45 (low)</b>		<b>40 (low)</b>	
1-Suitability of evidence for the review question (50%).																		
2-Suitability of study design to answer the review question (50%).																		
<b>Judgement= 1+2/2</b>																		
<b>C)Relevance of the paper for the review question</b>	<b>70 (medium)</b>		<b>68 (medium)</b>		<b>46 (low)</b>		<b>72 (medium)</b>		<b>76 (medium)</b>		<b>46 (low)</b>		<b>100 (high)</b>		<b>50 (low)</b>		<b>40 (low)</b>	
1-Relevance of the study's focus to the review (50%).																		
2-Fitness of study context for the review question (50%).																		
<b>Judgement= 1+2/2</b>																		

**A.1.8:** A summary of the characteristics of the ten studies included in the final synthesis

Study	1	2	3	4	5	6	7	8	9	10
<b>Author &amp; Year</b>	<b>(Akshoomoff et al., 2010)</b>	<b>(Gusty-Lee et al., 2006)</b>	<b>(Suma et al., 2016)</b>	<b>(Elmose et al., 2014)</b>	<b>(Clark et al., 2018)</b>	<b>(Karanth and Chandhok, 2013)</b>	<b>(Turner et al., 2006)</b>	<b>(MacDonald et al., 2014)</b>	<b>(Perry et al., 2013)</b>	<b>(O'Connor and Healy, 2010)</b>
<b>Aim (overview)</b>	Follow-up children diagnosed at age 2 and enrolled to inclusive toddler intervention to explore service use & educational placement	Examined the outcomes (cognitive, communicative, functional skills, and educational placement) of children with an early ASD diagnosis enrolled in DATA toddler intervention	Assessed the relationship between having an ASD diagnosis and the amount of intervention received, and the impact of the increase of intervention hours quality on family-child interaction)	Investigated stability of early diagnosis, level of development (IQ, and functioning), and outcomes (intellectual and adaptive) for children with an early diagnosis.	Compared school age outcomes (cognitive, behavioural and educational) for ASD children with early and late diagnoses	Investigated the academic status of ASD children who completed an early intervention (whether they were included in mainstream schools or special schools)	Assessed the outcomes (cognitive skills, stability of diagnosis, language skills, and communication skills) of ASD children diagnosed at age 2 (7 years post the diagnosis)	Assessed the progress and development (cognitive ability, repetitive behaviour attention, play skills) of children with ASD who participated in EIBI	Examined the relationship between participants' chronological and mental (IQ) age with the outcomes (cognitive and adaptive outcomes) of early EIBI for children with ASD	Evaluated the outcomes of ASD children following an EIBI and mainstream schooling
<b>Study design</b>	Follow-up prospective study	Uncontrolled experimental design	Longitudinal study	Follow-up prospective study	A matched groups comparison design	Post hoc study (follow up survey)	Prospective longitudinal study	Controlled Experimental research	Study 1; uncontrolled retrospective file review design Study 2: a matched groups comparison design	Case study
<b>Sample (age)</b>	29 children (age 2) 57 families surveyed 20 children tested (4.4-12.2 years)  18 boys and 2 girls	8 toddlers under the age of three (7 boys, 1 girl)	79 children (49 boys +30 girls) with ASD (Data collected pre- and post-diagnosis) 74 mothers, four fathers	23 children (18 boys + 5 girls) a year and 11 months to 4 years (when diagnosed with ASD; Follow-up assessment: 9 years 7 months – 13 years	85 children (7-9 years)- 68 boys, 17 girls	85 children (under the age of 6)	26 participants (2-9 years) (22 boys, 4 girls)	83 ASD children (17-48 months) 58 Typical children (18-59 months)	Two studies: Study 1: (2-14,5 years when starting EIBI) Study 2: older (6-14 years), younger, (2-5 years) Sample: 207 (81% boys)	5 children (Boys) 9 &8 months- 12 years
<b>Collection methods</b>	Parents' survey & follow-up testing	-Observation -Standardised assessment -Parental contact	-Standardised assessment -Systematic observation: (family-child interaction) -Questionnaire for parents	-Standardised tests -Parents' interviews	-Standardised tests (assessments) -Questionnaire (for parents)	-Follow-up questionnaire with parents	-Standardised assessments (tests, measures)	-Standardised assessments (measures) -Observation -Video tapes	Secondary analysis of data from EIBI	-Standardised tests(scales) -Interviews with parents and teachers
<b>Context</b>	<b>USA</b>	<b>USA</b>	<b>USA</b>	<b>Denmark</b>	<b>Australia</b>	<b>India</b>	<b>USA</b>	<b>England</b>	<b>Canada</b>	<b>Ireland</b>

**A.1.9:** *Themes Identified in the ERL*

Study/Themes	School placement (Type of placement)	Cognitive and intellectual outcomes	Social outcomes (social interaction and communication)	Increase in amount of intervention	Adaptive behaviour outcomes	Language outcomes
(Akshoomoff et al., 2010)	√					
(Gusty-Lee et al., 2006)	√	√	√			
(Suma et al., 2016)				√		
(Elmose et al., 2014)		√				
(Clark et al., 2018)	√	√		√	√	
(Karanth and Chandhok, 2013)	√					
(Turner et al., 2006)		√				√
(MacDonald et al., 2014)						√
(Perry et al., 2013)		√			√	
(O'Connor and Healy, 2010)	√	√			√	

## Appendix A.2: International and Saudi studies on professional-parent collaboration

### A.2.1: Studies related to the nature of professional-parent collaboration and parental involvement

Study	1	2	3	4
<b>Author (Year)</b>	<b>Bjorck-Akesson and Granlund (1995)</b>	<b>Spann et al. (2003)</b>	<b>Stoner and Angell (2006)</b>	<b>Shammari and Yawkey (2008)</b>
<b>Aim</b>	To explore the views and experiences of parents of children with ASD and professionals regarding the current and ideal parental involvement in their children's early intervention	To explore the perceptions of families of children diagnosed with ASD pertaining to their relationships with the educational professionals	To explore the perceptions of parents of children with ASD regarding the role they play in monitoring their child's educational programmes and communication with educational professionals	To investigate the perceptions of 137 parents regarding the extent to which they were involved in the education of their children with SEN, including ASD
<b>Methods</b>	Survey	Telephone survey	Qualitative interview	Questionnaire
<b>Sample</b>	73 Parents and 139 professionals	45 families	8 parents of four children	137 Parents
<b>Findings</b>	<p>-Significant differences were found between how parents were involved at the time of the research and their preferred form of involvement and this centred on four areas: decision-making process related to assessments, assessment procedures, intervention team meetings, and provision of family goals and services.</p> <p>-Both groups expressed the need for a higher level of parental involvement.</p> <p>-Both groups reported barriers involved lack of training and skills for collaborative skills professionals, and a lack of either interest or knowledge among parents in early intervention.</p>	<p>-Parents considered that they collaborated with the school on a regular basis and reported moderate to high levels of knowledge and involvement in their children's individualised educational plan.</p>	<p>-Parents reported engagement in several roles when they interacted with professionals, such as being supporter, negotiator, advocate, and monitor.</p> <p>-The extent of the perceived parental engagement in the roles of supporter, negotiator, and monitor was significantly correlated with the degree of trust that parents reported in educational professionals.</p>	<p>- 76% of parents reported being involved (to varying degrees) in their children's education programmes.</p> <p>- 81% of parents believed that their involvement in these programmes had positively enhanced the learning and development of their children. However, almost 80% indicated that teachers with whom they worked did not use strategies to motivate them to engage in classroom activities.</p>
<b>Context</b>	<b>Sweden</b>	<b>USA</b>	<b>USA</b>	<b>Kuwait</b>

<b>Study</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b>Author (Year)</b>	<b>Schultz et al. (2016)</b>	<b>Potter (2016)</b>	<b>Potter (2017)</b>	<b>Gelech et al. (2017)</b>
<b>Aim</b>	To explore the perceptions and experiences of teachers concerning the effectiveness of parental collaboration and parents' advocacy strategies for children who are included in mainstream schools.	To explore fathers' involvement in the education of their children with ASD	To investigate the nature and level of fathers' involvement in the education of children with ASD and the extent to which they were satisfied with their children's care and schooling	To understand the reasons behind why partnership practices do not change to improve disability services
<b>methods</b>	Focus groups and interviews	Interview	Survey	Case study methodology
<b>Sample</b>	34 general and special education teachers	25 Parents (fathers)	306 fathers	47 service providers, care givers, and administrators
<b>Findings</b>	<ul style="list-style-type: none"> <li>- The teachers valued parental participation with the team of professionals in schools and suggested some helpful advocacy activities for parents, such as teaching their children to be self-advocates and supporting their social development.</li> <li>- The level of parental involvement ranged from too much involvement to too little involvement.</li> <li>- The teachers considered 'parents involved too much' as unrealistic, requiring schools to provide resources that they cannot provide.</li> <li>- The teachers felt that the lack of knowledge about ASD and low level of acceptance for a child with ASD as contributors to the lack of parental involvement in their children's schooling.</li> </ul>	<ul style="list-style-type: none"> <li>-The fathers reported higher levels of involvement in indirect areas related to their children's learning and education (e.g. obtaining a suitable educational placement, facilitating daily access to school, school-based meetings, and involvement in volunteering and school governance).</li> <li>-The fathers reported involvement in direct support (e.g. homework support, helping children in reading, and participation in interventions).</li> <li>-The fathers considered challenges to active parental involvement (e.g. timing of school meetings, and professionals' lack of understanding and respect of their experiences and a lack of knowledge among parents).</li> </ul>	<ul style="list-style-type: none"> <li>- Half of the fathers were equally or mainly involved in their child's daily care routines and many reported an active engagement in their children's schooling and learning (e.g. assisting with homework).</li> <li>-61% of fathers were satisfied while 18% were dissatisfied with the level of involvement.</li> <li>-Half of the fathers received no support and training opportunities related to the management of their children's problematic behaviours.</li> <li>-The demands of employment were reported by the fathers as an obstacle to parental involvement.</li> </ul>	<ul style="list-style-type: none"> <li>-The authors used their own experiences to reflect upon three limitations of the common research approaches in partnerships within the field of disability. First, the collection of simplistic and isolated data without rich understanding of the issues associated with practice. Second, the reliance on outside experts (researchers and scientists) to identify the goals and design of research and the ignorance of insiders (service providers and receivers) in decision-making, especially in the identification of solutions to system problems. Third, the use of narrow and limited participant-led techniques and a lack of complementary approaches.</li> <li>-They suggested a pragmatic model to partnership research and social change which involves a dialogue between internal and external experts.</li> </ul>
<b>Context</b>	<b>USA</b>	<b>UK</b>	<b>UK</b>	<b>Canada</b>

**A.2.2: Studies related to barriers and facilitators to professional-parent collaboration**

<b>Study</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
<b>Author (Year)</b>	<b>Blue-Banning et al. (2004)</b>	<b>Stoner et al. (2005)</b>	<b>Solish and Perry (2008)</b>	<b>Angell et al. (2009)</b>
<b>Aim</b>	To explore the perceptions concerning the indicators of professional behaviour related to collaborative working between professionals and parents	To explore the views of parents concerning their experiences of communication with school professionals	To define and measure parental involvement and determine whether five predictor variables - parents' stress, parents' self-efficacy in being involved, views of the child progress, general believe in the efficacy EIBI, and knowledge of ASD and EIBI - are associated with parental involvement	To examine mothers' views concerning the nature and level of trust between educational professionals and parents of children with various types of disabilities, including ASD
<b>Methods</b>	Focus groups and face-to-face interviews	Interviews (primary data collection method), observations, and documentation (secondary data collection methods)	Survey	Interviews
<b>Sample</b>	65 parents of children with and without disabilities 35 school administrators and service providers.	4 children with ASD of four coupled parents	48 parents and 34 therapists	16 mothers
<b>Findings</b>	-The findings illustrated several facilitators to positive family-school partnerships, involving frequent and open communication, professionals' commitment to their work, equality between parents and service providers, collaboration skills for professionals, and mutual trust and respect between parents and professionals.	-The findings also indicated the need for honest understanding of each other's perceptions, respectfulness, and open communication between the two parties in order to build a trustful professional-parent relationship.  -The parents believed that teachers being positive enhances trust whereas teachers being negative reduces the level of trust between the two parties.	-Greater knowledge of the ASD condition, general belief in intervention, and parents' self-efficacy were significantly associated with higher levels of parental involvement in their child's intervention.	-Three factors were found to hinder or facilitate the establishment of trustful relationships between parents and professionals. First, teacher-related factors (teachers' quality of communication, authentic caring, and knowledge of the child with autism; second, school-related factors (quality of services, school climate, teaming, opportunities provided by schools); third, parent-related factors (disposition to trust, history of trust in educational personnel, and the quality of the child's behaviour in the home environment).
<b>Context</b>	<b>USA</b>	<b>USA</b>	<b>Canada</b>	<b>USA</b>

<b>Study</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
<b>Author (Year)</b>	Meade (2011)	Tucker and Schwartz (2013)	Rodriguez et al. (2014)	Edwards et al. (2016)
<b>Aim</b>	To explore and compare differing perceptions concerning the importance of parental involvement in the educational lives of children with ASD	To investigate parents' perspectives and experiences of barriers and facilitators to collaborative working in individual educational plans for children with ASD	To investigate parents' perceptions relative to schools' engagement efforts to facilitate parents' involvement in their children's learning	To explore the qualities that parents of children with ASD seek in therapists who work with and provide services for their children
<b>Methods</b>	Interviews	A mixed-methods survey study	A mixed methods approach (interviews and focus groups)	Interviews
<b>Sample</b>	8 parents and teachers	135 Parents	96 parents of children with SEN including ASD	14 parents
<b>Findings</b>	Both groups valued collaboration; teachers considered consistent interaction, while parents considered respectful interaction as an important element of effective parent-teacher collaboration.	<p>-The parents perceived some barriers to parental collaboration as constructed by schools, such as communication difficulties with professionals, limited opportunities provided for parents to participate, disagreement over school placement and services provided for their children, parents' negative views of school professionals, and parents' lack of knowledge and understanding of ASD.</p> <p>-The parents considered some facilitators related to school administrators' actions: increasing the arrangement of regular meetings for parents, quickly responding to parents' issues, fulfilling the needs of parents to obtain the required resources, and providing parents with information about their children and their interventions.</p>	The parents considered three facilitating factors to parent involvement: the quality of services provided to their children; school efforts to facilitate parental involvement; and parents' initiatives to become involved.	The findings suggested that 'effective therapy' - the therapist being able to accomplish positive gains from the therapy - was perceived by parents as a factor to increase parental engagement in their children's therapy programme.
<b>Context</b>	USA	USA	USA	Australia

<b>Study</b>	<b>17</b>	<b>18</b>	<b>19</b>
<b>Author (Year)</b>	<b>Azad et al. (2018, a)</b>	<b>Syriopoulou-Dellia and Polychronopouloub (2019)</b>	<b>Matthews et al. (2020)</b>
<b>Aim</b>	To explore parents' and teachers' perceptions relating to their communication in the education of children with ASD	To investigate parents' and teachers' perceptions pertaining to the organisation and management of their communication and collaborative working in regular and special schools for children with ASD	To explore the perspectives and experiences of parents regarding the state of partnership with service providers and identify practical solutions to improve partnerships and better the services provided for their children
<b>Methods</b>	Interviews	Questionnaire	Focus groups
<b>Sample</b>	39 parents and 18 teachers	50 parents and 171 teachers	9 parents of children with neurodevelopmental and neuromuscular disabilities
<b>Findings</b>	<p>-The teachers were more concerned about the methods of communication they utilise with parents and reported their frustration with this aspect.</p> <p>-Both groups valued parental presence in the classroom as a good way to enhance better relationships and communication.</p> <p>-Both groups perceived barriers to professional-parent relationship, including high workload for teachers, difficult life circumstance for parents, and a lack of mutual trust of each other, and valuing each other perceptions.</p>	<p>-Both groups showed their willingness, were generally positive, trusted each other, and favoured collaborating and communicating with each other in educating and providing intervention services for those children.</p> <p>-Both groups viewed effective school management and organisation as a facilitator to collaborative efforts undertaken by parents and professionals.</p>	<p>-The parents indicated many barriers related to system complexity, inadequate educational environment and funding, and difficulties in communication and negotiations with professionals.</p> <p>-The parents also suggested the need for emotional and psychological support form professionals</p> <p>-The parents recommended a number of potential ways to improve partnerships, including the generation of a guide book to assist them navigating the system, increasing individualised funding, centralising service access, and standardising communication practices.</p>
<b>Context</b>	<b>USA</b>	<b>Greece</b>	<b>Canada</b>

**A.2.3: Studies related to parents' satisfaction with their children's education, interventions, and professionals' and parents' satisfaction with professional-parent collaboration**

<b>Study</b>	<b>20</b>	<b>21</b>	<b>22</b>
<b>Author (Year)</b>	<b>Renty and Roeyers (2005)</b>	<b>Rodger et al. (2008)</b>	<b>Zablotsky et al. (2012)</b>
<b>Aim</b>	To explore and explain parents' perceptions of their satisfaction with the education and support for children with ASD	To examine satisfaction among mothers of children with ASD regarding an early intervention programme	To evaluate parental involvement and their satisfaction with their children's schooling and learning
<b>Methods</b>	A mixed methods approach (questionnaires and interviews)	Questionnaire	Questionnaire
<b>Sample</b>	244 parents (surveyed) and 15 parents (interviewed)	2 mothers	A national sample of parents (n=8987)
<b>Findings</b>	<p>-The parents reported a high level of satisfaction with the education and support of their children.</p> <p>-38 % of the participating parents reported being well or very well informed about ASD.</p> <p>-Parental involvement and knowledge of the available services and provisions for their children determined parents' overall satisfaction with the education and support for their children.</p>	<p>-The study suggested that several factors reduced parental satisfaction: child-related factors included the child's lack of progress and the child's goal performance post-intervention; parent-related factors included stress and parents' low level of competence; service-related factors included limited parent-professional collaborative partnerships.</p>	<p>-The study found that parents of children with ASD were more likely than parents of children with other types of SEN to participate in professional-parent conferences, attend school meetings, and assist their children with their homework.</p> <p>-However, parents of children with ASD were dissatisfied with teacher-parent communication relating to their children's educational placements. A higher level of parent-school involvement was significantly correlated with higher parent-school satisfaction.</p>
<b>Context</b>	<b>Flanders</b>	<b>Australia</b>	<b>USA</b>

<b>Study</b>	<b>23</b>	<b>24</b>	<b>25</b>
<b>Author (Year)</b>	<b>Starr and Foy (2012)</b>	<b>Al Jabery et al. (2012)</b>	<b>LaBarbera (2017)</b>
<b>Aim</b>	To explore parents' experiences and satisfaction with their children's education	To explore the perceptions and experiences of parents of children with ASD receiving their education in public and private autism institutions concerning the quality of services provided to their children and their satisfaction with these services.	To explore how parents and teachers perceive the collaboration process in the education of children with ASD and examine their satisfaction with the schools' collaborative efforts.
<b>methods</b>	Questionnaire	Questionnaire	Questionnaire
<b>Sample</b>	144 parents	60 parents	28 parents and 109 schoolteachers
<b>Findings</b>	<p>-This study suggested that school professionals' ability to efficiently deal with children's behavioural issues and their knowledge of ASD influenced parental satisfaction.</p> <p>-This study also found that the lack of effective parent-professional collaboration and communication was a major source of parental dissatisfaction.</p>	<p>-They found that parents on average were slightly satisfied with the services provided for their children. The parents indicated that they obtained services from multiple providers and places but encountered difficulties in obtaining such services.</p> <p>-However, the parents were dissatisfied with the quality of parent-professional collaboration and the level of their involvement in their children's education and intervention services.</p>	<p>-Both groups perceived parent-teacher collaboration to be important.</p> <p>-Both groups were satisfied with the schools' collaborative process, but the level of satisfaction of teachers was significantly higher than parents.</p> <p>-For parents, school being a welcoming environment for children, teachers understanding, and parental emotional support were found to be the strongest predictors for general parental satisfaction with their collaborative working.</p> <p>-For teachers, keeping parents informed about their child, helping parents with strategies to use at home, advocating for their students, and feeling parents' suffering in parenting a child with ASD were the most predictive factors of their overall satisfaction with collaborative working.</p> <p>-The parents indicated several barriers to collaboration, including a lack of knowledge in ASD and poor communication skills for professionals.</p> <p>-The professionals considered many barriers to collaboration, including time, lack of parental knowledge of ASD and the educational system, parental unwillingness and lack of interest in collaborating with professionals, and a lack of collaborative effort on behalf of schools.</p>
<b>Context</b>	<b>Canada</b>	<b>Jordan</b>	<b>USA</b>

**A.2.4: Studies related to the effects of professional-parent collaboration on child's outcomes, service delivery and family quality of life**

Study	26	27	28	29
<b>Author (Year)</b>	<b>Brookman-Frazee (2004)</b>	<b>Kazdin et al. (2006)</b>	<b>Cavkaytar and Pollard (2009)</b>	<b>Blair et al. (2011)</b>
<b>Aim</b>	To compare the influence of two parent education intervention models: a parent-professional model that integrates parents' empowerment components, with a professional-directed model that does not integrate these components relating to the quality of parent-child interactions	To examine the effects of the therapist-parent relationship and the therapist-child alliance in evidence-research interventions for children with problematic and challenging behaviour	To examine the efficacy of a parent-therapist collaboration programme in enhancing self-care and domestic skills for children with ASD	To examine the impact of a positive behaviour support programme that incorporated parent-school collaboration on ASD children's desirable and problematic behaviour and the quality of adult-child interaction
<b>Methods</b>	Repeated reversal design	Multiple baseline design	Multiple probe research design	Multiple baseline design
<b>Sample</b>	3 mothers of children with ASD	77 children	3 children and parent-therapist dyad	3 children and their mothers
<b>Findings</b>	<p>-This study found that parent-clinician collaboration in the parent education programme positively influenced parent-child teaching interactions.</p> <p>-The parents also demonstrated an improvement in their confidence and a reduction in their stress levels.</p> <p>-Appropriate levels of child engagement and responses were observed when parents actively collaborated in the process of the intervention programme.</p>	They found that high quality parent-therapist relationships and therapist-child alliances improved the child's outcomes and practices implemented by parents at home, including enhancement in parenting skills and interactions at home, an increase in intervention hours, an improved parent-child relationship, and improvement in the child's appropriate behaviour.	This study found that training in this programme was effective in educating children with ASD self-care and domestic skills, including cleaning teeth, wearing shoes, and washing hands.	<p>-This study found that the collaborative model of positive behaviour intervention was related to substantial improvements in the target behaviours and the quality of children's interaction, either at school or home or in community playgrounds.</p> <p>-Based on several observations of child-educator interactions in the classroom and at home and mothers' reports, it was noticed that positive parent-educator interactions with children developed whereas negative interactions declined.</p>
<b>Context</b>	USA	USA	USA	South Korea

<b>Study</b>	<b>30</b>	<b>31</b>	<b>32</b>	<b>33</b>
<b>Author (Year)</b>	<b>Benson (2015)</b>	<b>Syriopoulou-Delli (2016)</b>	<b>Udaze (2016)</b>	<b>Hsiao et al. (2017)</b>
<b>Aim</b>	To measure the impact of three forms of parental educational involvement (school-based involvement, home-based involvement, and home-school collaboration and communication) on families of children with ASD	To investigate teachers' and parents' views concerning their mutual collaboration in educating children with ASD	To examine how the use of and collaboration efforts in ABA between educational professionals (teachers, educational psychologists) and parents affect academic, social, communication, and behavioural outcomes for children on the autistic spectrum	To examine the impact of parent-teacher collaborative partnership on parents' perceptions of ASD children's quality of life and stress
<b>Methods</b>	A longitudinal study (cohort sequential design)	Questionnaire	Interviews	Questionnaire
<b>Sample</b>	136 parents and 142 children (governmental and private schools)	171 teachers and 50 parents (from both mainstream and special schools)	2 parents, 1 special education teacher, and 1 educational psychologist	232 parents
<b>Findings</b>	-A link was found between home-based involvement and a reduction in parental stress and development in parenting efficacy and cohesion.  -Home-school collaborations and communication were linked to a decline in parental stress and a development in parenting efficacy. School-based involvement was linked to declining parental stress only.	-The majority of teachers (96.5%) and all parents (100%) were positive and valued mutual collaboration and communication. -Both groups believed that parent-teacher collaboration positively affected children in several areas, such as communicative skills, quality of home practices implemented by parents, and child's self-esteem.	-The use of ABA and collaboration between parents and school personnel was effective in increasing positive outcomes in the aforementioned developmental domains for those children.	They found that parent-teacher collaborative partnerships directly developed the parents' quality of life and indirectly reduced their stress levels.
<b>Context</b>	<b>USA</b>	<b>Greece</b>	<b>USA</b>	<b>USA</b>

<b>Study</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>
<b>Author (Year)</b>	<b>Casagrande and Ingersoll (2017)</b>	<b>Goldrich et al. (2018)</b>	<b>Azad et al. (2018, b)</b>	<b>Goldman et al. (2019)</b>
<b>Aim</b>	To investigate the effects of parents' empowerment and professional-parent partnerships on the service delivery outcomes for children with ASD	To assess the effect of families' satisfaction with teacher-family partnerships on family-reported child outcomes and family quality of life	To examine the effectiveness of a teacher-parent consultation model called 'Partners in School', the aim of which was to increase mutual teacher-parent communication concerning the use of evidence-based practices and improve parents and teachers' perceptions about outcomes of children with ASD	To assess the effectiveness of a school-home intervention for children with ASD which was implemented by parents in the home environment to reduce off-task behaviour.
<b>Methods</b>	Questionnaire	Parent-report survey methodology	Interviews	A single case multiple baseline experimental design
<b>Sample</b>	249 parents	313 families of children and youth with ASD	26 teachers and 49 parents	4 children
<b>Findings</b>	-This study found a relationship between higher quality parent-professional partnerships with positive service delivery outcomes.  - Parents with high quality parent-professional partnerships experienced higher levels of service adequacy. However, highly empowered parents experienced poorer delivery services outcomes.	This study found that families with higher levels of satisfaction with partnerships with their child's teacher perceived higher progress for their children and higher family quality of life.	-Both groups participated in this model reported improvements in the children's outcomes.  -Both groups reported that improvements in the quality of teacher-parent communication were positively connected to alterations in some child outcomes and a decline in the severity and occurrence of problematic behaviours.	-Only two of the children exhibited a positive obvious behavioural change.  -Based on parents and teachers' self-reports, both groups highly valued their collaborative work and reported improvements in the quality of parent-professional relationship due to collaborative work.
<b>Context</b>	<b>USA</b>	<b>USA</b>	<b>USA</b>	<b>USA</b>

**A.2.5: Studies on predictors of parental involvement**

<b>Study</b>	<b>38</b>	<b>39</b>	<b>40</b>
<b>Author (Year)</b>	<b>Benson et al. (2008)</b>	<b>Garbacz (2016)</b>	<b>Hauptman (2019)</b>
<b>Aim</b>	To investigate the effect of child, family, and school characteristics on the degree to which mothers are involved in their children's education	To examine children's and parents' characteristics that influence family involvement in the education of children with ASD	To investigate the nature of parental involvement and parent-related and child communication related factors that predict parents' involvement and satisfaction with the level of parent-teacher collaboration
<b>methods</b>	Questionnaire and in-depth interviews	Mixed methods (questionnaire and interviews)	Interviews
<b>Sample</b>	-Teachers and mothers of 95 children with ASD in public schools	31 families	94 parents of children with ASD
<b>Findings</b>	-Parental involvement at school and home activities was directly influenced by the school's encouragement and the quantity and quality of involvement activities provided to parents by the school.  -The severity and complexity of a child's behavioural problems as previewed by both groups was related to lower parental involvement. Families of children with severe behavioural issues reported being less involved in their children's education.	-This study found that parents of children with a greater developmental risk indicated less parental involvement and poorer quality of rapport with teachers in school.  -Having prior histories in accessing services for a child with ASD significantly predicted active family involvement and positive relationships with teachers.	-The findings of this study suggested that parents were generally satisfied with parent-professional collaboration in school.  -Parents felt less involved with their child's teacher when the teacher ignored their child's needs and was not adequately trained to deal with their child's problems. Parents felt more involved when the teacher understood their child's needs.
<b>Context</b>	<b>USA</b>	<b>USA</b>	<b>USA</b>

**A.2.6: Studies of professional-parent collaboration in the context of SA**

<b>Study</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Author (Year)</b>	<b>Al-Zaraa (2008)</b>	<b>Hanafe and Qaraqish (2010)</b>	<b>Alajmi (2014)</b>
<b>Aim</b>	To evaluate the level of quality assurance indicators in the educational programmes for children with ASD	To investigate the nature of professional-parent collaboration in educating children with SEN, including children with ASD	To explore fathers' experiences regarding the services provided for their children with ASD
<b>Methods</b>	Questionnaire	Questionnaire	Interviews
<b>Sample</b>	20 governmental and private ASD centres	761 parents (mothers and fathers) whose children were receiving their education in governmental or private schools	39 fathers whose children were enrolled in early intervention programmes in public ASD centres
<b>Findings</b>	-The highest quality assurance indicators were found in the individualised educational plan and the use of ABA therapy domains. While a moderate quality level was found in the domains related to teaching methods, professional' training, inclusive education, and assessment and diagnosis, the lowest level of quality assurance indicators was found in the domain related to parental educational involvement.	-Based on parents' reports, this study found that the most common forms of communication between school-professionals and parents were follow-up records and reports (daily, weekly, and monthly), then phone calls, and finally school and home visits.  - They concluded that follow-up records and reports were the primary form of communication and limited face-to-face meetings was reported by parents.  -Mutual trust, emotional support for parents, understanding and respecting parents' beliefs, and appreciating the roles that parents play were reported by parents as the most influential factors that help to establish a true professional-parent collaborative relationship.	-Parents valued collaboration, especially in the planning and implementation stages.  -However, parents were dissatisfied with the communication and collaboration between parents and service providers and they reported a lack of involvement in their children's interventions.
<b>Context (city)</b>	<b>SA (different provinces)</b>	<b>SA (Riyadh)</b>	<b>SA(Riyadh)</b>

<b>Study</b>	<b>4</b>	<b>5</b>	<b>6</b>
<b>Author (Year)</b>	<b>Obaidat (2014)</b>	<b>Dubis (2015)</b>	<b>Husawi and Al-Qahtani (2015)</b>
<b>Aim</b>	To investigate parents' level of satisfaction with early intervention services provided for them and their children with SEN	To explore teachers and parents' perspectives of the utilisation of email as a method to enhance professional-parent communication and collaboration in educating children with SEN, including ASD	To investigate obstacles to professional-parent communication in the education of children with intellectual disabilities
<b>Methods</b>	Questionnaire	Mixed methods (questionnaire, interview, tracking emails)	Questionnaire
<b>Sample</b>	66 parents whose children were enrolled in private ASD schools in SA	5 parents, a student advisor, and 3 teachers working in public and private schools	187 teachers and 224 parents from private and governmental schools
<b>Findings</b>	<p>-This study found that parents were dissatisfied with early intervention in due partly to a lack of training for parents and the need to be involved in intervention sessions.</p> <p>-In relation to the quality of professional-parent collaboration, the findings showed higher levels of satisfaction among those parents.</p>	Professionals and parents reported that using email for communication increased parent-professional collaboration and helped to overcome the cultural barriers associated with communicating and collaborating with the opposite gender in SA.	<p>-A measure for communication obstacles was designed by researchers themselves to measure three types of obstacle: family-related, education-related, and administrative-related obstacles.</p> <p>-The findings suggested that the most important aspect was family-related obstacles, followed by administrative-related obstacles and education-related obstacles came last.</p>
<b>Context</b>	<b>SA(Jeddah)</b>	<b>SA (Riyadh)</b>	<b>SA (Riyadh)</b>

<b>Study</b>	<b>7</b>	<b>8</b>	<b>9</b>
<b>Author (Year)</b>	<b>Al-Qahtani (2016)</b>	<b>Alotaibi and Almalki (2016)</b>	<b>Alzahrani (2017)</b>
<b>Aim</b>	To explore barriers to parent-professional communication in the education of children with ASD	To explore the views of parents concerning early intervention services provided for their children with ASD	To investigate whether special education teachers followed the recommended practice related to early intervention services for children with SEN. This study examined three dimensions related to the recommended practices, namely family involvement, diagnostic assessments services, and delivery of curriculum and instruction.
<b>methods</b>	Questionnaire	Questionnaire	Questionnaire
<b>Sample</b>	117 ASD teachers from all public institutes	80 parents	233 male and female teachers working in early intervention public and private centres
<b>Findings</b>	<p>-This study identified several parent-related barriers, including limited parental understanding of ASD and the importance of their participation in their children's education, a lack of parental adherence in implementing their children's educational programmes, and a lack of communicative skills.</p> <p>-This study suggested teacher-related barriers, involving a high teacher workload, limited communication skills, and a lack of teachers' trust in parents' abilities.</p> <p>-This study identified school-related barriers, such as overcrowding in schools and limited arrangements for meetings between parents and teachers.</p> <p>Barriers related to schools and parents had a greater impact on the quality of communication between parents and teachers than the barriers related to teachers.</p>	<p>-The parents varied in their views regarding what the best services that they and their children could obtain related to early intervention services.</p> <p>-The parents considered several important aspects related to early intervention, including a systematic plan of teaching, individualisation of services and specialised curriculum, and early start and intensity of intervention.</p> <p>-The parents perceived parental involvement in early intervention as an important aspect in the success of these interventions.</p>	The findings suggested that educational professionals did not follow the recommended practice for early interventions for children with SEN concerning family involvement in early intervention programmes.
<b>Context</b>	<b>SA (Riyadh)</b>	<b>SA (Riyadh)</b>	<b>SA (Mecca)</b>

## Appendix B

### B.1: Sample of the questionnaire



### Demographic Information Questionnaire

*Please answer the following questions regarding your personal details*

1- **Gender:** What is your gender? (Please select)

- Male
- Female

2- **Age:** How old are you?

Please state .....

3- **Level of education:** What is your highest qualification? (Please select)

- Diploma
- Bachelor's degree
- Master's degree
- Doctorate degree
- Other (please state) .....

3A. What are the other qualifications that you had received before your highest qualification?

(please state) .....

4- **Subject area:** What is the subject area of your highest qualification? (Please state) .....

5- **Role:** What is your current role? (Please select)

- Teacher
- Educational psychologist
- Speech and language therapist
- School supervisor
- Social worker
- Student advisor

- Other (please state) .....

**6- Your experience:** How long have you been working in this role? (Please select)

- Less than 5 years
- 5-10 years
- 11-15 years
- 16- 20 years
- More than 20 years

**7- The province where you are working:** Can you indicate the province where you are working? (Please select)

- Southern province
- Eastern province
- Western province
- Northern province
- Central province

**8- Type of institution:** In what type of educational institution are you working? (Please select)

- Preschool institution
- Autism institution
- Mainstream school
- Special school
- Units attached to mainstream schools
- Day care centre
- Other (please state) .....

**9- Training in behavioural interventions:** Have you received any training in behavioural interventions? By behavioural interventions, I mean Applied Behaviour Analysis (ABA) and other approaches following its principles).

*Please select one or more of the following choices*

- Applied Behaviour Analysis (ABA)
- Early intensive behavioural intervention (EIBI)
- Pivotal response treatment
- Positive behaviour support intervention
- Discrete trial teaching
- The Early Start Denver Model (ESDM)
- No training received
- Other (Please state) .....

**9A. Was any of the received training accredited?**

- Yes
- No

(Please state below the name and type of organisation (e.g. government, private) by which the training was accredited.

.....  
 .....

## Educational professionals' perceptions questionnaire

**Questions 9:** Please indicate the extent to which you expect parents to collaborate in the planning, design and implementation of behavioural interventions for children with ASD

*Please tick the box that most reflects your opinion*

Questions Scale	Not at all	Very little extent	Moderate extent	Great extent	Very great extent
<b>9.1</b> To what extent do you expect parents to request meetings with educational professionals?					
<b>9.2</b> To what extent do you expect parents to attend planning and reviewing BI team's meetings?					
<b>9.3</b> To what extent do you expect parents to participate in goal development for BI?					
<b>9.4</b> To what extent do you expect parents to collaborate in planning and reviewing BI?					
<b>9.5</b> To what extent do you expect parents to work in collaboration with other professionals in implementing BI?					
<b>9.6</b> To what extent do you expect parents to attend BI sessions with the team of professionals?					
<b>9.7</b> To what extent do you expect parents to participate in BI sessions with the team of professionals?					
<b>9.8</b> To what extent do you expect parents to implement BI tasks with their children in the home environment?					
<b>9.9</b> To what extent do you expect parents to attend workshops provided by intervention providers about BI for their children?					

**Questions 10:** Please indicate the extent to which parents are working in collaboration with educational professionals in the planning, design and implementation of behavioural interventions for children with ASD?

*Please tick the box that most reflects your experience*

<b>Questions</b>          <b>Scale</b>	<b>Not at all</b>	<b>Very little extent</b>	<b>Moderate extent</b>	<b>Great extent</b>	<b>Very great extent</b>
<b>10.1</b> To what extent do parents generally respond to educational professionals' requests for contact?					
<b>10.2</b> To what extent do parents request meetings with educational professionals?					
<b>10.3</b> To what extent are parents given the opportunity to attend planning and reviewing BI team's meetings?					
<b>10.4</b> To what extent do parents attend planning and reviewing BI team's meetings?					
<b>10.5</b> To what extent are parents given the opportunity to participate in goal development for BI?					
<b>10.6</b> To what extent do parents participate in goal development for BI?					
<b>10.7</b> To what extent are parents given the opportunity to collaborate in planning and reviewing BI?					
<b>10.8</b> To what extent do parents collaborate in planning and reviewing BI?					
<b>10.9</b> To what extent are parents given the opportunity to work in collaboration with other professionals in implementing BI?					
<b>10.10</b> To what extent do parents work in collaboration with other professionals in implementing BI?					
<b>10.11</b> To what extent are parents given the opportunity to attend BI sessions with the team of professionals?					
<b>10.12</b> To what extent do parents attend BI sessions with the team of professionals?					
<b>10.13</b> To what extent are parents given the opportunity to participate in BI sessions with the team of professionals?					
<b>10.14</b> To what extent do parents participate in BI sessions with the team of professionals?					
<b>10.15</b> To what extent do parents engage with tasks and routines which help to achieve the agreed intervention goals?					

<b>10.16</b> To what extent are parents given the opportunity to attend workshops provided by intervention providers around BI for their children?					
<b>10.17</b> To what extent do parents attend workshops provided by intervention providers about BI for their children?					
<b>10.8</b> To what extent do you believe that educational professionals are motivated to work collaboratively with parents in the planning, design and implementation of BI?					
<b>10.19</b> To what extent do you believe that parents are motivated to work collaboratively with educational professionals in the planning, design and implementation of BI?					

**Questions 11, 12, 13:** In the next section, please answer the following three questions and comment on your answers

**Question 11:**

*Please tick the box that most reflects your view and comment on your choice in the space provided below*

<b>Overall, how satisfied are you with professional-parent collaboration in the planning, design and implementation of BI?</b>				
<b>Very dissatisfied</b>	<b>Dissatisfied</b>	<b>Neither</b>	<b>satisfied</b>	<b>Very satisfied</b>

Please explain your response:

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**Question 12:**

*Please tick the box that best reflects your view and use the space below to comment on your response*

<b>Overall, to what extent should parents be involved <i>at every stage</i> of BI (planning, design and implementation)?</b>				
<b>Not at all</b>	<b>Very little extent</b>	<b>Moderate extent</b>	<b>Great extent</b>	<b>Very great extent</b>

Please explain your response:

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**Question 13:**

*Please tick the box that most reflects your view and use the space provided below to write the reasons for your response*

<b>Overall, to what extent do you agree that parents should be involved in <i>specific stages</i> of BI (e.g. planning stage) but not in all stages?</b>				
<b>Not at all</b>	<b>Very little extent</b>	<b>Moderate extent</b>	<b>Great extent</b>	<b>Very great extent</b>

Please specify in what stage/stages parents should participate and give reasons for you answer:

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***14. Participation in a further interview***

The next stage of this research aims to explore these issues in more detail, and I would highly value your participation in a further brief interview. This could be in person, by phone or Skype. If you wish to participate, please provide your details below.

<b>Contact method</b>	<b>Preferred method</b> <i>(Tick your selection)</i>
<b>Mobile number:</b>	
<b>Email address:</b>	

***Thank you for completing the questionnaire***

B.2: The Arabic version of the questionnaire

## استبيان المعلومات الديموغرافية

أرجو الإجابة عن الأسئلة الآتية الخاصة بمعلوماتك الشخصية:

- 1- الجنس: ما هو جنسك؟ (ارجو الاختيار)
  - ذكر
  - أنثى
- 2- العمر: ما هو عمرك؟  
فضلاً أكتب العمر.....
- 3- مستواك التعليمي: ما هو أعلى مؤهل أكاديمي حققته؟ (ارجو الاختيار)
  - الدبلوم
  - البكالوريوس
  - الماجستير
  - الدكتوراه
- 3-أ أخرى (فضلاً حدد).....
- 3-ب مجال التخصص: ما هو تخصصك لأعلى مؤهل تم تحقيقه؟ (فضلاً أكتب تخصصك.....)
- 3-ج يرجى كتابة جميع المؤهلات الأكاديمية السابقة لأعلى مؤهل تم تحقيقه (مثال: بكالوريوس في الإعاقة العقلية)
- 4- الوظيفة: ماهي وظيفتك الحالية؟
  - معلم
  - أخصائي نفسي تربوي
  - أخصائي نطق وتخطب
  - مشرف (مقيم أو خارجي)
  - مرشد طلابي
  - اخصائي اجتماعي
- 4-أ أخرى (فضلاً حدد).....
- 5- خبرة العمل: كم الفترة التي عملت فيها في وظيفتك الحالية؟
  - أقل من 5 سنوات
  - 5-10 سنوات
  - 11-15 سنة
  - 16-20 سنة
  - أكثر من 20 سنة
- 6- منطقة العمل: فضلاً اختر منطقة العمل الحالي (ارجو الاختيار)
  - المنطقة الجنوبية
  - المنطقة الشرقية
  - المنطقة الغربية
  - المنطقة الشمالية
  - المنطقة الوسطى
- 7- نوع منظومة العمل: ما هو نوع منظومة عملك؟ (ارجو الاختيار)
  - مركز أو برنامج لمرحلة ما قبل المدرسة
  - مركز خاص بالتوحد

- مدرسة عادية
- مدرسة خاصة بنوي الاحتياجات الخاصة
- فصول ملحقة بالمدارس العادية
- مراكز التأهيل الشامل ( مراكز إقامة دائمة)

-7.أ أخرى (فضلاً حدد).....

8- التدريب في برامج تعديل السلوك: هل تلقيت أي تدريب مسبق في برامج تعديل السلوك للأطفال التوحديين؟ (نقصد ببرامج تعديل السلوك في هذا السؤال تحديداً: تحليل السلوك التطبيقي "لوفاس" والأساليب الأخرى التي تقوم على مبادئه في تعديل السلوك ) ارجو اختيار واحد أو أكثر من الخيارات التالية):

- تحليل السلوك التطبيقي ABA (لوفاس)
- التدخل السلوكي المكثف المبكر ( EIBI )
- اسلوب علاج الاستجابة المحورية
- اسلوب دعم السلوك الايجابي(التعزيز)
- استراتيجيات التدريب من خلال المحاولات المنفصلة
- نموذج دينفر للتدخل المبكر
- نظام التواصل عن طريق تبادل الصور (بكس, PECS)
- لم أتلق أي تدريب في تعديل السلوك
- 

-8.أ أخرى (فضلاً حدد).....

-8.ب -هل كان التدريب الذي تلقيته معتمد؟

- ليس معتمد
- نعم معتمد ( ما اسم ونوع المنظمة المنظمات التي تلقيت تلقيتي فيها التدريب؟)
- 8.ج يرجى كتابة المنظمات التي تلقيت فيها التدريب وتحديد نوعها (حكومية أو مجتمعية أو خاصة ) في الفراغ أدناه ( مثال: إدارة التدريب التربوي :جهة حكومية معتمدة)

## استبيان آراء المتخصصين التربويين بخصوص التعاون مع الوالدين في تخطيط و تصميم وتنفيذ برامج تعديل السلوك للأطفال التوحديين

**سؤال 9:** فضلاً يرجى تحديد إلى أي مدى ترغب/ترغبين من الوالدين التعاون مع المتخصصين التربويين في تخطيط وتصميم وتنفيذ برامج تعديل السلوك للأطفال التوحديين ( يرجى اختيار خانة واحدة فقط من كل صف )

يرجى وضع علامة في الخانة التي تعكس رأيك

الاسئلة   المقياس	درجة كبيرة جداً	درجة كبيرة	درجة متوسطة	درجة قليلة جداً	مطلقاً
أرغب من الوالدين طلب لقاءات مع المتخصصين التربويين					
أرغب من الوالدين حضور اجتماعات المدرسة فيما يخص التخطيط العام والمراجعة الدورية لبرامج تعديل السلوك					
أرغب من الوالدين المشاركة في وضع الأهداف الخاصة ببرامج تعديل السلوك					
أرغب من الوالدين التعاون في وضع خطة مفصلة لبرامج تعديل السلوك					
أرغب من الوالدين العمل في شراكة مع فريق العمل في تنفيذ برامج تعديل السلوك					
أرغب من الوالدين الحضور إلى جلسات تعديل السلوك					
أرغب بأن يشارك الوالدين في جلسات تعديل السلوك					
أرغب من الوالدين تنفيذ بعض مهام برامج تعديل السلوك مع أطفالهم في المنزل					
أرغب من الوالدين حضور ورش العمل المتعلقة بتعديل السلوك					

**سؤال 10:** يرجى الإشارة إلى مدى التعاون بين الوالدين والمتخصصين التربويين في تخطيط وتصميم وتنفيذ برامج تعديل السلوك للأطفال التوحديين (يرجى اختيار خانة واحدة فقط من كل صف)

يرجى وضع علامة في الخانة التي تعكس خبرتك

الاسئلة   المقياس	درجة كبيرة جداً	درجة كبيرة	درجة متوسطة	درجة قليلة جداً	مطلقاً
إلى أي مدى يستجيب الوالدين بشكل عام لطلب الاتصال من قبل المتخصصين التربويين؟					
إلى أي مدى يطلب الوالدين عقد اجتماعات مع المتخصصين التربويين؟					
إلى أي مدى يُمنح الوالدين الفرصة لحضور الاجتماعات الخاصة بالتخطيط العام والمراجعة الدورية لبرامج تعديل السلوك؟					
إلى أي مدى يحضر الوالدين الاجتماعات الخاصة بالتخطيط العام والمراجعة الدورية لبرامج تعديل السلوك؟					
إلى أي مدى يتم إعطاء الفرصة للوالدين للمشاركة في تحديد و تطوير الأهداف الخاصة ببرامج تعديل السلوك؟					
إلى أي مدى يُشارك الوالدين في تحديد و تطوير الأهداف الخاصة ببرامج تعديل السلوك؟					

				إلى أي مدى يتم إعطاء الوالدين الفرصة للتعاون في التخطيط العام لبرامج تعديل السلوك؟
				إلى أي مدى يتعاون الوالدين في التخطيط العام لبرامج تعديل السلوك؟
				إلى أي مدى يُمنح الوالدين الفرصة للعمل بشكل تعاوني مع فريق العمل في تنفيذ برامج تعديل السلوك؟
				إلى أي مدى يعمل الوالدين في شراكة مع فريق العمل في تنفيذ برامج تعديل السلوك؟
				إلى أي مدى يتم إعطاء الوالدين الفرصة لحضور جلسات تعديل السلوك في المدرسة/المركز؟
				إلى أي مدى يحضر الوالدين جلسات تعديل السلوك في المدرسة/المركز؟
				إلى أي مدى يتم إعطاء الوالدين الفرصة للمشاركة في جلسات تعديل السلوك في المدرسة/المركز؟
				إلى أي مدى يشارك الوالدين في جلسات تعديل السلوك مع الفريق متعدد التخصصات؟
				إلى أي مدى يشارك الوالدين في المهام والإجراءات التي تساعد على تحقيق أهداف برامج تعديل السلوك المتفق عليها؟
				إلى أي مدى يتم إعطاء الوالدين الفرصة لحضور ورش العمل التي تقدم عن طريق المدرسة/المركز حول برامج تعديل السلوك؟
				إلى أي مدى يحضر الوالدين ورش العمل التي تقدمها المدرسة حول برامج تعديل السلوك؟
				إلى أي مدى تعتقد أن المتخصصين التربويين لديهم الدافع للعمل بشكل تعاوني مع الوالدين في تخطيط وتصميم وتنفيذ برامج تعديل السلوك؟
				إلى أي مدى تعتقد أن الوالدين لديهم الدافع للعمل بشكل تعاوني مع المتخصصين التربويين في تخطيط وتصميم وتنفيذ برامج تعديل السلوك؟

**السؤال 11:** يرجى وضع علامة في الخانة التي تعكس وجهة نظرك والتعليق على اختيارك في المساحة المتوفرة أدناه

11- بشكل عام ، ما مدى رضاك/ك عن تعاون الوالدين والمتخصصين التربويين في تخطيط و تصميم وتنفيذ برامج تعديل السلوك؟				
راضي جداً	راضي	لا أعلم/لا شيء	غير راضي	غير راضي جداً

يرجى شرح اجابتك

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السؤال 12: يرجى وضع علامة في الخانة التي تعكس وجهة نظرك واستخدام المساحة أدناه للتعليق على ردك

12- بشكل عام، إلى أي مدى يجب أن يشارك الوالدين في جميع مراحل برامج تعديل السلوك (تحديد الأهداف وتخطيط وتصميم وتنفيذ برامج تعديل السلوك)؟				
مطلقاً	درجة قليلة جداً	درجة متوسطة	درجة كبيرة	درجة كبيرة جداً

يرجى شرح اجابتك

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السؤال 13: يتعلق هذا السؤال بأهمية مشاركة الوالدين في مراحل محددة من برامج تعديل السلوك (مثل وضع الأهداف فقط أو التخطيط فقط أو التنفيذ فقط)

يرجى وضع علامة في الخانة التي تعكس وجهة نظرك واستخدام المساحة المتوفرة أدناه لكتابة أسباب اجابتك

31- بشكل عام ، إلى أي مدى توافق/توافقين على أنه من الممكن إشراك الوالدين في بعض مراحل برامج تعديل السلوك وليس جميع المراحل (مثل وضع الأهداف فقط) ؟				
مطلقاً	درجة قليلة جداً	درجة متوسطة	درجة كبيرة	درجة كبيرة جداً

يرجى شرح إجابتك للسؤال 13 في الفراغ أدناه ( مع ذكر مراحل برامج تعديل السلوك التي تعتقد/ تعتقدن بأن الوالدين لا يمكنهم المشاركة فيها والسبب وراء ذلك)

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#### 14. المشاركة في مقابلة لاحقة

يرغب الباحث بإجراء مقابلات قصيرة مع متخصصين تربويين لمناقشة وفهم موضوع تعاون الوالدين مع المتخصصين التربويين بشكل أعمق. من الممكن أن تجرى هذه المقابلات بالمقابلة الشخصية أو طريق الإنترنت أو الهاتف. فإذا كان لديك رغبة بالمشاركة يرجى كتابة وسيلة التواصل المناسبة ومعلومات الاتصال لكي يتم التواصل معك/ك.

- لا أرغب بالمشاركة
- أرغب بالمشاركة (يرجى كتابة رقم الجوال ( للواتساب) أو البريد الإلكتروني الشخصي لك/لكي يتم التواصل معك/ك)

### B.3: Participants information sheet and consent form for the questionnaire



Newcastle University  
School of Education, Communication & Language Sciences

#### Participant Information Sheet

- 1- You are invited to take part in a research study entitled ‘*Professional-parent collaboration in behavioural interventions for children with autism spectrum disorders in Saudi Arabia*’.
- 2- Please read this document carefully and ask any questions you may have before agreeing to take part in the study.
- 3- The study is conducted by Mohammed Buobaid “as part of their EdD studies at Newcastle University.
- 4- This research project is supervised by Prof Jill Clark & Dr Wilma Barrow from the School of Education, Communication & Language Sciences at Newcastle University.
- 5- This study explores the area of *professional-parent collaboration in the planning, design and implementation of behavioural interventions for children with ASD*.
- 6- You have been invited to take part in this study because of your experience or expertise in the topic of the study.
- 7- If you agree to take part in this study, you will be asked to **complete an online questionnaire**.
- 8- Your participation in this study will take approximately **10-15 minutes**.
- 9- The online questionnaire does not aim to collect identity information, but at the end of the survey you will be asked to provide your contact details (e.g. your email address or mobile phone) if you want to participate in a further interview. These details will be kept for the duration of the research so the researcher can debrief participants.
- 10- After the completion of this research, the researcher will debrief participants through their email addresses and so they will receive an email that summaries the main findings for the research.
- 11- You are free to decide whether to participate. If you decide to participate, you are free to withdraw at any time without any negative consequences for you.
- 12- All responses you give, or other data collected will be kept anonymous and confidential. The records of this study will be kept secure and private in Newcastle university. All files containing any information you give will be password protected. In any research report that may be published, no information will be included that will make it possible to identify you individually. There will be no way to connect your name to your responses at any time during or after the study.
- 13- The results of the research might be published. In this case, you and your institution will not be identified in any report or publication. The results will be kept for one and six months after the end of study for the purpose of publication and they it will be destroyed.
- 14- If you have any questions, requests, or concerns regarding this research, please contact me via email at XXXXXX or by telephone at XXXXXX.

This study has been reviewed and approved by the School of Education, Communication & Language Sciences Ethics Committee at Newcastle University (date of approval:12/02/2019)

Faithfully yours

.....



Newcastle University  
School of Education, Communication & Language Sciences

### Declaration of Informed Consent

- I agree to participate in this study, the purpose of which is to explore the area of *professional-parent collaboration in the planning, design and implementation of behavioural interventions for children with ASD in Saudi Arabia*.
- I have read the participant information sheet and understand the information provided.
- I have been informed that I may decline to answer any question or withdraw from the study at any point without penalty of any kind.
- I have been informed about the types of data, including personal data, that the researcher will elicit from me and for which purposes these data will be used. The lawful basis for processing my personal data is consent.
- I have been informed that all of my responses will be kept confidential and secure, and that I will not be identified in any report or other publication resulting from this research.
- I have been informed that the investigator will answer any questions regarding the study and its procedures. The investigator's email is XXXXXX and they can be contacted via email or by telephone on XXXXXX.
- I will be provided with a copy of this form for my records.

Any concerns about this study should be addressed to the School of Education, Communication & Language Sciences Ethics Committee, Newcastle University via email to [ecls.researchteam@newcastle.ac.uk](mailto:ecls.researchteam@newcastle.ac.uk)

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Date	Participant Name (please print)	Participant Signature
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I certify that I have presented the above information to the participant and secured his or her consent.

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Date	Signature of Investigator
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#### B.4: Interview schedules for educational professionals and parents

### Interview schedule for professionals

#### Stage 1: Before the start of the interview

- **Safety and trust**

- Indicate trust and safety issues before the start of the interview (to let interviewees and researcher develop a rapport and feel relaxed before the interview commences)
- Share information about myself as a researcher (name, occupation, interests) to build a good relationship and encourage interviewees to share information about themselves.
- Tell interviewees about my research and its importance (this research aims to *explore and explain the practice of working in collaboration between education professionals and parents in planning, designing and implementing behavioural interventions for children with ASD in Saudi Arabia*).
- Give out the participant information sheet to read and the consent form to sign.
- Get permission from participants to record the entire interview.

- **Readiness to start the interview**

- Are you ready to begin the interview?

#### Stage 2: The start of the interview

- **General (opening) questions**

- Background questions*: Can you tell me a bit about yourself? (Age, role, experience, type of school, and level of education).

#### Stage 3: Asking the main interview questions

Research questions	Interview questions	Probes and prompts
What factors facilitate or act as barriers to professional-parent collaboration in the planning, design and implementation of BI for children with ASD in SA?	<b>Main (middle) questions:</b>  1-What are your experiences of being involved in planning, designing and implementing BI?	-If not involved in all stages: in what aspect(s) are you involved?  -If not involved in any stage at all, why not?

		-Could you elaborate on this?
	2-Do educational professionals and parents work in collaboration in the decision-making related to BI for children with ASD? If no, why not? If yes, in what ways?	-Are there any special arrangements or resources which enable professionals and parents to engage in this? -Is there a right amount of collaboration? -Can you give examples of this?
	3- What do you consider to be the key factors which facilitate professional-parent collaboration in BI?	-Are there any other factors you would like to add?
	4- What factors might hinder professional-parent collaboration in BI for children with ASD?	-Could you tell me a bit more about these barriers to collaboration?
	5-Can you tell me what you think the main features of good professional practice in collaborative working with parents in BI are?	-Can you explain this further?
	6-How do you evaluate the readiness of parents and educational professionals to collaborate in BI?	-Is there anything else you would like to add?  -Can you explain this further?
	7A-Do you think that educational professionals have the necessary skills and training to work in collaboration in BI?  7B-Do you think that parents have the necessary skills and training to work in collaboration in BI?	-Could you elaborate more on this?  -What skills and training are needed for parents and educational professionals to work in collaboration?
<b>Do you perceive professional-parent</b>	<b>Main (middle) questions:</b>	-Could you elaborate more on this?

<b>collaboration as a valuable component for the success in the planning, design and implementation of BI for children with ASD?</b>	1-Do you think parents and professionals should collaborate in all stages of BI (planning, design and implementation) for children with ASD?	-Could you give reasons for the importance of collaboration?
	2-How motivated are parents and educational professionals to work collaboratively in the three stages of BI?	-Can you explain this further?
	3-Are parents and educational professionals engaged in collaborative working in BI for children with ASD?	-Can you give any examples?
	4-How important do you consider professional-parent collaboration to be in the success of BI?	-Could you elaborate more on this?
	<b>Closing questions:</b> 5A-In your experience, can you give examples of where you believe that professional-parent collaboration has been helpful in BI with children with ASD?	-Can you give more examples of this?
	5B-In your experience, can you give examples where you believe that professional-parent collaboration has not been helpful in BI with children with ASD?	-Can you give more examples of this?

### Stage 3: The end of interview

Thank participants for the time they have spent in the interview and obtain their contact details should they wish to be debriefed about the study's findings.

## Interview schedule for parents

### Stage 1: Before the start of the interview

- **Safety and trust**

-Indicate trust and safety issues before the start of the interview (to let interviewees and researcher develop a rapport and feel relaxed before the interview commences).

- Share information about myself as a researcher (name, occupation, interests) to build a good relationship and encourage interviewees to share information about themselves.

-Tell interviewees about my research and its importance (this research aims to *explore and explain the practice of working in collaboration between education professionals and parents in planning, designing and implementing behavioural interventions for children with ASD in Saudi Arabia*).

-Give out the participant information sheet to read and the consent form to sign.

-Get permission from participants to record the entire interview.

- **Readiness to start the interview**

-Are you ready to begin the interview?

### Stage 2: The start of the interview

#### *General (opining) questions*

-*Background questions*: can you tell me a bit about yourself? (Age, occupation, level of education, age of your child with autism, and number of children).

Research questions	Interview questions	Probes and prompts
What factors facilitate or act as barriers to professional-parent collaboration in the planning, design and implementation of BI for children with ASD in SA?	<p><b>Main (middle) questions:</b></p> <p>1-What are your experiences of being involved in planning, designing and implementing BI?</p>	<p>-If not involved in all stages, in what aspect(s) are you involved?</p> <p>-If not involved in any stage at all, why not?</p> <p>-Could you elaborate on this?</p>
	2-Do educational professionals and parents work in collaboration in the decision-	-Are there any special arrangements or resources which

	<p>making related to BI for children with ASD? If no, why not? If yes, in what ways?</p>	<p>enable professionals and parents to engage in this? -Is there a right amount of collaboration? -Can you give examples of this?</p>
	<p>3-What do you consider to be the key factors which facilitate professional-parent collaboration in BI?</p>	<p>-Are there any other factors you would like to add?</p>
	<p>4-What factors might be barriers to professional-parent collaboration in BI?</p>	<p>-Could you tell me a bit more about these barriers to collaboration?</p>
	<p>5-Can you tell me what you think are the main features of good professional practice in collaborative working with parents in BI?</p>	<p>-Can you explain this further?</p>
	<p>6-How do you evaluate the readiness of parents and educational professionals to collaborate in BI?</p>	<p>-Is there another thing you would like to add?  -Can you explain this further?</p>
	<p>7A- Do you think that educational professionals have the necessary skills and training to work in collaboration in BI?</p> <p>7B-Do you think that parents have the necessary skills and training to work in collaboration in BI?</p>	<p>-Could you elaborate more in this?  -What skills and training are needed for parents and educational professionals to work in collaboration?</p>
<p><b>Do you perceive professional-parent collaboration as a valuable component for the success in the planning, design and</b></p>	<p><b><i>Main (middle) questions:</i></b> 1-Do you think parents and professionals should collaborate at all stages of BI (planning, design, and implementation) for children with ASD?</p>	<p>-Could you elaborate on this? -Could you give reasons for the importance of collaboration?</p>

<b>implementation of BI for children with ASD?</b>	2-How motivated are parents and educational professionals to work collaboratively in the three stages of BI?	-Can you explain this further?
	3-Are parents and educational professionals engaged in collaborative working in BI for children with ASD?	-Can you give any examples?
	4-How important do you consider professional-parent collaboration to be in the success of BI?	-Could you elaborate on this?
	<b>Closing questions:</b> 5A-In your experience, can you give examples of where you believe that professional-parent collaboration has been helpful in BI with children with ASD?	-Can you give more examples of this?
	5B-In your experience, can you give examples where you believe that professional-parent collaboration has not been helpful in BI with children with ASD?	-Can you give more examples of this?

### **Stage 3: The end of interview**

Thank the participants for the time they have spent in the interview and obtain their contact details should they wish to be debriefed about this study's findings.

B.5: Arabic versions of the interview schedules

جدول المقابلات الخاصة بالمتخصصين التربويين

المرحلة الأولى: قبل البدء في المقابلة

\*الأمان والثقة

- سوف تحفظ المعلومات الخاصة بهذه المقابلات في مكان آمن وملئم.

-أنا الباحث XXXXXX, محاضر بقسم التربية الخاصة بجامعة الملك فيصل بالأحساء, ولي اهتمام بحثي بالأشخاص المصابين باضطرابات طيف التوحد.

-هذا البحث الدراسة يبحث في التعاون مابين الوالدين و المتخصصين التربويين في تخطيط وتصميم وتنفيذ برامج تعديل السلوك للأطفال التوحديين من وجهة نظر المتخصصين التربويين وآباء الأطفال التوحديين في المملكة العربية السعودية.

-تفضل هذه هي ورقة المعلومات الخاصة بالمشاركة, وورقة الموافقة على المشاركة, يرجى قرائتها وتوقيعها.

-هل تعطي الأذن بالتسجيل الصوتي الكامل للمقابلة؟

\*الجاهزية للمقابلة

-هل أنت جاهز لبدء المقابلة؟

المرحلة الثانية : البدء بالمقابلة

\*أسئلة عامة ( استفتاحية)

هلا أخبرتني عن نفسك؟ ( عمرك, وظيفتك, خبراتك, نوع المدرسة,مستواك التعليمي)

المرحلة الثالثة: مرحلة إجراء المقابلة

سؤال البحث	سؤال المقابلة	أسئلة الحث والدفع
ما هي العوامل التي تسهل أو تعرقل تعاون المتخصصين التربويين وأولياء الأمور في تخطيط وتصميم وتنفيذ برامج تعديل السلوك للأطفال الذين يعانون من اضطرابات طيف التوحد في المملكة العربية السعودية؟	1-ما هي خبرتك في المشاركة في تخطيط وتصميم وتنفيذ برامج تعديل السلوك؟ ملاحظة: أخبر المجيبين بأن بقية الأسئلة ستكون حول مستوى مشاركتهم في تخطيط أو تصميم أو تنفيذ برامج تعديل السلوك.	- إذا أنت لا تشارك في جميع المراحل: في أي جانب تشارك؟ - إذا لم تشارك في أي مرحلة على الإطلاق: لماذا لا تشارك؟ -هل يمكن أن توضح أكثر في هذا الأمر؟
	2-هل المتخصصين التربويين وأولياء الأمور يعملون بتعاون في عملية صنع القرار ببرامج تعديل السلوك للأطفال الذين يعانون من اضطراب طيف التوحد؟ إذا لا، لماذا؟ إذا كانت الإجابة نعم ، ما هي الطرق المشجعة على اتخاذ القرار بشكل تعاوني؟	-هل هناك أي ترتيبات أو مصادر خاصة تمكن المتخصصين وأولياء الأمور من المشاركة في هذا؟ -هل هناك قدر مناسب من التعاون بين الوالدين والمتخصصين؟ -هل يمكنك إعطاء أمثلة على هذا؟
	3- في اعتقادك ماهي العوامل الرئيسية التي تمكن من تعاون	-هل هناك أي عوامل أخرى تود إضافتها؟

	أولياء الأمور والمتخصصين في برامج تعديل السلوك للأطفال المصابين باضطراب طيف التوحد؟	
-هل يمكن أن تخبرني أكثر عن العوائق التي تحول دون التعاون؟	4- ما هي العوامل التي قد تعرقل تعاون المتخصصين التربويين وأولياء الأمور في برامج تعديل السلوك للأطفال الذين يعانون من اضطرابات طيف التوحد؟	
-هل بإمكانك أن توضح هذا بشكل أكبر؟	5-هل يمكن أن تخبرني ما هي السمات الرئيسية للممارسة المهنية الجيدة في العمل التعاوني مع أولياء الأمور في برامج تعديل السلوك للأطفال الذين يعانون من اضطراب طيف التوحد؟	
-هل هناك شيء آخر تود إضافته؟ -هل بإمكانك إيضاح هذه النقطة؟	6- كيف تقيم استعداد الوالدين والمتخصصين التربويين للتعاون في برامج تعديل السلوك للأطفال المصابين باضطراب طيف التوحد؟	
-هل يمكن أن توضح أكثر حول هذا؟ -ما هي المهارات والتدريب اللازمين لأولياء الأمور والمتخصصين التربويين للعمل بشكل تعاوني؟	7 أ- هل تعتقد بأن المتخصصين التربويين لديهم المهارات والتدريب اللازمين للعمل بشكل تعاوني في برامج تعديل السلوك للأطفال المصابين باضطرابات طيف التوحد؟ 7 ب - هل تعتقد بأن أولياء الأمور لديهم المهارات والتدريب اللازمين للعمل بشكل تعاوني في برامج تعديل السلوك للأطفال الذين المصابين باضطرابات طيف التوحد؟	
-هل يمكن أن تسهب في هذه النقطة؟ -هل يمكنك إعطاء أسباب لأهمية التعاون؟	الأسئلة الرئيسية (الوسطى): 1-هل تعتقد بأنه يجب أن يتعاون أولياء الأمور والمتخصصين في جميع مراحل برامج تعديل السلوك (التخطيط والتصميم والتنفيذ) للأطفال الذين يعانون من اضطرابات طيف التوحد؟	هل ينظر المتخصصون التربويون إلى عملية التعاون مابين أولياء الأمور والمتخصصين باعتبارها عنصراً قيماً في نجاح التخطيط والتصميم والتنفيذ لبرامج تعديل السلوك للأطفال الذين يعانون من اضطراب طيف التوحد؟
-هل بالإمكان التفصيل أكثر؟	2- ما مدى رغبة أولياء الأمور والمتخصصين التربويين للعمل سوياً في برامج تعديل السلوك للأطفال المصابين باضطرابات طيف التوحد؟	
-هل يمكنك ان تعطي مثلاً؟	3- هل هناك اندماج في العمل التعاوني مابين أولياء الأمور	

	والمختصين التربويين في برامج تعديل السلوك للأطفال المصابين باضطرابات طيف التوحد؟	
-هل يمكن أن توضح أكثر في هذا؟	4- ما مدى أهمية التعاون بين أولياء الأمور والمختصين في نجاح التدخلات السلوكية للأطفال المصابين باضطراب طيف التوحد؟	
-هل يمكنك إعطاء المزيد من الأمثلة على ذلك؟	<b>الأسئلة الختامية:</b> A5 - من خلال خبرتك، هل يمكنك إعطاء أمثلة تعكس مدى فائدة تعاون أولياء الأمور والمختصين في برامج تعديل السلوك للأطفال الذين يعانون من اضطراب طيف التوحد؟	
-هل يمكنك إعطاء المزيد من الأمثلة على ذلك؟	B5 - من خلال خبرتك، هل يمكنك إعطاء أمثلة تعكس عدم جدوى تعاون أولياء الأمور والمختصين في برامج تعديل السلوك للأطفال الذين يعانون من اضطراب طيف التوحد؟	

#### المرحلة الرابعة: نهاية المقابلة

توجيه الشكر للمستجيبين على الوقت الذي قضوه في المقابلة والحصول على تفاصيل الاتصال الخاصة بهم إذا كانوا يريدون الحصول على نتائج الدراسة. وسؤالهم إذا كان لديهم أي أسئلة.

## جدول المقابلات الخاصة بأولياء الأمور

المرحلة الأولى: قبل البدء في المقابلة

**\*الأمان والثقة**

- سوف تحفظ المعلومات الخاصة بهذه المقابلات في مكان آمن وملئم.

-أنا الباحث xxxxxx, محاضر بقسم التربية الخاصة بجامعة الملك فيصل بالأحساء, ولي اهتمام بحثي بالأشخاص المصابين باضطرابات طيف التوحد.

-هذا البحث الدراسة يبحث في التعاون مابين الوالدين و المتخصصين التربويين في تخطيط وتصميم وتنفيذ برامج تعديل السلوك للأطفال التوحديين من وجهة نظر المتخصصين التربويين وآباء الأطفال التوحديين في المملكة العربية السعودية.

-تفضل هذه هي ورقة المعلومات الخاصة بالمشاركة, وورقة الموافقة على المشاركة, يرجى قرانتهما وتوقيعها.

-هل تعطي الأذن بالتسجيل الصوتي الكامل للمقابلة؟

**\*الجاهزية للمقابلة**

-هل أنت جاهز لبدء المقابلة؟

المرحلة الثانية : البدء بالمقابلة

**\*أسئلة عامة ( استفتاحية)**

هلا أخبرتني عن نفسك؟ ( عمرك, وظيفتك, خبراتك, مستواك التعليمي, عمر الأطفال, عدد الأطفال)

المرحلة الثالثة: مرحلة إجراء المقابلة

سؤال البحث	سؤال المقابلة	أسئلة الحث والدفع
ما هي العوامل التي تسهل أو تعرقل تعاون المتخصصين التربويين وأولياء الأمور في تخطيط وتصميم وتنفيذ برامج تعديل السلوك للأطفال الذين يعانون من اضطرابات طيف التوحد في المملكة العربية السعودية؟	1-ما هي خبرتك في المشاركة في تخطيط وتصميم وتنفيذ برامج تعديل السلوك؟ ملاحظة: أخبر المجيبين بأن بقية الأسئلة ستكون حول مستوى مشاركتهم في تخطيط أو تصميم أو تنفيذ برامج تعديل السلوك.	- إذا أنت لا تشارك في جميع المراحل: في أي جانب تشارك؟ - إذا لم تشارك في أي مرحلة على الإطلاق: لماذا لا تشارك؟ -هل يمكن أن توضح أكثر في هذا الأمر؟
	2-هل المتخصصين التربويين وأولياء الأمور يعملون بتعاون في عملية صنع القرار ببرامج تعديل السلوك للأطفال الذين يعانون من اضطراب طيف التوحد؟ إذا لا، لماذا؟ إذا كانت الإجابة نعم ، ما هي الطرق المشجعة على اتخاذ القرار بشكل تعاوني؟	-هل هناك أي ترتيبات أو مصادر خاصة تمكن المتخصصين وأولياء الأمور من المشاركة في هذا؟ -هل هناك قدر مناسب من التعاون بين الوالدين والمتخصصين؟ -هل يمكنك إعطاء أمثلة على هذا؟
	3- في اعتقادك ماهي العوامل الرئيسية التي تمكّن من تعاون أولياء الأمور والمتخصصين في برامج تعديل السلوك للأطفال	-هل هناك أي عوامل أخرى تود إضافتها؟

	المصابين باضطراب طيف التوحد؟	
-هل يمكن أن تخبرني أكثر عن العوائق التي تحول دون التعاون؟	4- ما هي العوامل التي قد تعرقل تعاون المتخصصين التربويين وأولياء الأمور في برامج تعديل السلوك للأطفال الذين يعانون من اضطرابات طيف التوحد؟	
-هل بإمكانك أن توضح هذا بشكل أكبر؟	5-هل يمكن أن تخبرني ما هي السمات الرئيسية للممارسة المهنية الجيدة في العمل التعاوني مع أولياء الأمور في برامج تعديل السلوك للأطفال الذين يعانون من اضطراب طيف التوحد؟	
-هل هناك شيء آخر تود إضافته؟ -هل بإمكانك إيضاح هذه النقطة؟	6- كيف تقيم استعداد الوالدين والمتخصصين التربويين للتعاون في برامج تعديل السلوك للأطفال المصابين باضطراب طيف التوحد؟	
-هل يمكن أن توضح أكثر حول هذا؟ -ما هي المهارات والتدريب اللازمين لأولياء الأمور والمتخصصين التربويين للعمل بشكل تعاوني؟	7 أ- هل تعتقد بأن المتخصصين التربويين لديهم المهارات والتدريب اللازمين للعمل بشكل تعاوني في برامج تعديل السلوك للأطفال المصابين باضطرابات طيف التوحد؟ 7 ب - هل تعتقد بأن أولياء الأمور لديهم المهارات والتدريب اللازمين للعمل بشكل تعاوني في برامج تعديل السلوك للأطفال الذين المصابين باضطرابات طيف التوحد؟	
-هل يمكن أن تسهب في هذه النقطة؟ -هل يمكنك إعطاء أسباب لأهمية التعاون؟	الأسئلة الرئيسية (الوسطى): 1-هل تعتقد بأنه يجب أن يتعاون أولياء الأمور والمتخصصين في جميع مراحل برامج تعديل السلوك (التخطيط والتصميم والتنفيذ) للأطفال الذين يعانون من اضطرابات طيف التوحد؟	هل ينظر أولياء الأمور إلى عملية التعاون مابين المتخصصين وأولياء الأمور باعتبارها عنصراً قيماً في نجاح التخطيط والتصميم والتنفيذ لبرامج تعديل السلوك للأطفال الذين يعانون من اضطراب طيف التوحد؟
-هل بالإمكان التفصيل أكثر؟	2- ما مدى رغبة أولياء الأمور والمتخصصين التربويين للعمل سوياً في برامج تعديل السلوك للأطفال المصابين باضطرابات طيف التوحد؟	
-هل يمكنك ان تعطي مثالاً؟	3- هل هناك اندماج في العمل التعاوني مابين أولياء الأمور والمتخصصين التربويين في برامج تعديل السلوك للأطفال المصابين باضطرابات طيف التوحد؟	

-هل يمكن أن توضح أكثر في هذا؟	4- ما مدى أهمية التعاون بين أولياء الأمور والمتخصصين في نجاح التدخلات السلوكية للأطفال المصابين باضطراب طيف التوحد؟	
-هل يمكنك إعطاء المزيد من الأمثلة على ذلك؟	<b>الأسئلة الختامية:</b> A5 - من خلال خبرتك، هل يمكنك إعطاء أمثلة تعكس مدى فائدة تعاون أولياء الأمور والمتخصصين في برامج تعديل السلوك للأطفال الذين يعانون من اضطراب طيف التوحد؟	
-هل يمكنك إعطاء المزيد من الأمثلة على ذلك؟	B5 - من خلال خبرتك، هل يمكنك إعطاء أمثلة تعكس عدم جدوى تعاون أولياء الأمور والمتخصصين في برامج تعديل السلوك للأطفال الذين يعانون من اضطراب طيف التوحد؟	

#### المرحلة الرابعة: نهاية المقابلة

توجيه الشكر للمستجيبين على الوقت الذي قضوه في المقابلة والحصول على تفاصيل الاتصال الخاصة بهم إذا كانوا يريدون الحصول على نتائج الدراسة. وسؤالهم إذا كان لديهم أي أسئلة.

**B.6: Demographic information for the interviewees**

**Table 1: Educational professionals' demographic information**

<b>Interview Number</b>	<b>Participant Code</b>	<b>Gender</b>	<b>Age</b>	<b>Role</b>	<b>Experience</b>	<b>Level of education</b>	<b>School setting</b>
<b>Interview 1</b>	HA	Male	45 years	Autism teacher	6 years	Master	Units attached to mainstream schools (governmental)
<b>Interview 2</b>	HG	Male	33 years	Autism teacher	11 years	Master	Autism Institution (governmental)
<b>Interview 3</b>	ZA	Female	33 years	Autism teacher	8 years	Bachelor	Autism institution (governmental)
<b>Interview 4</b>	MA	Male	55 years	Speech and Language Therapist	26 years	Bachelor	Autism institution (governmental)
<b>Interview 5</b>	AB	Male	34 years	Autism teacher	11 years	Master	Autism institution (governmental)
<b>Interview 6</b>	SA	Male	43 years	Educational psychologist	17 Years	Bachelor	Governmental center for autism (governmental)
<b>Interview 7</b>	FZ	Female	35 years	Autism teacher-School supervisor	10 years	Bachelor	Autism school (governmental)
<b>Interview 8</b>	SA2	Male	43 Years	Autism teacher-School supervisor	19 years	Master	Autism school (private)

**Table 2: Parents' demographic information**

<b>Interview number</b>	<b>Participant Code</b>	<b>Gender</b>	<b>Age</b>	<b>Occupation</b>	<b>Level of Education</b>	<b>Children (age, gender)</b>	<b>Child with autism (age, gender)</b>	<b>Type of school</b>
<b>Interview 1</b>	HB	Female (mother)	33 years	Receptionist	Middle school	2 children (boys)	Autistic boy (8Years)	Community school (private)
<b>Interview 2</b>	AA	Female (mother)	34 years	Pharmacist	Bachelor	4 children (2 boys, two girls)	Autistic boy (9 years)	Mainstream school
<b>Interview 3</b>	AD	Female (mother)	31 years	Undergraduate student	Secondary school	3 children (one boy, two girls)	Autistic girl (3 years)	Pre-school centre (private)
<b>Interview 4</b>	SZ	Male (father)	38 years	Banker	Bachelor	2 children (One girl and one boy)	Autistic boy (10 years)	Private school
<b>Interview 5</b>	BF	Male (father)	39 Years	Lecturer	Bachelor	3 children (three girls)	Autistic girl (7 years)	Private school
<b>Interview 6</b>	BA	Male (father)	41 years	Teacher	Bachelor	3 children (two boys, one girl)	Autistic boy (10 years)	Special (governmental school)
<b>Interview 7</b>	NA	Male (father)	45 years	Hospital manager	Master	5 children (1 girl, 4 boys)	Autistic boy (7 years)	Private school
<b>Interview 8</b>	SH	Female(mother)	55 years	Nurse	Diploma	1 child	Autistic girl (12 years)	Governmental school

## B.7: Participants' information sheet and consent form for the interviews



Newcastle University  
School of Education, Communication & Language Sciences

### Participant Information Sheet

- 1- You are invited to take part in a research study entitled '*Professional-parent collaboration in behavioural interventions for children with autism spectrum disorders in Saudi Arabia*'.
- 2- Please read this document carefully and ask any questions you may have before agreeing to take part in the study.
- 3- The study is conducted by Mohammed Buobaid "as part of their EdD studies at Newcastle University.
- 4- This research project is supervised by Prof Jill Clark & Dr Wilma Barrow from the School of Education, Communication & Language Sciences at Newcastle University.
- 5- This study explores the area of *professional-parent collaboration in the planning, design and implementation of behavioural interventions for children with ASD*.
- 6- You have been invited to take part in this study because of your experience or expertise in the topic of the study.
- 7- If you agree to take part in this study, you will be asked to **complete a face-to-face or a telephone interview**.
- 8- Your participation in this study will **take approximately 50-60 minutes**.
- 9- The interview does not aim to collect identity information but at the end of the interview you will be asked to provide your contact details (e.g. your email address or mobile phone) for the purpose of obtaining interviewees' comments and feedback on the transcripts of the interviews they conducted. These details will only be kept for the duration of the research and then it will be deleted.
- 10- After the completion of this research, the researcher will debrief participants through their email addresses and so they will receive an email that summaries the main findings for the research.
- 11- You are free to decide whether or not to participate. If you decide to participate, you are free to withdraw at any time without any negative consequences for you.
- 12- All responses you give, or other data collected will be kept anonymous and confidential. The records of this study will be kept secure and private in Newcastle university. All files containing any information you give will be password protected. In any research report that may be published, no information will be included that will make it possible to identify you individually. There will be no way to connect your name to your responses at any time during or after the study.
- 13- The results of the research might be published. In this case, you and your institution will not be identified in any report or publication. The results will be kept for one and half year after the end of study for the purpose of publication and they it will be destroyed.
- 14- If you have any questions, requests, or concerns regarding this research, please contact me via email at XXXXXX or by telephone at XXXXXX.

This study has been reviewed and approved by the School of Education, Communication & Language Sciences Ethics Committee at Newcastle University (date of approval:12/02/2019)

Faithfully yours

.....



Newcastle University  
School of Education, Communication & Language Sciences

### Declaration of Informed Consent

- I agree to participate in this study, the purpose of which is to explore the area of professional-parent collaboration in the planning, design and implementation of behavioural interventions for children with autism spectrum disorder.
- I have read the participant information sheet and understand the information provided.
- I have been informed that I may decline to answer any question or withdraw from the study at any point without penalty of any kind.
- I have been informed about the types of data, including personal data, that the researcher will elicit from me and for which purposes these data will be used. The lawful basis for processing my personal data is consent.
- I have been informed that data collection will involve the use of recording devices.
- I have been informed that all of my responses will be kept confidential and secure, and that I will not be identified in any report or other publication resulting from this research.
- I have been informed that the investigator will answer any questions regarding the study and its procedures. The investigator's email is XXXXXX and they can be contacted via email or by telephone on XXXXXX.
- I will be provided with a copy of this form for my records.

Any concerns about this study should be addressed to the School of Education, Communication & Language Sciences Ethics Committee, Newcastle University via email to [ecls.researchteam@newcastle.ac.uk](mailto:ecls.researchteam@newcastle.ac.uk)

---

Date

Participant Name (please print)

Participant Signature

I certify that I have presented the above information to the participant and secured his or her consent.

---

Date

Signature of Investigator

## Appendix C

### C.1: SPSS printouts of the inferential statistics for the scale questions.

#### Group one: Expectation questions

##### *Difference across gender*

**Test Statistics<sup>a</sup>**

	Q9_1.To what extent do you expect parents to request meetings with educational professionals ?	Q9_2.To what extent do you expect parents to attend planning and reviewing behavioural intervention team's meetings?	Q9_3.To what extent do you expect parents to participate in goal development for behavioural interventions?	Q9_4.To what extent do you expect parents to collaborate in planning behavioural interventions?	Q9_5.To what extent do you expect parents to work in partnership with other professionals in implementing behavioural interventions?	Q9_6.To what extent do you expect parents to attend intervention sessions with the team of professionals ?	Q9_7.To what extent do you expect parents to participate in intervention sessions with the team of professionals ?	Q9_8.To what extent do you expect parents to implement tasks of the behavioural interventions with their children at the home environment?	Q9_9.To what extent do you expect parents to attend workshops provided by intervention providers about behavioural interventions for their children?
Mann-Whitney U	13040.500	14972.500	14738.500	14300.000	14664.000	14958.500	13772.000	12808.500	13759.500
Wilcoxon W	23480.500	25412.500	25178.500	24740.000	25104.000	36903.500	24212.000	23248.500	35704.500
Z	-2.345	-.087	-.350	-.843	-.435	-.099	-1.412	-2.651	-1.491
Asymp. Sig. (2-tailed)	.019	.931	.726	.399	.664	.921	.158	.008	.136

a. Grouping Variable: Gender

##### *Difference across province*

**Test Statistics<sup>a,b</sup>**

	Q9_1.To what extent do you expect parents to request meetings with educational professionals ?	Q9_2.To what extent do you expect parents to attend planning and reviewing behavioural intervention team's meetings?	Q9_3.To what extent do you expect parents to participate in goal development for behavioural interventions?	Q9_4.To what extent do you expect parents to collaborate in planning behavioural interventions?	Q9_5.To what extent do you expect parents to work in partnership with other professionals in implementing behavioural interventions?	Q9_6.To what extent do you expect parents to attend intervention sessions with the team of professionals ?	Q9_7.To what extent do you expect parents to participate in intervention sessions with the team of professionals ?	Q9_8.To what extent do you expect parents to implement tasks of the behavioural interventions with their children at the home environment?	Q9_9.To what extent do you expect parents to attend workshops provided by intervention providers about behavioural interventions for their children?
Chi-Square	18.570	16.839	8.265	14.157	21.194	12.959	20.875	63.563	21.793
df	4	4	4	4	4	4	4	4	4
Asymp. Sig.	.001	.002	.082	.007	.000	.011	.000	.000	.000

a. Kruskal Wallis Test

b. Grouping Variable: The province where you are working: Can you indicate the province where you are working?

## Difference across role

### Test Statistics<sup>a,b</sup>

	Q9_1.To what extent do you expect parents to request meetings with educational professionals ?	Q9_2.To what extent do you expect parents to attend planning and reviewing behavioural intervention team's meetings?	Q9_3.To what extent do you expect parents to participate in goal development for behavioural interventions?	Q9_4.To what extent do you expect parents to collaborate in planning behavioural interventions?	Q9_5.To what extent do you expect parents to work in partnership with other professionals in implementing behavioural interventions?	Q9_6.To what extent do you expect parents to attend intervention sessions with the team of professionals ?	Q9_7.To what extent do you expect parents to participate in intervention sessions with the team of professionals ?	Q9_8.To what extent do you expect parents to implement tasks of the behavioural interventions with their children at the home environment?	Q9_9.To what extent do you expect parents to attend workshops provided by intervention providers about behavioural interventions for their children?
Chi-Square	20.019	15.542	13.614	15.366	16.191	14.465	22.759	33.657	22.049
df	6	6	6	6	6	6	6	6	6
Asymp. Sig.	.003	.016	.034	.018	.013	.025	.001	.000	.001

a. Kruskal Wallis Test

b. Grouping Variable: Role: what is your current role?

## Group two: Opportunity questions

## Difference across province

### Test Statistics<sup>a,b</sup>

	Q10_3.To what extent are parents given the opportunity to attend planning and reviewing intervention team's meetings?	Q10_5.To what extent are parents given the opportunity to participate in goal development for behavioural interventions ?	Q10_7.To what extent are parents given the opportunity to collaborate in planning behavioural interventions?	Q10_9.To what extent are parents given the opportunity to work in partnership with other professionals in implementing behavioural interventions?	Q10_11.To what extent are parents given the opportunity to attend intervention sessions with the team of professionals ?	Q10_13.To what extent are parents given the opportunity to participate in intervention sessions with the team of professionals ?	Q10_16.To what extent are parents given the opportunity to attend workshops provided by intervention providers around behavioural interventions for their children with ASD?
Chi-Square	17.867	15.470	27.493	46.489	44.967	34.140	29.255
df	4	4	4	4	4	4	4
Asymp. Sig.	.001	.004	.000	.000	.000	.000	.000

a. Kruskal Wallis Test

b. Grouping Variable: The province where you are working: Can you indicate the province where you are working?

## Group three: Collaboration questions

### Difference across province

**Test Statistics<sup>a,b</sup>**

	Q10_1.To what extent do parents generally respond to educational professionals' request for contact?	Q10_2.To what extent do parents request meetings with educational professionals ?	Q10_4.To what extent do parents attend planning and reviewing intervention team's meetings?	Q10_6.To what extent do parents participate in goal development for behavioural interventions?	Q10_8.To what extent do parents collaborate in planning behavioural interventions?	Q10_10.To what extent do parents work in partnership with other professionals in implementing behavioural interventions?	Q10_12.To what extent do parents attend intervention sessions with the team of professionals ?	Q10_14.To what extent do parents participate in intervention sessions with the team of professionals ?	Q10_15.To what extent do parents engage with tasks and routines which help to achieve the agreed intervention goals?	Q10_17.To what extent do parents attend workshops provided by intervention providers about behavioural interventions for their children?
Chi-Square	33.233	13.214	14.833	20.039	12.687	35.441	28.558	33.059	19.189	25.455
df	4	4	4	4	4	4	4	4	4	4
Asymp. Sig.	.000	.010	.005	.000	.013	.000	.000	.000	.001	.000

a. Kruskal Wallis Test

b. Grouping Variable: The province where you are working: Can you indicate the province where you are working?

## Group four: Motivation Questions

### Question 10.18:

### Difference across province

**Test Statistics<sup>a,b</sup>**

	Q10_18.To what extent do you believe that educational professionals are motivated to work collaboratively with parents in the design and implementation of behavioural interventions?
Chi-Square	47.024
df	4
Asymp. Sig.	.000

a. Kruskal Wallis Test

b. Grouping Variable:  
The province where you are working: Can you indicate the province where you are working?

Question 10.19:

*Difference across gender*

**Test Statistics<sup>a</sup>**

Q10\_19.To what extent do you believe that parents are motivated to work collaboratively with educational professionals in the design and implementation of behavioural interventions?

Mann-Whitney U	12623.000
Wilcoxon W	23063.000
Z	-2.682
Asymp. Sig. (2-tailed)	.007

a. Grouping Variable: Gender

*Difference across province*

**Test Statistics<sup>a,b</sup>**

Q10\_19.To what extent do you believe that parents are motivated to work collaboratively with educational professionals in the design and implementation of behavioural interventions?

Chi-Square	51.224
df	4
Asymp. Sig.	.000

a. Kruskal Wallis Test  
b. Grouping Variable: The province where you are working: Can you indicate the province where you are working?

Group five: Individual questions

Question 11

*Difference across gender*

**Test Statistics<sup>a</sup>**

Q11\_1. Overall, how satisfied are you with parents and professional' collaborating in planning, designing and implementing behavioural interventions?

Mann-Whitney U	12284.500
Wilcoxon W	22724.500
Z	-3.118
Asymp. Sig. (2-tailed)	.002

a. Grouping Variable: Gender

*Difference across role*

**Test Statistics<sup>a,b</sup>**

Q11\_1. Overall, how satisfied are you with parents and professional' collaborating in planning, designing and implementing behavioural interventions?

Chi-Square	37.383
df	6
Asymp. Sig.	.000

a. Kruskal Wallis Test  
b. Grouping Variable: Role: what is your current role?

*Difference across province*

**Test Statistics<sup>a,b</sup>**

Q11\_1.  
Overall, how satisfied are you with parents and professional collaborating in planning, designing and implementing behavioural interventions?

Chi-Square	55.266
df	4
Asymp. Sig.	.000

a. Kruskal Wallis Test

b. Grouping Variable:  
The province where you are working: Can you indicate the province where you are working?

*Difference across the type of institution*

**Test Statistics<sup>a,b</sup>**

Q11\_1.  
Overall, how satisfied are you with parents and professional collaborating in planning, designing and implementing behavioural interventions?

Chi-Square	30.263
df	6
Asymp. Sig.	.000

a. Kruskal Wallis Test

b. Grouping Variable:  
Type of institution: in what type of educational institution are you working?

Question 13

*Difference across gender*

**Test Statistics<sup>a</sup>**

Q13\_1.  
Overall, to what extent do you agree that parents should be involved in specific stages of interventions (e.g. developing goals) but not in all stages?

Mann-Whitney U	10360.500
Wilcoxon W	20800.500
Z	-5.086
Asymp. Sig. (2-tailed)	.000

a. Grouping Variable: Gender

*Difference based on age group*

**Test Statistics<sup>a,b</sup>**

Q13\_1.  
Overall, to what extent do you agree that parents should be involved in specific stages of interventions (e.g. developing goals) but not in all stages?

Chi-Square	47.784
df	2
Asymp. Sig.	.000

a. Kruskal Wallis Test

b. Grouping Variable:  
Age categories

*Difference based on the level of education*

**Test Statistics<sup>a,b</sup>**

Q13\_1.  
Overall, to what extent do you agree that parents should be involved in specific stages of interventions (e.g. developing goals) but not in all stages?

Chi-Square	12.675
df	4
Asymp. Sig.	.013

a. Kruskal Wallis Test

b. Grouping Variable:  
Level of education:  
what is your highest qualification?

*Difference across subject area*

**Test Statistics<sup>a,b</sup>**

Q13\_1.  
Overall, to what extent do you agree that parents should be involved in specific stages of interventions (e.g. developing goals) but not in all stages?

Chi-Square	43.119
df	8
Asymp. Sig.	.000

a. Kruskal Wallis Test

b. Grouping Variable:  
Subject area: what is the subject area of your highest qualification?

*Difference across role*

**Test Statistics<sup>a,b</sup>**

Q13\_1.  
Overall, to what extent do you agree that parents should be involved in specific stages of interventions (e.g. developing goals) but not in all stages?

Chi-Square	53.205
df	6
Asymp. Sig.	.000

a. Kruskal Wallis Test

b. Grouping Variable:  
Role: what is your current role?

*Difference across experience*

**Test Statistics<sup>a,b</sup>**

Q13\_1.  
Overall, to what extent do you agree that parents should be involved in specific stages of interventions (e.g. developing goals) but not in all stages?

Chi-Square	11.182
df	4
Asymp. Sig.	.025

a. Kruskal Wallis Test

b. Grouping Variable:  
Your experience: how long have you been working in this role?

*Difference across province*

**Test Statistics<sup>a,b</sup>**

Q13\_1.  
Overall, to what extent do you agree that parents should be involved in specific stages of interventions (e.g. developing goals) but not in all stages?

Chi-Square	100.370
df	4
Asymp. Sig.	.000

a. Kruskal Wallis Test

b. Grouping Variable:  
The province where you are working: Can you indicate the province where you are working?

*Difference by the type of institution*

**Test Statistics<sup>a,b</sup>**

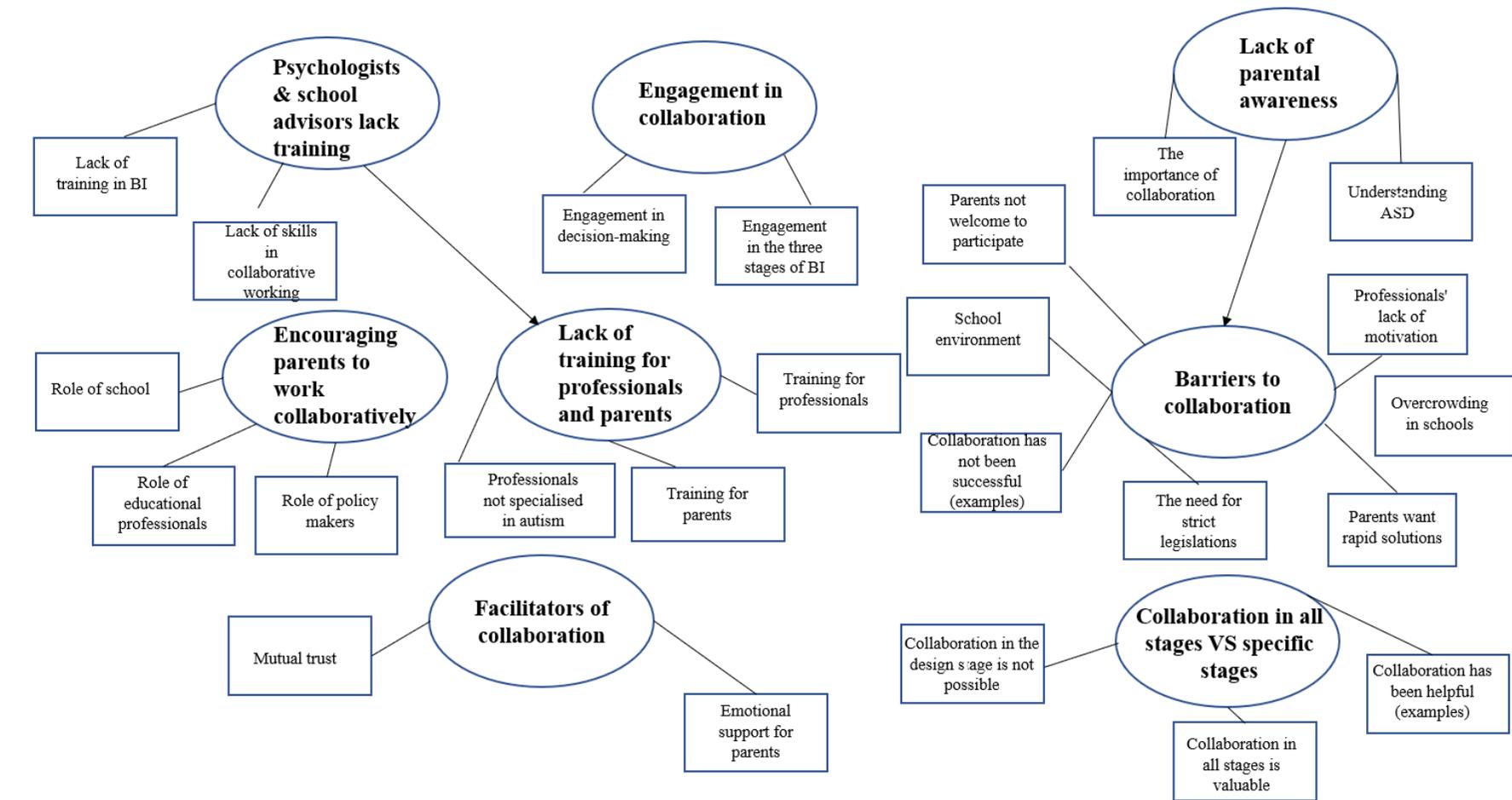
Q13\_1.  
Overall, to what extent do you agree that parents should be involved in specific stages of interventions (e.g. developing goals) but not in all stages?

Chi-Square	58.999
df	6
Asymp. Sig.	.000

a. Kruskal Wallis Test

b. Grouping Variable:  
Type of institution: in what type of educational institution are you working?

**C.2:** A primary thematic map for the eight initial themes identified at the screening phase



### C.3: Audit trial of the steps undertaken to conduct the thematic analysis

**Phase one:** Familiarity with the data (reading, re-reading relevant texts in different colours, and searching for codes)

<p><b>Interview questions</b></p> <p>1- What are your experiences of being involved in planning, designing and implementing behavioural interventions (BI) for children with autism spectrum disorder (ASD)?</p> <p><b>Interviewee:</b> Unfortunately, parents are not involved in the planning, designing or implementing of behavioural interventions. There is a lack of well-trained educational professionals in the field of autism. Our experiences of being involved as parents in BI is very limited.</p> <p><b>Interviewer:</b> Can you elaborate more on this; are you being involved in the three stages or not?</p> <p><b>Interviewee:</b> What is happening in practice is that professionals make a plan for BI and they send it to me to sign. Since I do not have training in BI, I always accept the plan as it is, but I am unhappy with this as I want to participate in the whole process of BI. As I told you, we always accept the plan as it is.</p> <p><b>Interviewer:</b> What I understand from your words is that, as a parent, you do not suggest any changes to the plan and you do not make any contribution to it. What are the reasons behind this?</p> <p><b>Interviewee:</b> This is true, simply because professionals do not accept any recommendations or suggestions from you in relation to the BI. If we discuss with them about some aspects of the intervention, they usually tell us that we are not specialists. They tell us that they have, as specialists, a better understanding of behavioural strategies and what BI should be implemented. Due to this, we feel that we are not competent enough to participate in the interventions, which has led us to feel isolated from the school and not motivated towards collaborative working.</p>	<p> <b>Mohammed Buobaid (PGR)</b> Parents are not involved in BI (not involved in any stage)</p> <p> <b>Mohammed Buobaid (PGR)</b> Unhappy with his lack of knowledge and training in BI</p> <p> <b>Mohammed Buobaid (PGR)</b> Educational professionals have the belief that they are the best able to plan design and implement these interventions (they treat parents as not experts in behavioural interventions)</p>
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**Phase two:** involves two steps;

**A: Generating initial codes:** the coded texts from phase one were copied from the transcripts and pasted into a table which had two columns: codes and coded text (where the extracts came from); overlapping (interrelated) codes were highlighted with the same colour to ease the generation of themes.

Coded Extracts (where extracts came from)	Codes
<i>Interview 1 (teacher- HA)</i>	
My job as a teacher is to only teach children and observe them in class and raise any behavioural concerns to the educational psychologist. (HA, Q2)	Teachers are not actively involved in the three stages of BI.
... But many schools may not have educational psychologists and as a result they may depend on students' counsellors to plan, design and implement BI (although- from my point of view- student counsellors are not capable to perform this job because they are not well-trained in ASD and BI (HA, Q2)	- students' counsellors in mainstream schools (not well trained to work with ASD and their families)
There is a lack of involvement for parents in the decision-making processes related BI. Educational psychologists do not always invite parents to participate in the different stages of BI (HA, Q2)	A very little involvement for parents in the decision-making process or other stages of BI.
The problem is that most of schools do not have highly trained educational psychologists who are able to plan and deliver effective BI for children with ASD... (HA, Q2)	Training needed in BI for Educational psychologists

**B: Generating a code book:** codes were generated based on quotes highlighted in the transcripts.

Codes	Participant code
-A very limited involvement for parents in the decision-making process or in the process of BI.	FZ
Psychologists alone make decisions about BI (parents never participate in the decision-making process)	MA
Teachers are the decision makers; family do not usually participate in the process.	AA
-No engagement between both parties (for some reasons)	HB
No engagement between the two parties. -Parents and professionals work in isolation	HA
Teachers is working alone in BI without involving parents	BF
Lack of engagement: -lack of multidisciplinary team (barrier to collaboration)	AD
-Schools usually plan and design BI, and we sometimes participate in the implementation stage	NA
- Parents do not participate in the decision-making in any way! (parents want to be involved in decision making process).	BF
-No engagement between the two parties. -Schools and educational professionals do not encourage parents to collaborate with them	NA
-Parents do not usually participate in the design stage	SH
-Decisions are always taken by schools (we have no role as parents) -we want to collaborate in the decision-making process	HB
-Educational professionals do not allow parents to participate in BI (other than the implementation stage)	AA
-No participation in the decision making for parents (they usually receive commands from professionals) -Parents wants to participate in decision-making for their children	SZ
-Professionals consider themselves as experts, and consider parents not trained in BI	SH

*Phase three: Searching for themes:* primary themes were generated for each group of codes

<b>Theme 1: Engagement in collaborative working</b>	
-Engagement in the decision-making process -Engagement in the three stages (planning, design, and implementation)	
Codes	Participant code
-A very limited involvement for parents in the decision-making process or in the process of BI	FZ
Psychologists alone make decisions about BI (parents never participate in the decision-making process)	MA
Teachers are the decision makers; family do not usually participate in the process.	AA
-No engagement between both parties (for some reasons)	HB
No engagement between the two parties -Parents and professionals work in isolation	HA
Teachers is working alone in BI without involving parents	BF
Lack of engagement: -lack of multidisciplinary team (barrier to collaboration)	AD
-Schools usually plan and design BI, and we sometimes participate in the implementation stage	NA
- Parents do not participate in the decision-making in any way. (parents want to be involved in decision making process)	BF
-No engagement between the two parties. -Schools and educational professionals do not encourage parents to collaborate with them	NA
-Parents do not usually participate in the design stage	SH
-Decisions are always taken by schools (we have no role as parents) -we want to collaborate in the decision-making process	HB
-Educational professionals do not allow parents to participate in BI (other than the implementation stage)	AA
-No participation in the decision making for parents (they usually receive commands from professionals) -Parents wants to participate in decision-making for their children	SZ
-Professionals consider themselves as experts, and consider parents not trained in BI	SH

## C.4: A coded and translated parent transcript

### Interview 5

#### General (opining) questions

-Background questions: can you tell me a bit about yourself?

Participant code: BF

Your age :39 years (Father)

Job: Lecturer

Type of school: private school

level of education: Bachelor.

Number and age of children: 3 girls (Autistic: girl, 7 years old)

#### Interview questions

1- -What are your experiences of being involved in planning, designing and implementing BI??

Interviewee: Unfortunately, parents are not involved in the planning, designing or implementing of behavioural interventions. There is a lack of well-trained educational professionals in the field of autism. Our experiences of being involved as parents in BI is very limited.

Interviewer: Can you elaborate more on this; are you being involved in the three stages or not?

Interviewee: What is happening in practice is that professionals make a plan for BI and they send it to me to sign. Since I do not have training in BI, I always accept the plan as it is, but I am unhappy with this as I want to participate in the whole process of BI. As I told you, we always accept the plan as it is.

Interviewer: What I understand from your words is that, as a parent, you do not suggest any changes to the plan and you do not make any contribution to it. What are the reasons behind this?

Interviewee: This is true, simply because professionals do not accept any recommendations or suggestions from you in relation to the BI. If we discuss with them about some aspects of the intervention, they usually tell us that we are not specialists. They tell us that they have, as specialists, a better understanding of behavioural strategies and what BI should be implemented. Due to this, we feel that we are not competent enough to participate in the interventions, which has led us to feel isolated from the school and not motivated towards collaborative working.

MB Mohammed Buobaid (PGR)  
Parents are not involved in BI (not involved in any stage)

MB Mohammed Buobaid (PGR)  
Unhappy with his lack of knowledge and training in BI

MB Mohammed Buobaid (PGR)  
Educational professionals have the belief that they are the best able to plan design and implement these interventions (they treat parents as not experts in behavioural interventions)

**2- Do educational professionals and parents work in collaboration in the decision-making related to BI for children with ASD?**

**Interviewee:** As I told you earlier, the school does not involve us in the decision-making process and do not want this to happen. This is a major reason for our frustration as a family, because we want to participate in the whole process of BI (from the decision-making to implementation) in order to actively participate in our child's behaviour.

**MB** **Mohammed Buobaid (PGR)**  
Parents are not involved in decision making process

**Interviewer:** *What I understand from your words is that you do not participate in the decision-making process. Are there any encouraging ways to make a decision collaboratively?*

**Interviewee:** Yes, you are right. I believe that educational professionals should explain to us the behavioural problems that the child with autism has and they should give us intense training in BI. Such training can help us to participate in these programs. Although the centre in which our child is enrolled is considered to be one of the most specialised centres in our area, it does not provide high quality services! I was not able to find a better place than this centre.

**MB** **Mohammed Buobaid (PGR)**  
Parents need training in BI  
Improvement in the services of ASD centres are required

**Interviewer:** *Are there any special arrangements or resources which enable professionals and parents to engage in collaborative working?*

**Interviewee:** Unfortunately, meetings between parents and educational professionals are very limited. Where these meetings happen, they are ineffective and unproductive. I feel that parents' attendance at the meetings available is not beneficial because parents do not play an important role in the procedures and the decision-making related to the interventions. The child only spends some time in school, and we observe only a limited improvement in the child's behaviour, as well as experience a lack of involvement for us as parents in her BI.

**MB** **Mohammed Buobaid (PGR)**  
-There is a lack of professional-parent meetings  
  
-Parents do not want to attend the meetings with professionals (because they are not involved in the whole process of BI)

**3- What do you consider to be the key factors which facilitate professional-parent collaboration in BI?**

**Interviewee:** Professionals should have a good level of knowledge related to ASD and value collaboration with parents in their child's BI programme. In fact, educational professionals have a limited understanding of ASD. What educational professionals have is the theoretical knowledge of BI, but they lack practical training in these interventions.

**MB** **Mohammed Buobaid (PGR)**  
Training for professionals

Parents should also be able to understand different dimensions of their child's social and emotional behaviour and have appropriate knowledge of BI programmes and how to participate with professionals in these interventions. This can play a role in facilitating successful professional-parent collaborative working.

**MB** **Mohammed Buobaid (PGR)**  
Training in BI is required for parents

4- What factors might be barriers to professional-parent collaboration in BI?

Interviewee: I think that the school has limited arrangements for meetings and workshops aimed at improving parents' understanding of ASD and providing theoretical and practical knowledge related to BI. ADS schools and centres need to raise parents' knowledge of their child's condition, as well as support them emotionally. Doing so would encourage them to engage more in a collaborative relationship with educational professionals.

Another point is that the teacher works alone with five to seven autistic students in the class, which is, in my opinion, a huge burden on her. The educational professional needs to build individualised educational plans, implement BI, arrange self-care programs, prepare play activities, and ensure some children follow strict diets. I consider the teacher-student ratio as an obstacle to professional-parent collaboration.

Interviewer: Some interviewees indicated that the bureaucracy of laws related to not allowing the father to enter and participate with their child in female schools may impede collaboration. Do you agree?/

Interviewee: Yes, I completely agree with this. I believe that the father and mother should complement each other. In other words, BI should be planned, designed and implemented with the collaboration of both parents, not only the mother.

5- Can you tell me what you think are the main features of good professional practice in collaborative working with parents in BI?

Interviewee: The most important professional practice that professionals should be aware of is understanding that their work is humanitarian in nature. Therefore, professionals should do their best when working with children to improve the children and support their families. Some professionals do not have the motivation to work with children with AS and their families. Working with them is seen by many professionals as only a job, a source of income and livelihood.

6- How do you evaluate the readiness of parents and educational professionals to collaborate in BI?

Interviewee: Professionals I have worked with have had limited readiness to collaborate with parents in BI. They have also lacked knowledge and skills in BI. Some professionals rely on what they have studied during their preparation programmes at university and apply it simply on children with autism.

Interviewer: What about parents?

Interviewee: Some parents have a limited understanding of their child's condition in terms of their needs and characteristics, and so some of them may find it hard to deal with their child's behaviour and fulfil their needs.

MB Mohammed Buobaid (PGR)  
A lack of school arrangements for collaborative working, workshops and training for parents (barriers to collaborative working)

MB Mohammed Buobaid (PGR)  
Emotional support for parents (facilitator to collaboration)

MB Mohammed Buobaid (PGR)  
-high workloads for teachers  
High teacher-student ratio

MB Mohammed Buobaid (PGR)  
Both parents (mother and father) should collaborate with professionals

MB Mohammed Buobaid (PGR)  
Professionals should support children and families  
Professionals lack of motivation to collaborate with parents (barrier to collaborative working)

MB Mohammed Buobaid (PGR)  
- EPs need to acquire skills and to be trained in behavioural interventions

MB Mohammed Buobaid (PGR)  
-parents have limited understandings about autism condition

*Interviewer: What do you think are the reasons behind the lack of understanding of ASD among parents?*

**Interviewee:** One contributing factor is the lack of awareness about this disorder in the society, as a whole. As a family, we feel that society has a lack of knowledge about this disorder and little idea about these children's characteristics and how to communicate with them. Some parents do not even understand what BI, occupational therapy or adaptive behaviour are. We sometimes try to increase our knowledge of our child's condition, but very few lectures or workshops related to this are provided for us.

The child's mother and I joined a workshop about ABA therapy ... The mother then visited the school to talk with the staff about the possibility of using this therapy with our autistic girl. We were told that professionals are the only ones who can determine the most suitable BI for the child. If we want to collaborate, they always put us off! We always get the impression that they bothered by our questions and participation even though they are supposed to welcome our collaboration and participation with them in relation to our child's BI programmes.

**7A- Do you think that educational professionals have the necessary skills and training to work in collaboration in BI?**

**Interviewee:** I do not think so. Professionals need ongoing training in order to plan and implement successful BI for children with ASD and to effectively work with their parents in a professional way.

*Interviewer: What kind of training do you think that educational professionals need?*

**Interviewee:** I believe that professionals should join training courses that develop their collaboration skills and knowledge in BI. They should be trained in how to work collaboratively with parents throughout BI. Working collaboratively requires particular skills, such as an acceptance of parents decision-making, and communicative skills. In addition, they need information and knowledge about BI programmes.

**7B-: Do you think that parents have the necessary skills and training to work in collaboration in BI?**

**Interviewee:** Regarding parents, I think they are very in need of training in BI and to join workshops to teach them how to work collaboratively in these interventions. As I indicted previously, working collaboratively with educational professionals requires particular skills and knowledge in order to facilitate working in collaboration.

*Interviewer: What type of training and skills do you think parents need to work in collaboration in these interventions?*

**MB** **Mohammed Buobaid (PGR)**  
-parents do not have awareness about autism condition, lack of awareness about the importance of collaboration in BI

**MB** **Mohammed Buobaid (PGR)**  
Example (unsuccessful collaborative working

**MB** **Mohammed Buobaid (PGR)**  
- EPs need to acquire skills related to Collaborative work and to be trained in BI

**MB** **Mohammed Buobaid (PGR)**  
- EPs need to acquire skills related to Collaborative work and to be trained in BI

**MB** **Mohammed Buobaid (PGR)**  
As parents are not trained in BI and have limited collaborative skills (Barriers for the lack of collaboration

**Interviewee:** We want to attend courses related to BI and how to deal with our children and solve their behavioural problems. We also want courses in interpersonal and shared decision-making skills. These, in my opinion, are important skills in order to enable us to engage in collaborative working. Unfortunately, there are very limited training opportunities provided for us related to both collaboration working and BI. We are not able to participate in our child's interventions due to this.

**MB** **Mohammed Buobaid (PGR)**  
parents are not trained in BI or skills related to collaboration (barriers to collaboration)

**1- Do you think parents and professionals should collaborate at all stages of BI (planning, design and implementation) for children with ASD?**

**Interviewee:** Planning and implementation are the stages where our collaboration is necessary. In the planning stage, parents should be involved in identifying and defining behavioural problems and specifying the broad goals and limits of the BI. Similarly, implementation without parental collaboration is unrealistic and may cause confusion for the child. We should participate in the implementation of BI with professionals because the success of these interventions requires implementing BI in all environments where the child with autism lives.

**MB** **Mohammed Buobaid (PGR)**  
Parents should only participate in the planning and implementation

*Interviewer: What about the design stage? Do you think that parents should participate in it?*

**Interviewee:** I view designing BI as the work of the educational professional, not the parents. But this does not mean that parents should not be involved at all in this stage. Of course, professionals should show and discuss with parents the designed BI in order to facilitate working collaboratively with them.

**MB** **Mohammed Buobaid (PGR)**  
It is not necessarily that parents collaborate with professionals in the design stage

**2- How motivated are parents and educational professionals to work collaboratively in the three stages of BI?**

**Interviewee:** I think that parents have the inner motivation to work collaboratively but they lack training and knowledge in these interventions.

**MB** **Mohammed Buobaid (PGR)**  
parents have the motivation to work in collaboration

*Interviewer: What about educational professionals? Do they have the motivation to engage in professional-parent collaboration?*

**Interviewee:** To be honest with you, professionals have limited motivation to work in collaboration. Teaching autistic children is often seen as a functional job that is completed at the end of one's working hours. There is no inner motivation for professionals to work in collaboration with parents.

**MB** **Mohammed Buobaid (PGR)**  
Professionals have a limited motivation to work in collaboration with parents

**3- Are parents and educational professionals engaged in collaborative working in BI?**

**Interviewee:** Unfortunately, there is no active collaboration between the two parties. As parents, we are frustrated because of the very limited opportunities for meaningful engagement in a collaborative relationship and this is what is happening in practice.

**MB** **Mohammed Buobaid (PGR)**  
A limited engagement for parents in collaborative working

4- How important do you consider professional-parent collaboration to be in the success of BI?

**Interviewee:** Collaboration is important for the success of the child's BI. I believe that working in a collaborate manner can play a part in improving positive behavioural outcomes for children with ASD. However, professionals do not always encourage us to collaborate with them because they see themselves as the ones with the most experience in these interventions.

MB Mohammed Buobaid (PGR)  
Barriers to collaborative working

**Interviewer:** Can you provide further reasons for why professionals do not always collaborate with parents?

**Interviewee:** It is because schools, especially private ones, accept many autistic students in the school and because of that they cannot provide services of a high standard. The goal is primarily to gain increased profit but not to provide high quality educational services for children with ASD. For example, in the centre where my daughter is taught, they have 65 students and each class comprises 7-8 pupils. This teacher-pupil ratio is very high and this is what is present in our schools.

MB Mohammed Buobaid (PGR)  
high workloads (e.g. high teacher-pupil ratio) for professionals (hinder collaboration)

5A- In your experience, can you give examples of where you believe that professional-parent collaboration has been helpful in BI with children with ASD?

**Interviewee:** As I told you earlier, there is no active collaboration between the two parties and due to this I do not have anything to say about experience of successful collaboration.

MB Mohammed Buobaid (PGR)  
unsatisfaction about professional-parent collaboration

5B- In your experience, can you give examples where you believe that professional-parent collaboration has not been helpful in BI with children with ASD?

**Interviewee:** I will talk about a previous experience related to the failure of collaborative working with professionals. Many times we have asked the educational professionals to design an intervention to deal with the problems that my daughter experiences and we have offered our collaboration in this. However, my daughter is still experiencing many problems, such as taking her clothes off in public places and eating things that are not suitable for human consumption. I tried many times to solicit collaboration with professionals, but they did not pay any attention and did not fulfil our need to solve these problems.

MB Mohammed Buobaid (PGR)  
Collaboration has not been successful