Title: "I can do this… if you do this…": Parent Coaching with Fathers of Autistic Children

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A thesis submitted to the Department of Educational Psychology, Inclusive and Special Education, Mary Immaculate College, in partial fulfilment of the requirements for the Degree of Professional Doctorate in Educational and Child Psychology (DECPsy)

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Abstract

Background and aims: Early intervention (EI) from as early as 2 years has been shown to have positive long-term outcomes for autistic children and their families. The involvement of caregivers in EI is seen as critical and is in line with family-centred practice (FCP). Successful parent-mediated interventions have utilised parent-coaching as an instructional approach to optimise adult learning. At present, there appears to be a lack of parent-mediated interventions which actively include fathers. This research aimed to evaluate the use of a parent-coaching intervention with fathers of autistic children to overcome this gap.

Sample: Two father-child dyads were recruited via convenience sampling. Both children were autistic and aged 4 years.

Method: Intervention goals were derived from the Social Communication Emotional Regulation Transactional Supports (SCERTS; Prizant et al., 2006) framework. Through this framework goals are framed from the child's perspective, e.g., "I can enhance my social communication by communicating for many different reasons when my communication partners model a variety of different communication functions". This framework inspired the title of this thesis: "I [the child] can do this, when you [the fathers in this study] do this". A single-subject multiple baseline design (MBD) was used to evaluate the effects of a parent-coaching intervention on fathers' implementation of target goals. Pre- and post-intervention measures of autism-specific parental self-efficacy were also employed, while qualitative feedback was obtained post-intervention.

Results: Both fathers demonstrated positive improvements in their fidelity across all 3 goals, which were maintained at follow-up. Overall, both fathers were satisfied with the intervention and reported positive improvements in their interactions with their children. In addition, both fathers reported small improvements in parental self-efficacy.

Conclusion: Overall, the findings of this study support the use of parent-coaching as an effective instructional approach with fathers of autistic children. However, future research is warranted in the area before firm conclusions can be drawn.

Declaration

I hereby declare that this thesis is entirely my work and has not been submitted for any other awards at this or any other academic establishment. The findings of the systematic review in Chapter 2 were published on the 28th March 2025 by Ciara Donohue and Dr. Fionnuala Tynan in the *Journal of Autism and Developmental Disorders* (Donohue & Tynan, 2025). The published article can be accessed online through the following link: https://rdcu.be/ehhmf. Chapter 2 is largely based on the accepted manuscript, although adaptations were made as necessary in line with the requirements of this thesis. A licence to reproduce and adapt the accepted manuscript was provided by the publishers under the Creative Commons licence: http://creativecommons.org/licenses/by/4.0/. A copy of the publishing agreement can be found in Appendix 1. Where use has been made of the work of other people, it has been fully acknowledged and referenced.

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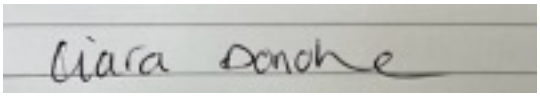
Signed: 

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Firstly, I would like to thank the two amazing families who participated in my research. Thank you for letting me into your homes; without you, this research would not have been possible. It was a pleasure working with all of you.

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Acronyms and Abbreviations

ABA	Applied Behaviour Analysis
AIM	Access and Inclusion Model
ASD	Autism Spectrum Disorder
CDNT	Children's Disability Network Team
DE	Department of Education
DSM	Diagnostic and Statistical Manual of Mental Disorders
ECCE	Early Childhood Care and Education
EI	Early Intervention
HSE	Health Service Executive
IFSP	Individual Family Service Plan
NCSE	National Council for Special Education
NDBI	Naturalistic Developmental Behavioural Intervention
OT	Occupational Therapy
PDS	Progressing Disability Services
PND	Percentage of Non-overlapping Data
PPCT	Process, Person, Context, Time model.
SCERTS	Social Communication, Emotional Regulation, Transactional Supports model.
SLT	Speech and Language Therapy
SNA	Special Needs Assistant
WHO	World Health Organisation
WoE	Weight of Evidence

1 Introduction

1.1 Chapter Introduction

This chapter introduces the rationale for the chosen research topic on parent coaching for autistic children, as well as the researcher's positionality. An overview of key literature and terms will be provided for context. The chapter also outlines the structure of the research paper and the overall thesis.

1.2 Thesis Rationale and Positionality

My interest in working with children with neurodevelopmental differences emerged while completing my master's degree in Applied Behaviour Analysis (ABA), where I completed placements in different clinical settings. This included an early-intervention service for autistic children, where I worked for five years after finishing my ABA degree. During this time, I developed an understanding of this critical stage of child development. I witnessed firsthand many children grow, learn and thrive in an environment that supported them. The children's parents were always central to this. Through effective support and collaboration, I believe the family system can be equipped with the knowledge and tools to be the key agents in supporting their child's experiences of the world.

Now, as a Trainee Educational and Child Psychologist, the need for effective parent support and collaboration is more evident than ever. Before commencing the Doctorate, I advocated for families to seek more direct support from trained clinicians and, upon reflection, I may have tended to problem-solve for the families instead of supporting their problem-solving skills. While I still value the role of qualified professionals in providing direct support, my view of true family-centred practice has evolved. This shift in viewing the parent as the expert instead of the clinician must be backed up by adequate support and guidance. I have tried to incorporate this into my work. In designing goals, I have had to be aware that those

important to the family may differ from mine as a practitioner and that each family will have distinct goals individual to their own values, experiences and family life. In addition, my practice has shifted significantly over the years in line with the research that is now available around the lived autistic experience. In an ever-evolving field, I have always tried to respect individual differences and preferences in line with a neuro-affirmative approach. I fully support the move away from the medical model, where characteristics associated with autism may have been viewed as something that needs to be fixed. Nevertheless, educating families about developmental differences and how the environment can be made more supportive of each child's needs has always been central to my work. My beliefs align most closely with a biopsychosocial model of autism (Engel, 1979), which is important to acknowledge as it is central to the development of this research.

Consistent with a neuro-affirmative approach, identity-first language (e.g., autistic person) will be used throughout this thesis. According to many autistic self-advocates and Ireland's autistic charity, AsIAm (n.d.), many autistic individuals prefer to use identity-first language, with autism being a central part of their identity; identity-first language reflects this. However, preferences can vary among the community, and it is always important to ask autistic individuals about their preferences. Many autistic individuals (e.g. Adam Harris, founder and CEO of AsIAm) also prefer to spell autism with a capital 'A' (i.e., Autistic person) to reflect that they do not just see their autism as a neurodevelopmental difference or disability. It also represents their inclusion within the autistic community. They view this as distinct from the wider autistic community, which includes professionals. For this reason, a lower-case 'a' is typically used within academic writing (i.e. autism or autistic person) and will therefore be used throughout this thesis.

Lastly, through my experience, I have noticed a trend in mothers/female caregivers attending training and being my first point of contact. Being female, I should acknowledge that

perhaps I showed a preference for working with female caregivers. Nevertheless, on commencing my disability placement, I also noticed a similar trend. I would like to address this gap and any potential biases that may exist in a field which is dominated by females. To do this, I realised I must set aside any potential beliefs and assumptions I may have about paternal parenting styles to understand the needs of male caregivers. It is these experiences, beliefs and attitudes that inspired me to conduct the current research.

1.3 Overview of Autism

Autism Spectrum Disorder (ASD; hereafter referred to as autism) is classified as a neurodevelopmental condition in the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5-TR, American Psychiatric Association, 2022). Diagnostic criteria set out in the DSM-5 are characterised according to two main domains: differences in social communication and interaction and the presence of specific and/or intense behaviours and/or interests (APA, 2022). In addition, such characteristics must have been present in the early developmental period and must not be better explained by intellectual disability or global developmental delay (APA, 2022). Other associated characteristics of autism include hypo- and hyper-sensitivities to various environmental stimuli, differences in executive functioning, and difficulties with sleep and emotional regulation (Blijd-Hoogewys et al., 2014; Peterson et al., 2015; Stepanova et al., 2017). The presence and intensity of such characteristics vary from one individual to another. Autism can, therefore, be considered a highly heterogeneous neurodevelopmental condition, exhibiting substantial variation in observed and reported characteristics and experiences.

The prevalence of autism appears to be increasing significantly worldwide (Elsabbagh et al., 2012; Kim et al., 2011; Kogan et al., 2018; Zeidan et al., 2022). The World Health Organisation (WHO, 2023) reported the prevalence to be 1 in 100 for children, while in Ireland,

the National Council for Special Education (NCSE, 2024) noted a rise in prevalence rates from 1.55% in 2018 to 3.38% in 2022 among children. Some authors suggest that the increased prevalence may stem from the more widespread use of early diagnostic and screening tools (Rice et al., 2012). Additionally, changes to the diagnostic criteria outlined in the DSM have impacted autism diagnoses. For instance, the shift in diagnostic criteria from DSM-IV (American Psychiatric Association, 1994) to DSM-V (American Psychiatric Association, 2013) saw the criteria transition from a triad of impairments to a dyad of impairments. While some authors argue that the loosening of criteria has led to the overdiagnosis of autism (O'Sullivan, 2025), the increasing prevalence rates likely reflect enhanced societal recognition and understanding of autism across the full spectrum of experience (Russell et al., 2022; Underwood et al., 2022). While it has been acknowledged that the identification of autistic girls can often be overlooked, the male-to-female ratio has been estimated to be 3:1 (Lockwood Estrin et al., 2021; Loomes et al., 2017).

Historically, autism was viewed through a medical model of disability that tended to focus on challenges rather than strengths (Anderson-Chavarria, 2022). In this model, traits associated with autism needed to be "treated" or rendered less evident (Waddington et al., 2024). However, autism is now increasingly regarded as another way of being or experiencing the world (Schuck et al., 2022). The term neurodiversity is used to characterise the diversity of human experience, such as autism, Attention Deficit Hyperactivity Disorder (ADHD), dyslexia, and dyspraxia (Hartman et al., 2023). Individuals who meet developmental milestones as expected are referred to as "neurotypical" and are thought to experience the world similarly to most of the population. In contrast, a person whose development differs from this classification is considered neurodivergent. Such neurological differences lead to inherent strengths and challenges unique to each individual. Therefore, individuals identified as autistic

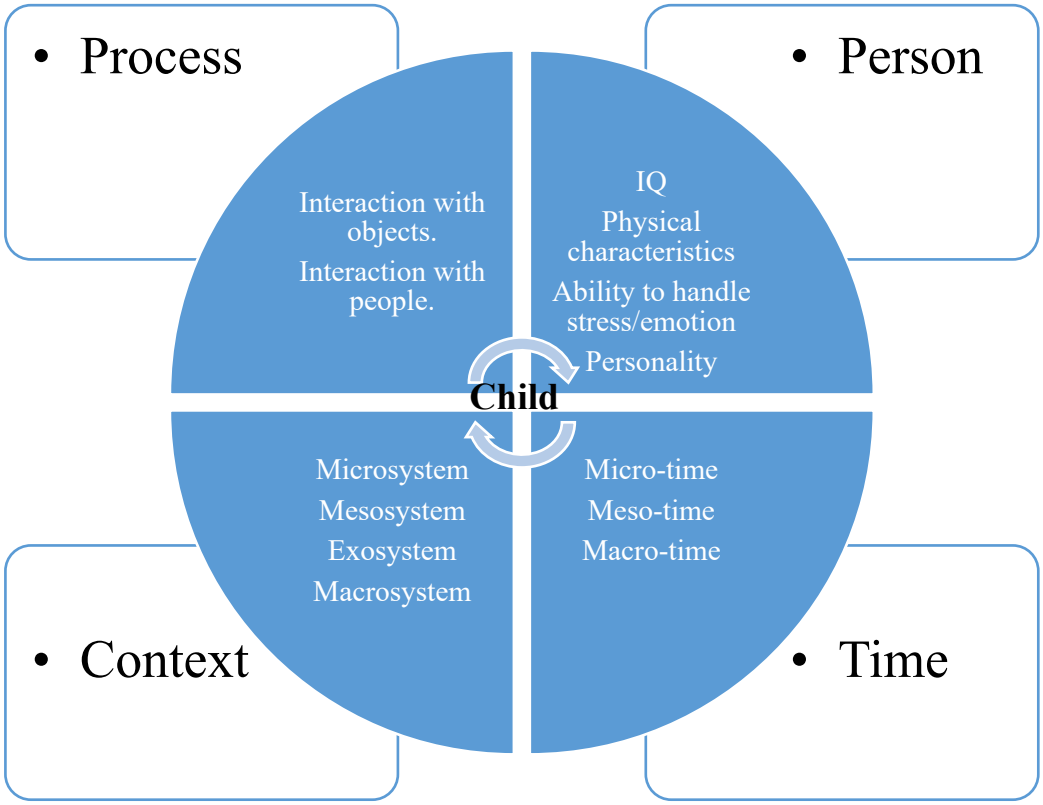
each possess their own unique set of strengths, interests and challenges that affect their learning and interaction with their environment (Bent et al., 2024).

Through the lens of neurodiversity, Chapman (2020) maintains that autism can be understood as a different way of experiencing, processing, understanding, and interacting with the world (Schuck et al., 2022). Difficulties arise when the social environment is not favourable to an individual's strengths and needs (Anderson-Chavarria, 2022). Consideration was given to adopting a neuro-affirmative approach throughout the research process, while also acknowledging and being mindful of the difficulties families may be facing as a result of an autism diagnosis.

1.4 Theoretical Framework

The current research is grounded in the most recent iteration of the seminal ecological systems theory (Bronfenbrenner, 1979): the bio-ecological systems theory (Bronfenbrenner & Morris, 2006). In 1979, Bronfenbrenner proposed a framework to conceptualise the interactions between the developing child and the environment around them (Tong & An, 2024), where a child's development is influenced by multiple levels of their environment (Jhuo & Chu, 2022; Sadownik, 2023). Bronfenbrenner described five different systems surrounding the child (micro-, meso-, exo-, macro-, and chrono-systems), each conceptualised as a "set of nested structures, each inside the next" (Bronfenbrenner, 1979, p. 3). The child is at the centre of the system and can be influenced by, as well as influence, different systems (Sadownik, 2023). However, Bronfenbrenner later revised this framework into a Process-Person-Context-Time (PPCT) model (Bronfenbrenner & Morris, 2006; Tong & An, 2024), which is presented in Figure 1. This model offers a framework to further consider the interactions among developmental processes, contextual and individual biological characteristics, and temporal aspects (Tong & An, 2024).

Figure 1*:* PPCT Model.



Note. Adapted from Tong and An (2024)

Central to the current investigation are father-child interactions; therefore, adopting a bio-ecological systems perspective was essential to explore this phenomenon in the context of the home environment. It also ensured the researcher considered the individual characteristics of each child, given the heterogeneous nature of autism. A further description of the bioecological model and its relevance to the current research project will be presented in Chapter 2.

1.5 Design, Methodology and Analysis

A pragmatic approach (Mertens, 2015) to understanding the research questions was adopted throughout this thesis. Guided by the Social Communication, Emotional Regulation,

and Transactional Supports (SCERTS) model (Prizant et al., 2006), a single-subject multiple baseline design (MBD) was employed to investigate the effects of a parent coaching intervention with fathers of young autistic children. Following comprehensive observation and consultation, individualised child and parent objectives were identified for each family. Such objectives were then targeted during the intervention phase. The effects of the intervention were assessed through visual analysis of the data and by calculating the percentage of non-overlapping pairs measure (PND, Scruggs et al., 1987). Pre and post-measures of autism-specific parental self-efficacy were also employed. Qualitative data obtained during post-intervention questionnaires were also analysed for any relevant themes or patterns.

1.6 Thesis Structure

This chapter introduced the context of the research and the researcher's positionality. Chapter 2 provides a more thorough review of key literature in EI research for autistic children. It also systematically reviews the literature on parent coaching interventions for young autistic children. The findings from the review were synthesised and guided the design of the research questions, which are presented in Chapter 3 along with the research design, methodology and results from the parent coaching intervention employed. Finally, Chapter 4 entails a critical review of the thesis and highlights potential implications for both practice and research.

2 Literature Review

2.1 Chapter Introduction

This chapter presents an overview of key literature on early intervention (EI) for autistic children, including relevant policies and practices in the Irish context. Firstly, it provides an in-depth discussion of the theoretical context in which the research is situated and defines key definitions, concepts and outlines the systematic review process. The chapter concludes with a discussion of relevant findings.

2.2 Theoretical Context

The current study adopted Bronfenbrenner and Morris's (2006) bioecological systems theory, also known as the Process-Person-Context-Time (PPCT) model of development. In contrast to their earlier work, which emphasises the importance of the context surrounding the developing child, the PPCT model focuses on the interplay between proximal processes, individual characteristics, environmental contexts, and temporal dimensions in human development (Bronfenbrenner & Morris, 2006). Bronfenbrenner criticised his earlier work for concentrating on contextual factors in isolation, resulting in a narrow view of "context without development" (Bronfenbrenner, 1986, p. 996), which often overlooked the dynamic interplay between individuals and their immediate environment (Tong & An, 2024). Therefore, through the lens of the bioecological model, autism is considered a developmental process between a person and their environment, rather than an inner condition that results in deficits (White et al., 2023). This also aligns with the researcher's stance on autism. Thus, the bioecological model provides an appropriate framework to examine the interplay between father-child interactions, individual child and father characteristics, and other environmental contexts over time. A summary of the constructs and components that make up the PPCT model can be seen in Figure 2.

Figure 2: *Components of the PPCT Model*

PPCT model constructs	Components	Meaning and features	Examples
Process	Proximal process	*Reciprocal, enduring,* and *progressively more complex* interaction between an active, evolving biopsychological human organism and the persons, objects and symbols in its immediate external environment	Playing with a child, peer activities, group play, reading, learning new skills, etc.
Person	Demand characteristics	Personal characteristics that act as an immediate stimulus to another person; may influence initial interactions due to the expectations formed immediately	Age, gender, physical appearance, etc.
	Resources characteristics	Characteristics relating to mental and emotional resources; not immediately visible but sometimes are induced from the demand characteristics	Skills, intelligence, knowledge, experiences, social and material resources (such as educational background and financial and social status of family)
	Force characteristics	Cognitive, social, emotional, and motivational factors associated with temperament and personality; "active behavioral dispositions that can set proximal processes in motion and sustain their operation" (Bronfenbrenner and Morris, 1998, p. 1009)	Temperament, motivation, persistence
Context	Microsystem	The environments that the developing person engage in activities and interactions	Home, school, dormitory, peer group, classroom, etc.
	Mesosystem	Interrelations among microsystems	The relationship between family and school
	Exosystem	The contexts in which the individual whose development is not actually situated but which have important indirect impacts on their development	The parents' workplaces
	Macrosystem	A context encompassing any group whose members share value or belief systems; it envelops and influences the former systems	Culture, subculture or social structures, etc.
Time	Micro-time	What is occurring during a specific activity or some interaction	Whether an activity continues for an extensive period time without frequent interruptions
	Meso-time	The extent to which the activities and interactions occur consistently in the developing person's environment	Whether an activity occur regularly over a period of time (daily, once a week, once a month, etc.)
	Macro-time	Historical time and the life period of the individual (i.e. chronosystem)	Historical events, the distinct features of a person's different life periods, generational differences, etc.

Note. Taken from Tong and An (2024, p. 6)

Process, Person, Context and Time are the four core properties which make up the bioecological model (Tong & An, 2024). Firstly, the *process* which encompasses *proximal processes* has been defined as the "progressively more complex reciprocal interaction between an active, evolving biopsychological human organism and the persons, objects, and symbols in its immediate external environment" (Bronfenbrenner & Morris, 1998, p. 996). Proximal processes are considered fundamental to human development and describe the processes by which the developing child interacts with people, objects and events in their most immediate environment. The importance of proximal processes are emphasised in the development of language and communication skills, which may be particularly important for autistic children, due to observed differences in social communication skills (Dow et al., 2017; Field, 2017; Fusaro et al., 2014; Sacrey et al., 2015). Typically developing children acquire such skills

during the first two years of life through naturally occurring interactions, or proximal processes, which are important in developing later skills such as vocal speech (DeQuinzio et al., 2016; Field, 2017; Hansen et al., 2018). According to Bronfenbrenner (1999), the effectiveness of proximal processes are reliant on the frequency and the complexity of the tasks. Therefore, ensuring interventions focus on meaningful and developmentally appropriate goals that will be implemented consistently over time is essential in the context of the current research.

The *Person* in the PPCT model refers to the individual characteristics of the developing person or child. Such characteristics are thought to impact proximal processes throughout the lifespan (Bronfenbrenner & Morris, 2006). Three types of person characteristics have been described, which are considered to have the greatest influence on proximal processes. These include dispositions (e.g. differences in temperament, motivation, persistence, etc.), resources (e.g., knowledge, experience, ability, skill), which are required for the effective functioning of proximal processes and demand characteristics (e.g. age, gender, physical appearance). All of these characteristics are important to consider in the design and analysis of this research.

The *Context* encompasses the various systems outlined in the earlier ecological systems theory model (Bronfenbrenner, 1979): the micro-, meso-, exo- and macrosystem. These systems are considered to be interrelated and don't operate in isolation (Sadownik, 2023). The first system, the *microsystem,* refers to the immediate context surrounding the child, including people and elements of the child's environment, such as their home, preschool, family, and peers (Sadownik, 2023). The microsystem is the smallest system in which the parent-child relationship is constructed and has a significant influence on the child's development (Jhuo & Chu, 2022). Parenting can be viewed as a dynamic reciprocal process that continually evolves and affects all parties involved (Cabrera et al., 2014). As the current research project aims to support father-child interactions, the microsystem is deemed most relevant to the present

investigation. The second layer, the *mesosystem,* is also known as the system of microsystems. It encompasses the interactions between the family system and other systems within the child's immediate environment, such as schools, playgrounds, and health services (Sadownik, 2023). Since health services are included within the mesosystem, EI services were conceptualised to be part of this layer, which is pertinent to this research project.

The third layer, the *exosystem,* refers to the larger social systems around the child that the child may not have direct contact with. For example, this might include their parents' workplace, work schedule and friendships. While the child may not have direct contact with these systems, it can still influence their development and wellbeing as it can affect parent behaviour and family relationships (Cabrera et al., 2014; Hayes et al., 2017; Sadownik, 2023). For example, working schedules can have an impact on parent availability for appointments, family time and access to resources (Cabrera et al., 2014). This was of relevance to this research project as father availability is central to the empirical paper. In addition, having friends or colleagues with a child with a neurodiverse condition, or participation in a family support group for autism, can also influence parenting behaviours and attitudes toward autism.

Family systems are also shaped by the cultural, political, economic, and geographical contexts in which they are situated (Cabrera et al., 2014). These influences constitute the fourth system, the *macrosystem.* Shifts in attitudes, beliefs, and values associated with a culture indirectly shape overall child development. In the context of the current research project, the macrosystem encompasses the policies underpinning EI services, neurodiversity and child-rearing practices. Furthermore, societal attitudes, beliefs, and values relating to paternal involvement can influence fathers' engagement in service provision. Lastly, contemporary cultural beliefs regarding the societal perception of parenting, disability and neurodiversity informed the development of goals and the framework employed.

The final component of the PPCT model is *Time.* The concept of *Time* expands on Bronfenbrenner's (1979) previous conceptualisation of the chronosystem, which is now referred to as macro-time. He further developed this system to include two additional levels: micro-time and meso-time. Micro-time refers to what is occurring during a specific activity or interaction, while meso-time pertains to the consistency of activities and interactions within the developing person's environment (Bronfenbrenner & Morris, 2006; Tong & An, 2024; Tudge et al., 2009). The purpose of the current research was to support father-child proximal processes in micro-time, with the overall goal of ensuring these processes are implemented consistently over time (meso-time). It is through all four elements of the PPCT model that the current research will be conceptualised. A table mapping the PPCT model onto elements of the current research is presented in Table 1.

Table 1: *Table Mapping the PPCT Model onto the Current Research*

PPCT Element	What It Represents	Application to the Current Research
Process	Proximal, reciprocal interactions that drive development.	• Father-child interactions. • Consistency in implementing strategies at home.
Person	Individual characteristics influencing engagement in processes.	• Father's traits (e.g., motivation, stress, beliefs about autism). • Child's traits (e.g., sensory needs, communication style).
Context	Environmental systems.	• **Microsystem**: Home environment, father-child relationship. • **Mesosystem**: Coordination with school/therapists. • **Exosystem**: Working hours, access to autism services. • **Macrosystem**: Cultural beliefs about fatherhood and autism.
Time	Temporal changes at multiple levels.	• **Micro-time**: Moment-to-moment interactions in coaching or parenting. • **Meso-time**: Weekly or monthly changes in father involvement. • **Macro-time**: Societal shifts in father roles or autism awareness over years.

2.3 Autism and Early Intervention

The value and benefits of EI for autistic children have been long documented in the literature (Corsello, 2005; French & Kennedy, 2018; Fuller & Kaiser, 2020; Landa, 2018; Pellecchia et al., 2020). A balanced view of neurodiversity acknowledges the strengths of autistic children, while also recognising the challenges that may exist, inherently or due to dynamic interaction with their environment (den Houting, 2019; Leadbitter et al., 2021). As a result, experiences among the autistic population are highly variable, and many autistic individuals require little or minimal support throughout their lives, while others require a higher level of support at different stages or throughout their lives (Pye et al., 2024). Some of the characteristics associated with being autistic can have an impact on the development of academic, social, and vocational outcomes for children, adolescents and adults for those who receive a diagnosis (Lord et al., 2022; Taylor & Mailick, 2014). Therefore, support and accommodations are essential to enable autistic individuals to meaningfully engage with their environments through understanding from others and developing key skills (Pye et al., 2024). Providing support early in life is considered crucial to supporting the wellbeing, development, and quality of life of autistic children and their families (Bent et al., 2024).

Reliable diagnosis can be made as early as 2 years, with research indicating that earlier diagnosis leads to better outcomes (Bent et al., 2024; Rogers et al., 2019; Waddington et al., 2020; Zwaigenbaum, Bauman, Stone, et al., 2015), not least because there is greater neuro-plasticity in the early stages of development (Abouzeid et al., 2020; French & Kennedy, 2018; Guralnick, 1997; Jhuo & Chu, 2022; Zwaigenbaum, 2010). In addition, ensuring adults in a child's life are aware of their needs and can adapt the environment in line with this is essential to the child's quality of life (Waddington et al., 2024). EI supports are typically provided to children from as early as 18 months up to 6 years. There is a substantial body of research documenting the benefits of EI and related outcomes (French & Kennedy, 2018; Koegel et al.,

2014; Landa, 2018; Pellecchia et al., 2020; Strain & Bovey, 2011). Such outcomes include improved parent-child engagement, social imitation, symbolic play, social communication, and increased parent understanding (Lord et al., 2022).

Intervention targets in EI vary significantly depending on the lens or model through which autism is viewed. Historically, goals may have focused on teaching neurotypical behaviours such as eye contact, functional play skills and social behaviours (Dawson et al., 2022). However, interventions that consider the individual strengths and talents associated with being autistic, as well as the individual's social and physical environment, can be classified as neuro-affirmative (Kenny et al., 2016; Leadbitter et al., 2021). Consequently, education is provided around the experiences of autistic individuals and how their skills and abilities may differ to foster a better understanding. Goals are centered around an individual's needs instead of goals that may reflect neurotypical norms or expectations (Den Houting, 2019). This has led to a strengths-based approach to interventions for autistic children and a move away from the deficit-based medical model. Proponents of the neurodiversity movement still acknowledge the need for intervention and emphasise that it must be provided respectfully, focused on teaching useful skills and improving subjective quality of life (Chapman & Bovell, 2020; den Houting, 2019; Kapp et al., 2013). Intervention goals may focus on life skills, identifying and supporting communication preferences and identifying triggers to behaviours of concern (Dawson et al., 2022; Kapp et al., 2013). According to Trembath et al. (2023), this also aligns with a biopsychosocial model of disability (Engel, 1979), where difficulties with learning and participation in different environments are attributed to factors related to the individual (e.g., body structures and functions) and the environment (e.g., lack of universal design, how supports are delivered). The need to educate those around the child, make environmental accommodations, and teach functional skills to the child are central to this model (Engel, 1979; Waddington et al., 2024). The researchers' own views on autism have changed over time. A

reflective diary was kept throughout the research process, and on the 26th of January 2025, the researcher noted:

> Throughout my doctoral training and previous work as a behaviour therapist, I have constantly reflected on the lens through which I view autism. This perspective has shifted significantly over the years, and I am delighted that the world is becoming a place where we can celebrate and embrace different neurotypes. One of the biggest aspects of my work that I have had to consider was the goals and curricula we previously used. They were largely based on typical child development and the skills that parents wanted to see their children engage in. I now evaluate all goals from the child's perspective and their functionality for them. I enjoy supporting parents in understanding neurocognitive differences rather than reducing characteristics that may be associated with autism.

In summary, EI service providers must reflect on the goals and purpose of EI and ensure that they align with a strengths-based and child-centered approach. Access to EI services in Ireland is governed by a few key policies.

2.4 Early Intervention Services in Ireland

Early childhood intervention has been defined by Guralnick (2005) as a system designed to support the family to engage in meaningful interactions with their child to support their development. Key elements to such interventions include parent-child transactions, family-orchestrated child experiences and parental support to maximise child safety. In Ireland, policy and legislative contexts determine access to EI services for autistic children and their families. In the context of the Irish health system, autism is considered a neurodevelopmental disability and, as such, support is received through child disability services.

2.4.1 Progressing Disability Services (PDS)

Introduced in 2010 by the Health Service Executive (HSE), "Progressing Disability Services (PDS) for Children and Young People" is the national programme through which children and families with underlying disabilities receive access to services (HSE, 2020; HSE & Mary Immaculate College, 2017). One of the core reasons for a shift towards PDS was to create one clear pathway for assessment and intervention for children presenting with developmental differences or delays. The reconfiguration process began in 2010 and is still ongoing in many healthcare regions.

Under PDS, there are two main pathways through which children who are identified as, or suspected of being, autistic access assessment and intervention. Firstly, PDS saw a shift in service delivery in primary care child and family services. Children who present with neurodevelopmental differences or delays and who are identified as having "non-complex" needs because of their underlying disability can access services in primary care settings. Non-complex needs arising from a disability are defined by the HSE (2023) as "one or more impairments giving rise to functional difficulties which result in mild restrictions in participation in normal daily living. It may also refer to children with moderate functional difficulties, which are likely to be mitigated by uni-disciplinary or multidisciplinary Primary Care Services supports" (HSE, 2023, pp. 12–13). Such children may require shorter blocks of intervention from disciplines such as speech and language therapy (SLT), occupational therapy (OT) or psychology.

Secondly, the reconfiguration into PDS also involved the roll-out of Children's Disability Network Teams (CDNTs), which proposed to support all children with "complex needs" arising from an underlying disability aged from 0-18 years. Complex needs arising from a disability have been defined as "one or more impairments which contribute to a range of significant functional difficulties that require the services and support of an interdisciplinary

disability team" (HSE, 2023, p. 13). Previously, many disability services were run by voluntary bodies that received funding from the state and were primarily diagnosis-led. CDNTs ensure a more equitable and standardised form of service delivery for children and their families. Some teams are split into EI (0-6 years) and School Age Teams (7-18 years), while others operate as one team from 0-18 years.

Through this model, autistic children identified as requiring access to EI services typically have "complex needs" and require support in two or more areas of their development, e.g., communication, cognition, social, emotional/behavioural needs (Carroll et al., 2013). Therefore, in the context of the current research project, EI services are typically accessed via local CDNTs, where a multidisciplinary approach to supporting the family and child is deemed to best suit the child's needs. CDNTs are typically comprised of a variety of professionals, including occupational therapists, physiotherapists, speech and language therapists, psychologists, nurses, social workers, family support workers and a team lead or children's disability network manager (CDNM). However, it must be noted that the way each team functions varies across Ireland, and not all teams are adequately staffed to cater for the needs in their area (Carroll & Sixsmith, 2016). There have been issues with the national rollout of PDS, and many service delivery issues exist, such as staffing, training and access to resources. In theory, a key worker from the team works with each family to develop an individual family support plan (IFSP). The IFSP has been described as a "dynamic, rolling plan, with continuous progress and updating of strength-based goals relevant to a child and their family" (HSE, 2020, p.3). The process of selecting goals with families should be achieved through family-centered practices, another central tenet of PDS (HSE, 2020).

2.4.2 Family-Centered Practice (FCP)

FCP is now recognised as best practice internationally when working with parents and families in early childhood intervention (Hiebert-Murphy et al., 2011; Mas et al., 2022; Moeller

et al., 2013; Movahedazarhouligh, 2021). FCP is conceptualised as a particular way of working with families according to key values and principles. In general, practitioners collaborate with the family by treating them with dignity and respect, providing sufficient information so they can make informed decisions and actively involving them in intervention and the sharing of resources (Dunst, 2002; Dunst & Espe-Sherwindt, 2016; Pereira & Seruya, 2021). FCP is centered on the belief that family members are the experts in terms of knowing what is best for the child, and as such, empowering the family to make decisions about their needs and preferences is central to FCP (Dunst & Epse-Sherwindt, 2016).

The bioecological systems theory (Bronfenbrenner & Morris, 2006; Hayes et al., 2017) underpins the development of this research project and highlights the role that families play in their child's development. The unique interaction between the child, the family, various practitioners and other aspects of different levels of the system cannot be separated, and influences FCPs. According to Dunst et al. (2007), FCPs can be classified as either relational or participatory. Relational or relationship-building practices include fundamental practitioner skills such as active and reflective listening, effective communication skills, empathy, working in a strengths-based manner, and being sensitive to cultural and personal family values and beliefs (Dunst, 2002; Dunst & Espe-Sherwindt, 2016; Mas et al., 2022). Participatory or capacity-building practices include the practitioner involving the family in key decisions, building on parents and other family members' strengths, promoting the acquisition of new skills and active parent involvement in gaining access to resources and enhancing learning opportunities for their child (Dunst, 2002; Dunst & Espe-Sherwindt, 2016; Dunst & Trivette, 2009; Mas et al., 2022).

Fundamentally, the processes by which care is delivered to young children and their families are as important to successful family and child outcomes as the interventions themselves (Espe-Sherwindt, 2008; Henneman & Cardin, 2002; McCarthy & Guerin, 2022).

In line with the bioecological model (Bronfenbrenner & Morris, 2006), considering the child in the wider contexts in which they exist drives interventions that build on relevant and meaningful resources for families. Successful parent, child and family outcomes as a result of FCP have been documented in the literature (Dempsey & Keen, 2008; Dunst et al., 2007; S. King et al., 2004; Kuhlthau et al., 2011; McCarthy & Guerin, 2022). For example, in a meta-analysis conducted by Dunst et al. (2007), results from 18 studies indicated that the use of FCP was strongly linked to parental self-efficacy beliefs, programme satisfaction, parent perceptions of child behaviour and functioning, and parenting behaviour.

2.4.3 Early Intervention Education

In Ireland, the Education for Persons with Special Educational Needs (EPSEN) Act (Government of Ireland, 2004) outlines the legislative framework for the provision of education for children with underlying disabilities aged from 4 to 18 years. The act advocates for children with additional educational needs to be educated in inclusive environments where possible. In terms of pre-school-aged children, the Access and Inclusion model (AIM, Department of Children, 2024) is available to support children with additional educational needs to access the early childhood care and education scheme (ECCE, Department of Children, 2019). Introduced in 2016, AIM offers 7 different levels of support, moving from universal to targeted strategies depending on the needs of the child and their environment. The support provided is needs-based and not dependent on a diagnosis.

Some children may also access autism-specific early years education outside of the ECCE scheme. A small number of EI classes run by the Department of Education (DE) have been established to prepare children for the transition to primary school. EI classes are typically attached to mainstream primary schools and are comprised of 1 teacher and two special needs assistants (SNAs). Up to 6 pupils with a diagnosis of autism can be enrolled at a time. In addition to this, the DE has also developed a Home Tuition Grant Scheme (Department of

Education, 2024). The purpose of this programme is to provide early educational intervention for autistic children aged from 2.5 to 4/5 years. Under the scheme, children with a diagnosis of autism aged under 3 years are entitled to 10 hours of tuition per week and children aged 3 and over are entitled to 20 hours of tuition a week. Access to the grant is provided if the child is not able to access any DE-run EI classes. Families must source a home tutor who meets the requirements set out by the DE, and tuition is provided in the child's home. Lastly, a small number of private autism-specific pre-schools have also been established. Such classes are typically funded under the Home Tuition Grant Group Scheme and operate similarly to EI classes operated under the DE. Access to the scheme is provided if the child cannot obtain a place in an EI class. However, it must be noted that due to service delivery issues with PDS and long waiting lists for autism assessments (Carroll & Sixsmith, 2016; The Irish Examiner, 2022), young children risk missing out on access to EI services and access to these specialised EI educational settings and grants.

2.5 Parent-Mediated Interventions

Best practice guidelines in EI (e.g., Division for Early Childhood, 2014; National Research Council, 2001) recommend including the caregiver in implementing intervention goals. In addition, Bronfenbrenner (1975) also noted that EI programmes that directly involve parents can potentially promote child development at any age. He noted that the earlier such support is provided, the greater the impact it may have on child outcomes. The involvement of caregivers is seen as critical as it builds parents' capacity to support their child within everyday routines and supports the generalisation of skills (Acar et al., 2021; Pacia et al., 2022). Parent-mediated interventions have also been shown to improve child communication and social outcomes, promote family satisfaction and reduce parental stress and fatigue (Estes et al., 2019; Zwaigenbaum, Bauman, Choueiri, et al., 2015). As previously highlighted, in line with FCP, the family and parents are viewed as the experts of their child and, as such, are considered the

key interventionists (Hernandez-Ruiz, 2020; Movahedazarhouligh, 2021). Interventions including parents have been referred to as parent-mediated, as the parents are the key change agents. According to this model, the parent and the professional engage in an equal partnership where decision-making and goals are shared (Division for Early Childhood, 2014).

2.6 Parent Coaching

Fundamental to parent-mediated interventions are instructional approaches that promote positive caregiver outcomes (Sone et al., 2021). The outcomes of parent-mediated interventions rely largely on the caregiver's willingness and ability to learn the skills targeted during the intervention. Different models of parent-mediated interventions have been explored, with parent-coaching amassing substantial empirical evidence in the literature (e.g., Barton & Lissman, 2015; Pacia et al., 2022; Pellecchia et al., 2020, 2022; Sone et al., 2021). Coaching has been defined as "a method of transferring skills and expertise from more experienced and knowledgeable practitioners...to less experienced ones" (Hargreaves & Dawe, 1990, p. 230). Coaching can, therefore, be considered a transactional process in which the practitioner empowers the parent to utilise strategies that foster parent-child interactions and participation within daily routines (Pellecchia et al., 2022). Additional benefits of high-quality parent coaching include improved parent responsiveness, self-efficacy (Brian et al., 2016; Noyan Erbaş et al., 2021), reduced parental stress (Weitlauf et al., 2020) and an increase in the use of strategies that support their child's communication (McDuffie et al., 2013; Moore et al., 2014; Estes et al., 2014; Siller et al., 2018). Furthermore, improvements in child communication and language skills have also been reported (Heidlage et al., 2020; Trembath et al., 2019).

Evidence suggests that coaching approaches based on adult learning theory may be the most effective (Siller et al., 2018). Adult learning theory purports that adults benefit more from using direct strategies over traditional instructional approaches (Knowles et al., 2020). In

addition, better learning outcomes are achieved when learning materials are relevant to their needs, hands-on practice is provided, and they are considered experts in their environment (Merrimam & Bierema, 2013). Such outcomes were supported in a recent systematic review conducted by Sone and colleagues (2021), in which they compared the effectiveness of coaching and traditional caregiver instruction on caregiver outcomes. The results revealed a significantly large effect for coaching compared to other models of instruction. This was also supported in a study by Trivette et al. (2009), who compared 4 different approaches to adult instruction. They showed that learning methods and practices that actively involved learners in acquiring, using and practicing skills had the most positive outcomes. Sone et al. (2021) have cited caregiver practice with support from a trained professional as an essential component of parent-coaching interventions. This real-life practice with feedback may be necessary for parents to learn how to implement targeted support for their child.

2.7 Naturalistic Developmental Behavioural Interventions (NDBIs)

Fundamental to successful EI outcomes are evidence-based interventions that promote children's early developmental skills and equip them with the skills they will need to navigate their world as they get older (Sandbank et al., 2020). Naturalistic Developmental Behavioural Interventions (NDBIs, Schreibman et al., 2015) have emerged as a group of empirically validated interventions for young autistic children. According to Schreibman et al. (2015), NDBIs incorporate behavioural and learning science principles within developmentally appropriate practices, relationships, and environments where children typically interact. Fundamental components of NDBIs include teaching in natural environments, developmentally appropriate goals that are functional and meaningful to the child, child-initiated interactions, shared control, the use of naturally occurring opportunities and contingencies, and parent collaboration during the intervention process (Schreibman et al., 2015; Yi et al., 2022). In addition, the use of coaching is a common component of NDBIs

(Hernandez Ruiz & Braden, 2021). Schuck et al. (2022) argue that NDBIs align with principles of neuro-affirmative practice due to their aforementioned characteristics and improves the quality of life of autistic children and their families.

Several intervention programmes based on NDBI components have been developed, including Pivotal Response Training (PRT, Koegel et al., 2016), the Early Start Denver Model (ESDM, Rogers & Dawson, 2020), Joint Attention, Symbolic Play, Emotional Regulation (JASPER, Kasari et al., 2021) and the Social Communication Emotional Regulation and Transactional Supports (SCERTS) model (Prizant et al., 2016). Such approaches have been shown to be effective in promoting the development of early social communication, language and play skills for autistic children (Harrop et al., 2017; Kasari et al., 2021; Laurent et al., 2018; Mirenda et al., 2022; Randolph et al., 2011; van Noorden et al., 2022). The SCERTS approach was the chosen approach for the current research.

The SCERTS model (Prizant et al., 2006) has emerged as an NDBI with substantial empirical support in the literature and has been classified as an evidence-based practice (Prizant et al., 2006; Yi et al., 2022). It represents a comprehensive and multidisciplinary educational approach for autistic children (Prizant et al., 2006). Goals are focused on supporting the Social Communication (SC) and Emotional Regulation (ER) capabilities of autistic children by encouraging key adults in the child's life to implement Transactional Supports (TS). Definitions for each of these domains are provided in Table 2.

Table 2: *The Core Domains of the SCERTS Model (Prizant et al., 2006)*

Social Communication	Goals to help the child be a competent, confident and active participant in a social world. To achieve this a child needs to develop competencies in two key areas: joint attention and symbol use.
Emotional Regulation	The capacity to self-monitor levels of physical arousal and emotional states in terms of self-regulation and mutual regulation.
Transactional Support	This includes the adjustments made by the communicative partner in terms of their interpersonal skills and adjustments made to the environment to foster positive learning outcomes e.g., adjusting language, visual supports. In the context of the current study, they can be conceptulaised as proximal proceses as defined by Bronfenbrenner and Morris (2006).

The development of the SCERTS model was significantly influenced by Vygotsky's (1978) theory on the zones of proximal development. Within the model, learning is perceived as a socially mediated experience; thus, the emphasis is placed on social partners who scaffold the child's learning experiences, enabling the child to learn from and interact with their environment (O'Neill et al., 2010). This also reflects Bronfenbrenner and Morris's (2006) concept of proximal processes and how they are reliant on the complexity of tasks. Within the SCERTS model, the emphasis is placed on how communication partners can adapt their interactions and elements of the environment to be more inclusive of the child's communication preferences, sensory profile, and individual strengths and interests, which also reflects the *person* component of the PPCT model (Bronfenbrenner & Morris, 2006).

SCERTS goals progress through three developmental stages of language development, moving from social partner (prelinguistic) to language partner (emerging language) to conversational partner (sentence and discourse level). Goals become more sophisticated as the learner moves through each of these stages (Prizant et al., 2006; Yi et al., 2022). The approach

is centered on collaboration between parents, professionals and educators to embed teaching strategies within everyday activities across environments, enhancing the overall number of learning opportunities for the child. Several authors have explored the use of the SCERTS model in both educational and home settings (Laurent et al., 2018; O'Neill et al., 2010; Wetherby et al., 2014). Most recently, Yi et al. (2022) conducted a systematic review to examine the effectiveness of SCERTS model-based interventions on the overall development of autistic children. Findings indicated that the SCERTS model was an effective approach to enhance the social communication skills of autistic children and that both teachers and caregivers could implement the intervention goals with fidelity. Therefore, due to its evidence base, its alignment with the PPCT model and the overall goals of the current research, the SCERTS model was chosen as a suitable intervention framework for the current study.

2.8 Father Involvement in Early Intervention

The growing emphasis on FCP underscores the importance of supporting the entire family (Mas et al., 2022). However, mothers or female caregivers continue to be the prominent figures in EI delivery (Acar et al., 2021; Flippin & Crais, 2011; McBride et al., 2017) and autism research more generally (Braunstein et al., 2013). For example, Braunstein and colleagues (2013) previously explored the inclusion of fathers in autism research. Findings revealed that the experiences of mothers outnumbered those of fathers more than fivefold. As a result, the research suggests that fathers of children with developmental differences often feel undervalued, alienated, excluded, and overlooked in many aspects of their child's life (MacDonald & Hastings, 2010). This also pertains to the service-delivery relationship, which can, in turn, affect engagement with services and their child's intervention program (Marsh et al., 2020). Over the past several years, there has been a shift in traditional family roles, with fathers spending more time caring for their children and being more directly involved than fathers of previous generations (Hodkinson & Brooks, 2023). However, this change in

caregiving practices has not been reflected in the research, and fathers' experiences remain scant. The majority of parent-mediated interventions do not explore the role fathers play in effective intervention or the possible benefits of paternal involvement (Rankin et al., 2019). In a review of parent-implemented interventions for autistic children by Flippin and Crais (2011), findings indicated that out of the 27 studies included in the review, only 3 reported including fathers as participants. More recently, in a systematic review of parental involvement in EI for children with developmental differences such as autism, Acar et al. (2021) found that mothers outnumbered fathers across the included studies. Additionally, the authors reported that only a small number of the studies included parents as intervention agents. As this review focused on studies conducted across cultures (mainland China, Taiwan, and Turkey), it highlighted the need for greater parental involvement in interventions globally, and specifically, the inclusion of more fathers within such interventions.

The literature on child development suggests that both mothers and fathers have unique and important roles in their children's development (Braunstein et al., 2013; Flippin & Crais, 2011; Pleck, 1997; Rankin et al., 2019; Sadownik, 2023). The research on typical child development suggests that father involvement is linked to many positive child and family outcomes, including greater academic achievement, greater educational and economic attainment, higher self-esteem and emotional well-being, and fewer problem behaviours (Deutsch et al., 2001; Flouri & Buchanan, 2004; Harris et al., 1998). In addition, the research highlights the valuable role fathers can play in promoting their children's early social communication, cognitive and language skills (Pancsofar & Vernon-Feagans, 2006, 2010; Shannon et al., 2002; Tamis-LeMonda et al., 2004). Research has indicated that fathers have unique play, interaction and communication styles when compared with mothers. For example, fathers tend to have more direct communication styles and engage in more rough and tumble or physical play (Flippin, 2019; Flippin & Crais, 2011; Robinson et al., 2021). Such differences

may be important for overall child development and, in particular, for autistic children who can present with differences in the development of their language, social and play abilities (Georgiou & Spanoudis, 2021). This was underscored in a study conducted by Louis and Kumar (2015). Fathers were shown how to engage in responsive and sophisticated interactions with their autistic children. Results demonstrated that such interactions had positive outcomes on their children's communication, play and social skills. The participating children were able to demonstrate improved communicative intent, respond constructively to social cues and participate in tasks of daily living. Therefore, enhancing the role of the father is fundamental in the context of play and communication-based interventions for autistic children (Flippin & Crais, 2011), not least because it may support foundational skills and promote parental self-efficacy.

2.9 Parental Self-Efficacy

Parental self-efficacy has been defined as a parent's belief in their ability to influence the child and their environment to foster the child's development and success (Ardelt & Eccles, 2001, p. 945). Substantial research has documented the connection between self-efficacy and positive psychological adjustment (Bandura, 1977; May et al., 2015). The relationship between parental self-efficacy and raising an autistic child is frequently explored in the literature (Costa e Silva & Roama-Alves, 2023; Jones & Prinz, 2005; Noyan Erbaş et al., 2021). In recent years, there has been an increased focus on the positive aspects of raising an autistic child (Meleady et al., 2020; Potter, 2016). Emphasising positive factors encourages positive adaptation rather than focusing on 'fixing' negative outcomes (Meleady et al., 2020). Furthermore, the authors (Meleady et al., 2020) stressed the need to move away from the deficit-based assumption that families will experience psychological distress as a direct result of having a child with a neurodevelopmental difference.

Therefore, it is important to consider both the positive and negative experiences of parents of autistic children and how these relate to parental self-efficacy. Firstly, regarding positive experiences, many studies have demonstrated the benefits of raising an autistic child, such as personal growth (Potter, 2016; Timmons et al., 2017; Wayment et al., 2019). For example, Potter (2016) explored fathers' perspectives on the perceived benefits of parenting an autistic child. Common themes that emerged included a focus on their child's strengths, the strong emotional bond between father and son, and how fathers valued and learnt from their parenting experience.

In addition, in an attempt to capture the numerous positive parenting experiences of raising an autistic child, Meleady et al. (2020) conducted a systematic review of positive contributions, which included benefit finding and positive gain. Overall, the authors demonstrated that while there can be challenges related to raising an autistic child, parents can also experience growth, benefits and positive contributions. On the other hand, parenting an autistic child is not without its challenges and previous research has indicated that when compared to parents of typically developing children, parents of autistic children have been reported to experience higher levels of stress, anxiety, depression and lower levels of wellbeing (Bitsika & Sharpley, 2004; Iadarola et al., 2018; Ingersoll et al., 2011; Mueller & Moskowitz, 2020; Smith et al., 2021). Therefore, consistent with Bandura's (1977) theory on self-efficacy, higher levels of parenting self-efficacy among parents of autistic children may be particularly impactful due to the associated demands of raising an autistic child (Kurzrok et al., 2021).

The research has demonstrated that stronger co-parenting and the involvement of both parents in their child's intervention programme have the potential to ameliorate parental stress and reduce the overall burden on mothers (Flippin & Crais, 2011; Kurzrok et al., 2021; Leiter, 2004). This adds further support for the need to actively include fathers in parent-mediated interventions for autistic children. Furthermore, May et al. (2015) found that levels of parenting

stress for both mothers and fathers of autistic children were correlated with autism-specific parental self-efficacy and the quality of co-parenting. Studies that have included fathers have demonstrated increased father confidence in their parenting behaviour and self-esteem, while reductions in maternal stress levels have also been reported (Bendixen et al., 2011; Louis & Kumar, 2015). This supports the research suggesting that father involvement and engagement with disability services can have positive outcomes for the entire family system (Flippin, 2019; Flippin & Crais, 2011; Fox et al., 2015; Laxman et al., 2015; Rankin et al., 2019).

2.10 Review Rationale

The evidence presented in this chapter highlights the positive benefits of EI for autistic children and their families. Within early childhood intervention, FCP represents international best practice in terms of service delivery. This means including both parents as active and equal parties within their child's intervention programme (Mas et al., 2022). Although numerous studies have evaluated parent-mediated interventions, the majority of studies have been conducted with mothers or female caregivers (Flippin & Crais, 2011; McBride et al., 2017). As EI can play an important role in promoting the development of key life and learning skills, such as shared attention, communication, imitation, cognitive abilities and regulation for autistic children (Wong & Kasari, 2012), it is important that both parents feel competent in implementing agreed-upon goals. Failing to include fathers in their child's intervention programme is at odds with the core principles of FCP and the PDS service delivery model.

Given the unique role fathers play in their child's development (e.g. language development), potential benefits of paternal involvement (e.g. improved social communication, increased parental self-efficacy, reduced family stress) in parent-mediated interventions and the recommendation that fathers be included in such interventions, it is important to explore current practices in this area. It is fundamental that clinicians and researchers develop a greater

understanding of paternal involvement in interventions for autistic children, the extent to which they are involved and the outcomes of such interventions.

2.11 The Current Review

Therefore, the current review sought to provide an up-to-date review of parent-coaching interventions for young autistic children and explore the extent to which fathers are being included in such interventions. Specially, this review aimed to answer the following research questions:

2.11.1 Review Questions:

1. To what extent are fathers included in parent-coaching interventions for autistic children?

2. What are the outcomes of parent-coaching interventions which include fathers in terms of intervention effectiveness and collateral effects on parental stress levels?

2.11.2 Search Strategy

A systematic search of the literature was conducted using the following databases: Academic Search Complete, PsycINFO, PsycArticles, ERIC and Medline. As these databases frequently publish research on interventions for children with developmental differences, they were deemed the most appropriate. Search terms inputted into these databases are summarised in Table 3. Search terms were combined using the Boolean operations “AND” and “OR”.

Table 3: *Summary of Terms for Systematic Literature Review*

Participants	Age Group	Setting	Interventionist	Intervention Type
Autism OR Asperger OR ASD	Child* OR Toddler OR Baby* OR Babies	Home OR Early Intervention	Parent OR Mother OR Father OR Guardian	Coaching

2.11.3 Data Selection Criteria

To be included in the current review, studies had to meet the following criteria: (i) all children had to have a diagnosis of Autism (by a qualified professional) and be aged 0-6 years; (ii) the intervention had to be implemented by the child's parents or guardians; (iii) an experimental design had to be employed, i.e. a single-subject research design, group research design or a randomised control trial (RCT); (iv) parents had to be coached to implement the target intervention using at least one parent-coaching strategy as defined by Pellecchia et al. (2020). These included; authentic learning opportunities, collaborative goal-setting, demonstration, in vivo feedback/guidance and reflection; (v) the intervention had to take place in the child's home; (vi) the study had to report on the effect of the intervention on parent fidelity/use of taught strategies and child outcomes; (vii) the study had to be published in a peer-reviewed journal; (viii) the study had to be published in English.

Studies were excluded from the current review based on the following criteria: (i) children in the study were aged over 6 years 11 months; (ii) all children in the study did not have an official diagnosis of autism. This included children who were described as "at risk of autism"; (iii) the intervention was implemented by the researcher, a clinician or other

professional; (iv) the study did not employ experimental conditions or was qualitative or correlational. Reviews and meta-analyses were also excluded; (v) the intervention did not include at least one coaching strategy, as defined by Pellecchia et al. (2020); (vi) the intervention was carried out in a clinic, community setting or via telehealth. This included interventions delivered via apps; (vii) the study did not include measures of parent fidelity or child outcomes; (viii) the study did not focus on social communication skills e.g., focused on behaviour reduction/support; (ix) studies were not published in a peer-reviewed journal and; (x) the study was not published in English.

2.11.4 Data Extraction

The articles were imported into referencing software (Mendeley v.2.122.1), which removed all duplicates. The articles were screened in the following phases: (i) title and abstract screening; (ii) full-text screening against the inclusion and exclusion criteria; and (iii) analysing all included studies for methodological quality.

2.11.5 Methodological Design

The PRISMA 2020 (Page et al., 2021) guidelines for systematic reviews were followed throughout the screening process. The main data was extracted and summarised in line with PRISMA (Page et al., 2021) reporting guidelines. Findings from each study were summarised under the following headings: participants (sample size, diagnosis, age); caregiver involved; study design; intervention characteristics (type, length); dependent variables and study outcomes.

2.11.6 Quality Appraisal

The included studies were assessed for methodological rigour using Gough's Weight of Evidence (WoE, Gough, 2007) framework. Each study was critiqued in three areas related to the quality of the study. This included the methodological quality (WoE A), the

methodological relevance (WoE B) and the relevance of the evidence to the target research question (WoE C). The results of WoE A, B and C were then combined to establish an overall weighted score (WoE D). This determined the extent to which each study contributed evidence in addressing the target research questions.

WoE A was calculated using an appropriate quality appraisal tool. In the current review, studies adopted a mixture of single-subject and randomised comparative designs. Therefore, matching a quality appraisal tool, reflective of each research design, was essential to ascertain its methodological quality. Studies which employed a single-subject design were analysed using the Single-Case Experimental Design (SCED) Scale (Tate et al., 2008). The SCED scale is an 11-item rating scale for single-subject designs, with 10 items assessing methodological quality and use of statistical analysis. Studies which employed a randomised comparative design or randomised control trial (RCT) were analysed using the Critical Appraisal Skills Programme (CASP, 2021) checklist for RCTs. The presence or absence of the methodological criteria highlighted in these tools was assessed for each study and converted into WoE A quality rating and descriptive scores. Percentage WoE A quality scores were calculated by adding the total number of "Yes" answers, dividing it by the total number of items in the scale and multiplying this by 100.

The Gray (1996) matrix, as summarised by Petticrew and Roberts (2006), was used as a guideline to determine the methodological relevance of each study (WoE B). A summary of the scoring criteria and rationale used to determine the methodological relevance of each study (WoE B) can be found in Table 4.

Table 4: *WoE B Scoring Criteria and Rationale*

WoE B Rating Score	WoE B Descriptive Rating	Research Design	Rationale
1	Low	Single-case research design studies	Do not allow for the effectiveness of an intervention or its components to be measured effectively (Gray, 1996; Petticrew & Roberts, 2006).
2	Acceptable	Quasi-experimental & cohort studies	Classified as appropriate research methodologies for evaluating the effectiveness of variables (Gray, 1996).
3	High	Randomised Controlled Trials (RCTs)	RCTs are 'gold standard' when examining research questions related to 'effectiveness' (Petticrew & Roberts, 2006).

Weight of evidence C (WoE C) appraises the relevance of the findings in answering the review question. Gough (2007) emphasises the importance of the sample in answering the research question. As the present review aimed to investigate whether fathers are included in parent-mediated interventions and related outcomes, this was seen as an essential criterion for answering the research question. A rubric including the coding protocol was developed by the researcher to score the WoE C for each study and is presented in Table 5.

Table 5: *WoE C Scoring Criteria*

WoE C Score	Criteria
3 (High)	Participants in the study are fathers of autistic children. The study reports on the outcomes of father involvement in the parent-mediated intervention. This sample is highly relevant to the research question, thus findings are considered highly relevant to the review question.
2 (Medium)	Participants in the study include fathers of autistic children and other caregivers. The study reports on the outcomes of father or other caregiver involvement in the parent-mediated intervention. Findings are considered less relevant to the research question as the sample is mixed and not specifically targeted at fathers. Therefore, findings are given less relevance.
1 (Low)	Participants in the study do not include fathers of autistic children. This sample is less relevant to the review and findings are therefore considered less relevant.

Rating and descriptive scores from WoE A, B and C were combined to calculate the WoE D score. This determined the extent to which each study answered the research questions. Studies were classified as either “low”, “medium” or “high”. Studies classified as high were given more weight in answering the research questions, while studies classified as low were given less weight.

2.11.7 Search Results

The initial search yielded 236 articles; once duplicates were removed, 117 remained. Title and abstract screening was completed, leading to the exclusion of 86 articles which did not meet the inclusion criteria. The remaining 33 articles were full-text screened against the inclusion and exclusion criteria. The PRISMA flow chart (Page et al., 2021) in Figure 3 summarises the studies included and excluded at each stage of the screening process. Once

full-text screening was complete, a total of 5 studies remained. Key data and information extracted from these studies are presented in Table 6.

Figure 3: *Systematic Review Search Process PRISMA Flow Diagram*

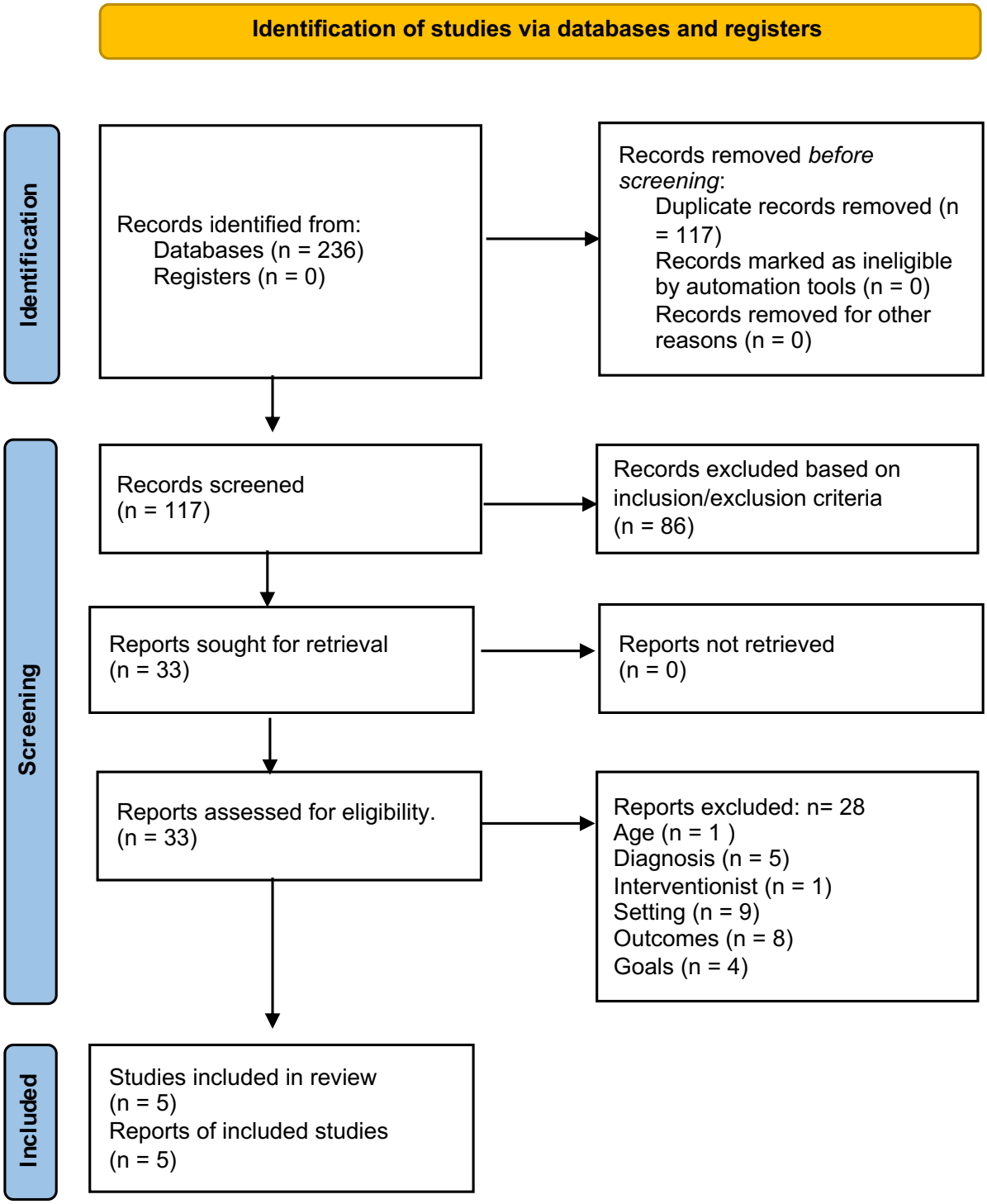


Table 6: *Summary of Key Information from the Included Studies*

Reference	**Participants** • **Sample size** • **Diagnosis** • **Age (months)** • **Gender**	**Caregiver Involved**	**Study Design**	**Intervention** • **Type** • **Length**	**Dependent Variables (DVs)**	**Study Outcome**
Akemoglu & Tomeny (2021)	n=3 Autism 38; 71; 44 3 M	Mother (3)	Multiple-baseline design across behaviours (MBD).	Parent Training (Two 1-hour sessions) Coaching (3-4 sessions for each strategy)	1. Fidelity of implementation of reading techniques and naturalistic communication teaching (NCT) strategies (modelling, mand-model & time delay) after training and coaching. 2. Children's communicative behaviour: verbal & non-verbal.	Improvements in mothers use of reading techniques & naturalistic teaching strategies with high fidelity. The children initiated more communicative attempts when mothers used the time-delay. Results maintained at post-intervention follow-up.

Harrop et al. (2017)	**Caregiver-mediated JASPER Group** n=43 Autism M= 30.7 (SD=3.5) 35 M, 8 F **Psych-education intervention (PEI) Group.** n=43 Autism M=32.3 (SD=2.7) 35 M, 8 F	Mother (86)	Randomised comparative design with 2 different conditions. 1. Joint Attention, Symbolic Play, Engagement and Regulation (JASPER): caregiver-mediated social-communication intervention. 2. PEI group	**1. JAPSER** Active coaching of the caregiver 1hr a week for 10 weeks. **2. PEI** Education & support to parents via 1:1 meetings 1hr per week for 10 weeks.	1. Caregiver Child Play interaction (CCX). 2. Child Repetitive Restrictive Behaviours (RRB's). 3. Care-giver responses to RRB's. 4. Response success.	Child RRB's remained stable in both groups from entry to exit. At 6 months follow both groups showed a significant increase in RRB's. Caregivers from the JASPER group responded to a greater number of their child's RRB's and their responses were more successful.

Erturk et al. (2021)	n= 2 Autism 50; 52 2 M	Mother (2)	Multiple baseline design (MBD) across 3 behaviours.	Parent training (on target social communication skills) followed by parent coaching. (Coaching sessions continued until parents achieved 80% fidelity for 3 consecutive sessions – approx. 3 sessions per skill lasting between 15-45min).	1. Parent treatment fidelity. 2. Behavioural requests for preferred items or activities. 3. Imitation of play actions. 4. Response to joint attention bids from parents.	Increased parent fidelity for one parent in two strategies and in all strategies for the other parent. All children showed improvements in target behaviours. Parents generalised skills to different toy sets and treatment effects maintained at follow up for both parents and children.

Flippin (2019)	n=1 Autism 37 1 M	Father (1)	Multiple baseline across behaviours (MBD).	Twelve weekly coaching sessions lasting 1 hour.	1. Proportion of father implementation of target responsive verbal & play strategies (follow-in comments, follow-in directives, responsive physical play). 2. Frequency of child expressive language production. 3. Pre-post ratings of parental stress.	The father quickly learned to use 3/4 targeted responsive strategies. Child use of single word utterances increased compared to baseline and some 2-word utterances were observed. Effects were maintained for 3/4 targeted responsive strategies. 1- and 2-word utterances were higher in maintenance than in baseline. Parenting stress decreased post-intervention.

Zaghlawan & Ostrosky (2016)	n=2 Autism 37; 60 2 M	Father (1) Mother (1)	Multiple baseline across strategies design (MBD).	Modified reciprocal imitation training (RIT) using Parent Coaching (15 sessions)	1. Parents use of contingent imitation, descriptive language, object imitation & gestural imitation. 2. Children's object & gestural imitation.	Both parents learned to use the intervention strategies via coaching. Both children showed improvements in their imitation skills.

2.11.8 Quality of the Included Studies

A summary of the WoE scores assigned at the quality appraisal stages is provided in Table 7. A further breakdown of the scores assigned for WoE A, B, and C are provided in Appendices 2-4. The results of WoE A, B and C were combined to establish an overall weighted score (WoE D) for each study. All studies received a WoE D rating of "medium".

Table 7: *Summary of WoE Scores Assigned to Each Study*

Study	WoE A Score	WoE B Score	WoE C Score	WoE D Score
Akemoglu & Tomeny (2021)	3 (high)	1 (low)	1 (low)	2 (medium)
Erturk et al., (2021)	3 (high)	1 (low)	1 (low)	2 (medium)
Flippin (2019)	3 (high)	1 (low)	3 (high)	2 (medium)
Zaghlawan & Ostrosky (2016)	3 (high)	1 (low)	2 (medium)	2 (medium)
Harrop et al. (2017)	3 (high)	3 (high)	1 (low)	2 (medium)

2.11.9 Participant Information

The number of parent-child dyads varied in each study, from 1 parent-child dyad (Flippin, 2019) to 86 parent-child dyads (Harrop et al., 2017). A total of 94 parent-child dyads were represented across the 5 studies. Out of these 94 dyads, 2 were father-child dyads, and the remainder were mother-child dyads (Flippin, 2019; Zaghlawan & Ostrosky, 2016).

2.12 Study Design

The studies included in this review employed a variation of two different research designs: SSDs and RCTs. One study employed a randomised comparative design (Harrop et al., 2017), which allowed for the effectiveness of a parent psychoeducation intervention and a parent-coaching intervention to be compared. The remaining studies employed a SSD, all of which were multiple-baseline designs (MBD) (Akemoglu & Tomeny, 2021; Erturk et al., 2021; Flippin, 2019; Zaghlawan & Ostrosky, 2016).

2.12.1 Intervention Characteristics

This review specifically looked at coaching as a method to support parents in implementing strategies to foster their child's development. Different coaching strategies were used across the studies: providing information about the target skill, modelling, demonstration of the skills, feedback and reflection. The length of the intervention varied between studies and was frequently reported as a number of sessions. It was unclear how many weeks these sessions were delivered over. Akemoglu and Tomeny (2021) reported that 3-4 sessions were delivered per strategy. Harrop and colleagues (2017) reported 1-hour weekly sessions for 10 weeks, Erturk et al. (2021) reported that 3 sessions per skill were delivered, Flippin (2019) reported 12 weekly 1-hour sessions, and Zaghlawan and Ostroksy (2016) reported that 15 sessions in total were delivered. Harrop et al. (2017) employed a manualised parent-coaching programme known as JASPER (Joint Attention, Symbolic Play, Engagement and Regulation, Kasari et al., 2021). JASPER is an empirically supported programme and teaches caregivers how to identify their child's current play and social communication level (Harrop et al., 2017).

2.12.2 Dependent Variables

The type of dependent variables (DVs) varied between studies in terms of target child outcomes. While all studies focused on targeting social communication behaviours, the

targeted behaviours varied between each study. Targeted child outcomes included child verbal and non-verbal behaviours (such as gestures), behavioural requests for preferred items and activities, imitation skills (including object and gestural imitation), joint attention (including responding to bids for joint attention and duration of joint engagement), play skills and levels, and frequency of child expressive language.

All studies included a measure of parental implementation fidelity of the target skills. Measures of fidelity varied between the studies and included both direct observation and observation via video by an independent rater. Including fidelity checks ensures that the data reported is valid and reliable and increases the believability of the findings (St. Peter, 2023). All studies operationally defined the target behaviours that parents were expected to engage in following coaching. This allowed for a measure of fidelity to be calculated, which was reported as a percentage in all studies. A fidelity of 80% was reported as the minimum standard parents had to achieve to be considered competent in implementing a targeted strategy in the majority of studies (Akemoglu & Tomeny, 2021; Erturk et al., 2021; Harrop et al., 2017; Zaghlawan & Ostrosky, 2016). For these studies, parent fidelity ranged from an average of 63-100%. In the Flippin (2019) study, the criterion was set at 3 consecutive sessions above the highest baseline level. Father fidelity improved from mean baseline percentages of 6.5, 5.5, 1.9 and 1.9%, to 24.3, 34.3, 21.5 and 36.3% respectively for each of the 4 targeted skills.

2.13 Study Outcomes

Findings from all studies indicated that parent coaching was effective in teaching parents how to implement strategies to support their child's social communication. All studies demonstrated positive effects for all parent-child dyads. As most studies employed SSDs, the effect sizes are unknown. Only 1 study employed a non-overlap measure (Erturk et al., 2021), which reported moderate to large effect sizes for both parent and child outcomes. In the large-

scale group comparison study (Harrop et al., 2017), effect sizes were reported to be large and statistically significant. In addition, as the JASPER intervention group was compared to a parent psycho-education group, it could be inferred that parent coaching is a more effective approach in providing parents with the skills needed to successfully implement strategies to support their child's development. This was also evident in the studies which employed a parent training psycho-education phase followed by the parent coaching phase (Akemoglu & Tomeny, 2021; Erturk et al., 2021). The Flippin (2019) study also employed a measure of parental stress pre- and post-intervention. The participating parents reported reduced stress related to some domains, including competence, while increased stress in the child domains of hyperactivity and distractibility were noted post-intervention.

2.14 Social Validity

Three studies employed a social validity measure post-intervention (Akemoglu & Tomeny, 2021; Flippin, 2019; Zaghlawan & Ostrosky, 2016). According to Wolf (1978), social validity measures aim to determine if the goals targeted during the intervention were socially significant, if the intervention procedures were socially acceptable to the family and if the outcomes are socially important. One study utilised a questionnaire (Flippin, 2019), where the participating father rated the effectiveness of the coaching intervention and its components using a Likert scale. Overall, the father was satisfied with the intervention. Akemoglu and Tomeny (2021) conducted interviews with parents pre- and post-intervention. Before the intervention, the parents in the study identified that they would like their children to be able to communicate their wants and needs. They also highlighted that they valued collaboration in deciding on agreed-upon goals. Post-intervention, parents reported they were highly satisfied with the intervention and that the procedures were easy to implement. They also commented on how satisfied they were that their child had reached goals and was communicating with them more. Similar findings were reported by parents in the Zaghlawan and Ostrosky (2016)

study. Parents stated they became more aware of how to respond to their child's needs and the need to allow for extra processing time.

2.15 Discussion

The current review sought to synthesise the current research on parent coaching interventions for young autistic children. Specifically, the extent to which fathers are included in parent coaching interventions and the outcomes of such interventions were explored.

2.15.1 Inclusion of Fathers

In line with the findings of the Flippin (2011) review, the current review underscored suspected gaps in the literature regarding caregiver gender. Only 2 father-child dyads were represented across all 5 studies, which featured a total of 94 parent-child dyads. The primary caregiver included in most studies was female, emphasising the ongoing lack of male caregivers in EI research. Indeed, this seems to be a part of a broader societal issue where fathers appear absent from numerous parenting interventions for children with developmental differences (Bagner, 2013). At a broader level, the research suggests that fathers have less involvement with disability and therapeutic support services than mothers, even when both are in full-time employment (MacDonald & Hastings, 2010b; Roach et al., 1999). Traditionally, women have been regarded as the primary caregivers (Amato, 2018), leading to greater emphasis on their roles in research and service delivery for children with developmental differences. Despite evidence showing that the inclusion of both parents yields positive outcomes for child development, well-being, and family functioning, the current review noted that well-designed interventions incorporating fathers remain limited (Flippin & Crais, 2011; Tully et al., 2017; Wise et al., 2008).

Flippin (2019) was the only study that included a father as the sole participant and was weighted as "high" in terms of the relevance of the study in answering the research question

(WoE C). The study was designed in line with paternal interaction styles. Zaghlawan and Ostrosky (2016) included 1 mother-child dyad and 1 father-child dyad in their study, and it was rated as “medium” in terms of WoE C. In contrast to Flippin (2019), the researchers did not adapt the intervention in line with paternal characteristics. In a systematic review conducted by Flippin and Crais (2011), suggestions were made on how to improve the accessibility of interventions for fathers. One of the main suggestions included incorporating play activities that reflect fathers' play styles. According to the authors, fathers have different communication and play styles compared to mothers, and interventions involving fathers should consider this. For example, prior research has demonstrated that fathers tend to use more direct and complex language interactions with their children (Pancsofar & Vernon-Feagans, 2006, 2010). They also tend to engage in more physical play, such as chasing, tickling, and tossing their children in the air. These unique interactions have been shown to yield positive outcomes across key developmental areas, including emotional regulation, cognitive development and language development (Flippin, 2019; Robinson et al., 2021). More specifically, the research indicates that movement-based or physical play has numerous benefits for autistic children, including enhanced motor skills, social interaction, communication, cognitive function, and self-regulation (Elbeltagi et al., 2023). Physical play fosters sensory integration between the central nervous system and the body, contributing to many of these positive outcomes (Elbeltagi et al., 2023; Pfeiffer et al., 2011). Thus, the physical play that fathers frequently engage in can provide opportunities for their children to experience diverse sensory input, such as touch, movement, and proprioception, which can aid in sensory processing. Additionally, some research has indicated that paternal interaction styles may be particularly effective in reducing externalising behaviours. Therefore, considering father interaction styles in interventions may prove especially beneficial for autistic children, given the fundamental differences in social communication and emotional regulation abilities

(American Psychiatric Association, 2022; Cibralic et al., 2019; Hansen et al., 2018; Hirschler-Guttenberg et al., 2015).

Studies that did not include fathers as participants offered no insight into how caregivers were chosen in the recruitment process. While recruiting families for such research can be challenging, efforts to balance gender among both child and parent participants should be implemented (Rich-Edwards et al., 2018). To tackle these issues, more diverse sampling strategies that specifically target fathers must be employed. Researchers may need to employ purposeful or convenience sampling to ensure fathers are adequately represented in parent samples. In addition, ensuring proper representation from various socioeconomic and cultural backgrounds is essential to explore whether parent coaching can be effective for fathers from differing backgrounds.

Issues surrounding acceptability and feasibility for fathers should continue to be explored in an attempt to resolve their current under-representation in the field of autism research (Braunstein et al., 2013). Previous research has highlighted the need to work around some of the barriers that currently exist for fathers engaging with disability services. Curtiss et al. (2021) suggest that fathers may need to be offered more flexible appointments to suit their work schedules. In addition to adapting intervention goals to father interaction styles, Flippin and Crais (2011) also recommended making the context and activities for sharing information more father-friendly. This includes ensuring the language used and resources shared are accessible and jargon-free. Previous research has also highlighted that services should emphasise that both parents are equally important to promote father engagement (e.g., Curtiss et al., 2021). Services could highlight the developmental role of both parents and the unique contributions fathers can make, e.g., physical play promoting emotional regulation. Actively

seeking to offer support to both mothers and fathers may be a step towards greater father engagement with disability services and align with FCP (Dunst et al., 2007).

Another important point to note was that all the participants in the included studies were either mother-child dyads or father-child dyads. None of the included studies explored parent coaching with mother-father-child triads. According to McHale and Fivaz-Depeursinge (1999), from a family systems perspective, mother-father-child triadic interactions constitute many subsystems of the family, including the mother-child, the father-child and mother-father relationships. As such, mother-father-child triads have the potential to provide more diverse learning environments than each dyad in isolation (Lindsey & Caldera, 2006; Olhaberry et al., 2019). According to the literature, triadic relationships are important in a child's social-emotional development (Feldman & Masalha, 2010). Through such interactions, a child learns how to navigate reciprocal interactions involving more than two people and many foundational social skills such as sharing and shifting attention, turn-taking, and expressing emotions (Franco, 2000; Venturelli et al., 2016). For typically developing children, the capacity to share attention with both parents simultaneously emerges from as early as 3 months of age (Siller, 2023). However, autistic children can take longer to acquire this skill, which is significantly associated with later social and communication development (Wong & Kasari, 2012). Therefore, including mother-father-child triads in parent coaching interventions may be particularly impactful for autistic children and promote a better understanding of reciprocal interactions and joint attention from an early age.

2.15.2 Intervention Outcomes

The second research question of this review was concerned with exploring the outcomes of parent coaching interventions which include fathers. This included overall effectiveness and the impact on parental stress. Overall, the findings from this systematic

literature review supported the use of parent-coaching interventions for families of young autistic children, which is consistent with previous research (Deb et al., 2020; Sone et al., 2021; Ward et al., 2020). Positive outcomes for parents and children were reported across all studies. Of interest to this review, parent coaching was found to be effective in supporting fathers to implement target strategies. Only two father-child dyads were represented in this review, which prevents the generalisability of the findings (Flippin, 2019; Zaghlawan & Ostrosky, 2016). Flippin (2019) recruited a father as the sole participant and matched the target strategies to paternal interaction styles. Results demonstrated that the participating father learned all target strategies via coaching. While results demonstrated that fathers were successfully able to learn targeted skills, there was no comparison group or additional dyad that did not match target goals to father-interaction styles. Therefore, it is unknown if it is necessary to adapt intervention targets to this degree. One father-child dyad and one mother-child dyad were included in the Zaghlawan and Ostrosky (2016) study. In contrast to Flippin (2019), the researchers did not adapt the intervention in line with paternal characteristics. Despite the lack of accommodations for the participating father, similar findings were reported in terms of parent and child outcomes across both sets of parent-child dyads. While this limited amount of research suggests that parent coaching may be an effective teaching approach to use with fathers, more research is warranted to demonstrate its effectiveness and to ascertain if coaching needs to be adapted according to parental gender.

A secondary aim of this review was to explore the outcomes of parent coaching interventions, which included fathers, on parental stress levels. Previous research suggests that the inclusion of fathers has the potential to buffer some of the stress experienced by mothers and improve overall family functioning (Braunstein et al., 2013; Laxman et al., 2015). Of interest to this review, one of the primary causes of stress reported by parents has been the management of their child's intervention program (Iadarola et al., 2018; Parker et al., 2020).

Only one of the two studies which included fathers as participants employed a measure of parental stress levels; Flippin (2019) included a measure of parental stress as rated by both parents pre- and post-intervention. The participating parents reported reduced stress related to some domains, including competence, while increases in stress in the child domains of hyperactivity and distractibility were noted. The authors suggested that the participating father may have become more aware of these characteristics while engaging more with his child during the intervention. However, it must be noted that differences in scores pre-post-intervention were only reported, and no statistical analysis was undertaken. Therefore, it is unknown if such differences in parental stress were statistically significant. Nevertheless, such findings may indicate the need to monitor parental stress levels throughout interventions and offer or signpost support where needed. Similar findings were also noted in a parent-mediated intervention conducted by Kasari et al. (2015), who suggested that taking on the role of 'therapist' may have led to increased stress for some parents.

2.15.3 Strengths and Limitations

This systematic review synthesised current research on parent-coaching interventions, looking specifically at the inclusion of fathers within such interventions. Findings highlighted that the experiences of fathers remain sparse in the literature, despite whole-family approaches being considered best practice (Flippin & Crais, 2011). It also highlighted the benefits of tailoring intervention targets to match fathers' interaction styles, although the need for this remains unclear. In addition, the current review adds to the evidence base for parent coaching as an effective instructional approach that clinicians can utilise with both male and female parents. All articles were reviewed critically using Gough's (2007) WoE framework. This entailed a rigorous review of each study, allowing the researcher to determine which studies were the most relevant in answering the research questions. It also highlighted the need for more rigorous studies to be undertaken, as all studies were ranked "medium" overall.

Despite the strengths of this review, some limitations should be taken into account when interpreting the findings. Firstly, only 5 studies were included in the final review. All of these studies were rated as "medium" in terms of their overall methodological relevance (WoE, D). Findings should, therefore, be interpreted with caution. In addition, some methodological limitations were noted across studies. Of note, not all included studies which employed a MBD collected data for 3 or more participants. Treatment effects observed in studies (Erturk et al., 2021; Flippin, 2019; Zaghlawan & Ostrosky, 2016) with less than 3 parent-child dyads may not generalise to similar populations and should be interpreted with caution (Cooper et al., 2014). Some of the SSDs also included a parent-training psycho-educational component before the implementation of parent coaching (Akemoglu & Tomeny, 2021; Erturk et al., 2021). Although the MBDs employed in these studies demonstrated a functional relationship between the introduction of the coaching intervention and improvements in parent and child outcomes, it is unclear which component of the intervention was responsible for behaviour change. As the phases were introduced sequentially, the true effect of the parent coaching phase in isolation is unknown. These studies, therefore, scored "low" in terms of methodological relevance.

Overall, there was an inconsistency in the reporting of the intervention length. Therefore, it was difficult to determine what dosage, if any, may be the most effective. Studies which did not report the length of the intervention were rated lower in terms of methodological relevance. It was also difficult to determine treatment effect sizes to indicate the meaningful impact of studies. Employing the percentage of non-overlapping pairs (PND) as a metric, as recommended by Scruggs and Mastropieri (2013), would have allowed for treatment effects to be quantified and compared between studies.

Lastly, it must also be noted that all of the included studies were conducted in the United States of America (USA) and, therefore, may not be representative of the entire population or

be culturally sensitive. Cultural diversity within countries has become a focus of research, highlighting the need to be culturally sensitive to increasingly diverse populations (Lansford, 2022). Parenting practices are largely influenced by societal, religious and cultural norms (Ria Novianti et al., 2023). While there has been a shift in the father's role in Western society, this may not be reflective of non-Western societies. In most Eastern families, the father's role has primarily been that of the breadwinner and an authoritarian figure (Ho et al., 2013). While there has been a shift in many countries, the traditional father role remains ingrained in many Eastern countries (Ria Novianti et al., 2023). Therefore, consideration should be given to differences in parenting practices and preferences across and within cultures when reflecting on father participation in interventions and research. The concept of the 'good father' (Adler & Lenz, 2015) who is involved sensitively and accompanies their child in various activities may not be appropriate for all families depending on many factors, including cultural beliefs, family dynamics and socioeconomic status (Ho et al., 2013; Lansford, 2022; Planalp & Braungart-Rieker, 2016; Ria Novianti et al., 2023). Such factors may explain the lack of father representation across cultures and differing backgrounds, while also highlighting the need to remain sensitive to diverse family systems. This was further reflected by Acar et al. (2021), who highlighted the need for future research in the area and the need to develop culturally responsive methodological approaches to foster a better understanding of meaningful parental participation in EI across cultures.

2.15.4 Conclusion and Implications for Practice

While parent coaching yielded positive outcomes across studies, the limited number of studies that included fathers significantly restricts the robust and valid conclusions that can be drawn about the effectiveness of parent coaching for fathers. Only 2 fathers were represented in the included studies, creating a bias in the overall sample representation. The findings of this review may primarily reflect the experiences and outcomes of mothers as the primary

caregivers rather than those of fathers. Consequently, the review's findings may not be fully generalisable to fathers as a distinct group within the context of parent-coaching interventions. Given the small sample size, any reported effects may not be representative or robust and could be an artefact of sampling error.

In terms of implications for future research and practice, recommendations for making future studies more amenable to fathers were suggested. This included adapting intervention goals in line with paternal interaction styles, adapting to father learning styles, offering flexible appointments and actively offering support to both mothers and fathers. In addition, studies would benefit from more diverse sampling strategies, such as convenience or purposeful sampling, to ensure fathers from varying backgrounds are adequately represented across parent samples. Future parent-coaching interventions targeted directly at fathers are needed to provide a more in-depth understanding of their unique experiences and to determine the true effectiveness of coaching for this population. Additionally, including qualitative data may offer a broader understanding of fathers' experiences and support the identification of barriers and facilitators to their inclusion in research.

3 Empirical Paper

3.1 Chapter Introduction

This chapter will describe the methodology used in the current research study. A quasi-experimental design was employed to explore the outcomes of a parent-coaching intervention with fathers of young autistic children. Father-child dyads were recruited via convenience sampling through local early intervention (EI) autism services. Participating fathers and their children received a parent-coaching intervention delivered across a number of sessions. Further details of the research process, including research design, participant recruitment, measures employed, intervention details and data analysis, will be described throughout this chapter.

3.2 Study Overview

A systematic review of the literature identified that fathers are currently underrepresented in EI literature. Specifically, very few fathers were found to be actively included as participants in parent-coaching interventions. Informed by such findings, the following research questions were generated:

1. To what extent is parent-coaching effective with fathers of autistic children?
2. What effect does the intervention have on fathers' autism-specific parenting self-efficacy?
3. What are fathers' perceptions of the intervention and its outcomes?

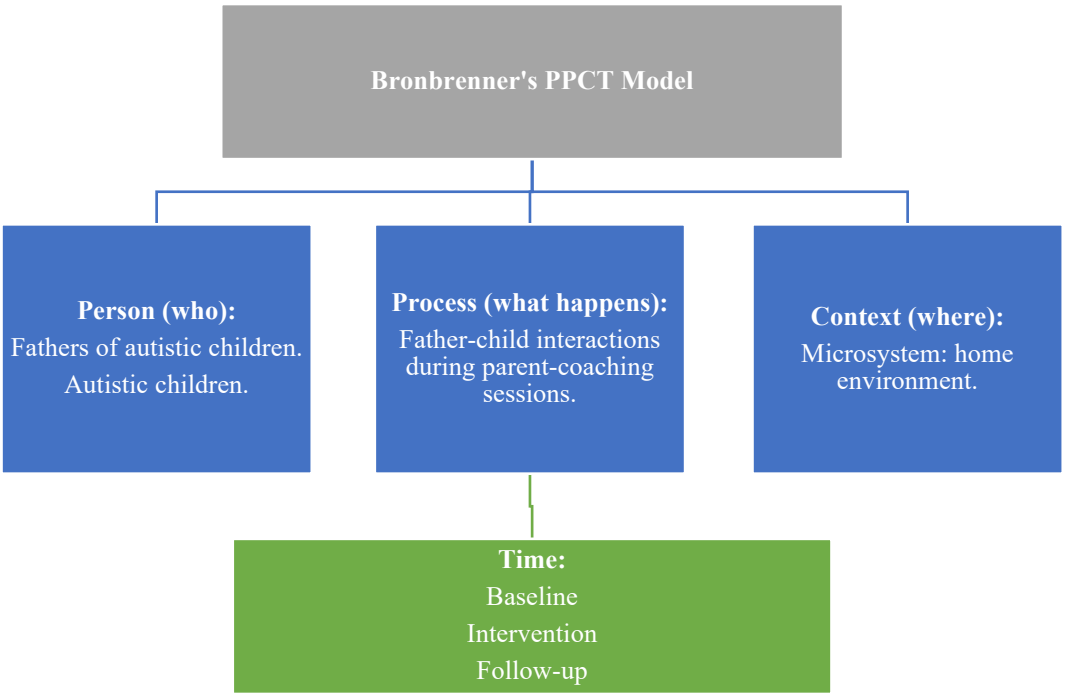
3.3 Research Design

3.3.1 Link to PPCT Model

Bronfenbrenner and Morris' (2006) Person-Process-Context-Time (PPCT) model informed the overall research design of this study. Bronfenbrenner (1986, 1989, 1999) noted the complexities of including all elements of the bioecological model in one comprehensive study design and analysis. However, Tudge et al. (2009) argue that all four elements of the

model should be present. All four elements of the model are addressed in the current research design and are highlighted in Figure 4. The overall goal of the intervention was to support father-child interactions (proximal processes) in the context of the home environment (microsystem). These processes were measured at different time points, with the aim of such processes being implemented consistently over time. It was also important to consider individual characteristics for both the father and child when interpreting the outcomes of the study. Lastly, while the intervention took place in the context of the microsystem, wider contextual influences such as fathers' work schedules were also considered in the overall design, which will be discussed later in this chapter and Chapter 4.

Figure 4: *The PPCT Model Mapped onto the Research Design*



3.3.2 Research Paradigm

A pragmatic approach to understanding the research question was employed throughout this study (Mertens, 2015). It proposes that every individual has their own unique experience and interpretation of the world (Mertens, 2015). As the current research sought to understand

fathers' unique perspectives and experiences, pragmatism, as a research paradigm, was deemed most suitable. Furthermore, it also acknowledges that research always occurs in social, historical, political and other contexts (Creswell, 2007). The current research took place in the context of the home, and a pragmatic approach enabled the researcher to accommodate the different home and family contexts of the participants, as well as their unique ways of interacting with their child and understanding their child's needs. A pragmatic approach also allowed the researcher more flexibility in terms of choosing methods, techniques and procedures that best suited the research questions (Patton, 1990). In contrast to post-positivist research, which seeks to disprove a hypothesis or theory, a pragmatic approach enables meaning to be inferred from the reported experiences and perspectives. Furthermore, pragmatism places a strong focus on the outcomes of the research (Creswell, 2014). This focus is often on the application of successful strategies, and, given that it was hoped that positive components of the current intervention could be identified and used in future practice, a pragmatic approach is well suited to the current research design.

3.3.3 Research Approach

In line with a pragmatic approach, a quasi-experimental approach to understanding the research questions was adopted (Creswell, 2014). Specifically, a single-subject, multiple-baseline across-behaviours design was used to investigate the effects of a parent-coaching intervention. Multiple baseline designs (MBDs) are a type of single-subject design (SSD), which are widely used in applied and clinical settings in psychology and education (Kratochwill et al., 2010). They are frequently adopted within autism interventions as they allow for experimental control with participants from heterogeneous populations (Kratochwill et al., 2010; Slocum et al., 2022). SSDs operate according to 3 main features, as outlined by Kratochwill et al. (2010). Firstly, an individual "case" is the unit for intervention and analysis. A "case" can be an individual participant or a cluster of participants. Secondly, the case or

individual acts as its own control within the study for comparison purposes. Lastly, the outcome measure is measured repeatedly within and across different levels or conditions of the independent variable (IV). The different conditions are referred to as "phases" and include baseline and intervention or treatment phases.

The overall goal of SSDs is to determine if there is a functional relationship between the introduction of an IV and changes in the dependent variable (DV). In SSD, interventions can be evaluated as changes in target behaviours are measured over time (Cooper et al., 2014). A functional relation can be considered to exist if a change in the DV is observed following the introduction of the IV. In other words, the experimenter should be able to demonstrate a change in the DV in a precise and controlled manner (Slocum et al., 2022). Experimental control is achieved through the replication of treatment effects, according to the type of SSD in operation. In a MBD, experimental control is achieved by staggering the introduction of the IV across participants, behaviours or settings (Cooper et al., 2014; Kratochwill et al., 2010).

The current study employed a multiple baseline across behaviours design. The IV in the current study was the parent-coaching intervention, while the main DV was the degree to which goals were implemented with fidelity by the fathers. Initial baseline data was collected simultaneously across all goals targeted for intervention. The intervention was then introduced sequentially for one goal at a time, while data was collected on fidelity of implementation by the fathers over time. Data was gathered primarily through quantitative measures to enable the researcher to explore the effectiveness of the intervention. Qualitative data was gathered post-intervention to explore fathers' unique views on the research process and intervention outcomes, in line with the pragmatic approach.

3.3.4 Participants and Recruitment

Families were recruited via convenience sampling, through local autism pre-schools and EI classes for autistic children. The inclusion criteria were: (i) the father/guardian was aged

18 years or over; (ii) the father/guardian had a child with an official diagnosis of autism; (iii) the child was aged 2-6 years and (iv) the child's father/guardian was available to participate for the duration of the research (approximately 6 weeks). Recruitment posters (see Appendix 5) were provided to relevant services, and the researcher handed out information sheets (Appendix 6) and consent forms (Appendix 7) to interested families in person. In addition, a child assent form was also provided to gain child assent (Appendix 8). Interested families were requested to return consent forms within 2 weeks if they wished to participate. This became a lengthy process, and a high level of attrition was noted. Eight families were initially contacted, and 4 of these families indicated they were interested; however, only 2 returned the consent forms, even after frequent follow-up from the researcher. The main reason cited for withdrawal was the father's work schedule. One of the families indicated that their daughter does not allow anyone outside of the immediate family into the house. Clinicians have been unable to conduct home visits in the past due to this. The following reflection was noted by the researcher:

> Initially, I expected participant recruitment to be straightforward, but I quickly realised how challenging it is to engage fathers in research. Although many families expressed interest, few returned consent forms. Mothers often shared that while they saw value in the study for the fathers, demanding work schedules made participation difficult. This experience gave me valuable insight into the systemic barriers that limit fathers' involvement in research, particularly time constraints due to employment. (Reflective Diary, 3/05/24).

3.4 SCERTS Framework

The assessment and intervention process was guided by the SCERTS model (Prizant et al., 2006). The acronym SCERTS represents key developmental domains within the model: Social Communication (SC), Emotional Regulation (ER) and Transactional Supports (TS). The SCERTS model is a manualised curriculum-based assessment and intervention framework

designed for autistic children, which can be implemented by their families at home and by teachers in educational settings (Laurent et al., 2018). The Social Communication and Emotional Regulation domains consist of developmentally-appropriate objectives for the child and are organised into 3 communication stages based on the stages of language development: Social Partner, Language Partner, and Conversational Partner (see Table 8 for a further description of each communication stage). The Transactional Supports domain consists of practical objectives that parents or communication partners in the child's environment can implement to support the development of key skills. These include learning supports and teaching strategies which are matched to the child's objectives.

Table 8: *SCERTS Communication Stages (Prizant et al., 2006)*

Communication Stage	Description
Social Partner	Where a child is using fewer than three words or phrases (which may be spoken, signed, pictured, written words or other symbolic system) referentially, regularly and with communicative intent.
Language Partner	Where a child uses more than three words or phrases (which may be spoken, signed, pictured, written words or other symbolic system) referentially, regularly and with communicative intent.
Conversation Partner	Where a child uses at least 100 words or phrases (which may be spoken, signed, pictured, written words or other symbolic system) referentially, regularly and with communicative intent and can use at least 20 different word combinations that are creative.

3.5 Data Collection Procedures and Measures

The SCERTS assessment process (SAP) utilises caregiver questionnaires, interviews, and observations of the child in their natural environment. According to Prizant et al. (2006), the SAP is a criterion-referenced, curriculum-based assessment tool designed for assessment. Many of the items in the SAP are based on developmental progressions documented in research

on the development of children with and without disabilities (Prizant et al., 2006). Therefore, there are no psychometric properties available for the SCERTS measures employed as part of the SAP. The authors (Prizant et al., 2020) describe the SAP as an evidence-based practice, with strong content validity for the development of autistic children. A breakdown of the SAP can be seen in Figure 5.

Figure 5: *SCERTS Quick Start Guide*

Bare Necessities – SCERTS Quick Start Guide

Assess and Establish Priorities		
STEP	**Materials needed**	**Considerations**
1.) Determine Child's Stage	Worksheet for Determining Stage (WDS)	• If the child is new to you, ask someone who knows the child well to help complete the WDS form • Remember, a child does not have to be speaking to be a symbolic communicator (Language Partner or Conversational Partner) • If the child primarily uses echolalia to communicate, they are a Language Partner • If a child is situationally mute in some environments, their stage is determined by the most developmentally sophisticated communicative means that they demonstrate in any setting (focus on transactional supports in environments that cause mutism)
2.) Invite Family / Child Input	SCERTS Assessment Process – Report Forms (SAP-RF)	• Invite the child and their family to share information that helps you understand the family's natural activities and routines • Invite the child and their family to share information about the supports they already have in place • Invite the child and their family to share information about priorities, next steps, objectives and supports • Remember information can be gained through questionnaires or conversation
3.) Observation / Interaction in Natural Contexts	SCERTS Observation and Action Planning Grid (SOAP)	• If possible, observe the child in a few different activities with their familiar partners to gain a sense of the regulation and communication skills that they use to navigate their days • During observations, also focus on the interpersonal supports and activity modifications that their partners use / have put in place • If observation isn't possible, reflect on your Interactions with the child with respect to their regulation & communication abilities and the transactional supports you use • You can ask for video / further input from those who interact most with the child
4.) Collaborate to Set Objectives and Determine Transactional Supports	Frequently Used Objectives and Transactional Supports (FTS) SCERTS Assessment Forms (SAF) Individualized Goal Framework (IGF)	• Compile all the above information and use it to inform objectives and goal setting (being sure to center on child and family priorities • Identify up to 4 (total) SC & ER objectives to be supported in daily interactions. Refer to FTS and SAF for • For each SC / ER objective chosen- ensure that at least 2 developmentally appropriate, corresponding TS are selected and recorded as part of the SC or ER objective • Refer to the IGF for ideas related to setting meaningful criterion to be used to measure progress

In addition, background information and demographics were collected using a questionnaire designed by the researcher (Appendix 9). In line with FCP and as a way of keeping both parents informed, both parents were invited to participate in the interview

process. At the outset of the interview, it was stated that both parents were welcome to respond, but the interview would be directed towards the father as the main agent of change within the current study.

3.6 SCERTS Measures Employed

3.6.1 Worksheet for Determining Stage (WDS)

The WDS is a brief questionnaire used to determine a child's current communication stage: Social Partner, Language Partner or Conversational Partner (see Appendix 10). It is developmentally informed and aligns broadly with established models of social communication development (Prizant et al., 2006). This informed which assessment forms the researcher used for the remainder of the assessment process.

3.6.2 The SCERTS Assessment Process (SAP)-Report Form

The SAP-Report form is a caregiver questionnaire consisting of several items in the 3 core domains: social communication, emotional regulation and transactional support. The purpose of the form is to gather background information about the family's perspectives on the child's current social communication and emotional regulation abilities. It also identifies what supports the families are currently using (transactional supports) and the child's strengths and interests.

3.6.3 The SCERTS Assessment Process (SAP)-Observation Form

Following the completion of the SAP-Report form, observations of the child interacting with their father were conducted in the child's natural environment. The SAP-Observation form was used to guide these observations. The SAP-Observation Form consists of several objectives under the domains of social communication and emotional regulation. The observer scored each objective using the 0, 1, 2 scoring system (2=criterion met consistently; 1=criterion met inconsistently or with assistance; 0=criterion not met). Fathers' use of transactional

supports was also scored on the SAP-Observation form using the same scoring system. Observations were completed on two separate occasions across different activities. If a behaviour or objective was not observed during the observation, information obtained during the SAP-Report form and parental interview was used to supplement the observation.

3.6.4 The SAP Summary Form

The SAP Summary Form was used to summarise the child's strengths and areas for development. The SAP-Observation form was scored, and a total score in each domain was provided. Based on this summary, priority areas were identified, and the researcher engaged in collaborative goal-setting with each family. Each family identified a minimum of 3 goals with corresponding transactional supports that were targeted for intervention.

3.7 Additional Measures

3.7.1 Autism-Specific Parenting Self-Efficacy Scale (PSEaS)

The PSEaS is a 17-item questionnaire designed by Kurzrok et al. (2021) to measure parents' confidence in their ability to manage the unique demands of parenting an autistic child. Many other parent self-efficacy measures exist, e.g., the Parenting Sense of Competence Scale-Revised (PSOC-R, Gilmore & Cuskelly, 2024); however, the PSEaS is sensitive to the unique needs of parenting an autistic child. The 17 items represent 17 autism-specific parenting themes. Each question is presented in an affirmative statement, e.g. "I feel confident that I can advocate for my child and my family in social spaces". Parents were asked to rate their agreement with each statement according to a 5-point Likert scale (1=strongly disagree, 5=strongly agree). The PSEaS has been shown to have a high degree of internal consistency across all scale items, with Cronbach's alpha reported to be 0.91 (Kurzrok et al., 2021). Participating fathers completed the PSEaS pre- and post-intervention to evaluate if the intervention had any impact on perceived levels of parenting self-efficacy. The measure

computes a total Parenting Self-Efficacy (PSEaS) score, with higher scores indicating greater levels of parenting self-efficacy (PSEaS). Some questions were adapted in line with the context, e.g., "school" was replaced with "pre-school" and neuro-affirmative language, e.g., 'ASD' was replaced with 'autism' (see Appendix 11).

3.7.2 Father Fidelity

Goals for each father were identified as part of the assessment process. Each goal was operationally defined based on the SCERTS criteria. Fidelity of implementation was calculated using partial interval recording (PIR). Ten-minute observations of the father engaging in the target goal were conducted. Each 10-minute observation was split into 30-second intervals. If the father was observed to meet the criteria at any time during an interval, the interval was coded as correct. The percentage of correct intervals was calculated by dividing the total number of correct intervals by the total number of intervals and multiplying it by 100 to give a percentage.

3.8 Intervention Procedure

3.8.1 Baseline

Once each father's goals were identified, baseline observations of the father's current use of the skills were conducted. Father-child interactions were observed across 10-minute intervals using PIR. No feedback was provided during baseline sessions. Fathers were instructed to play with their children as they typically would. A sample of a data collection sheet can be found in Appendix 12.

3.8.2 Parent Coaching Sessions

The researcher completed sessions in the home environment with each father-child dyad weekly, where possible, and sessions typically lasted 1 hour. Multiple 10-minute observations were conducted during each session. For Family 1, a total of 5 sessions were

conducted, which took place on the following dates: the 5th of July 2024, the 11th of July 2024, the 18th of July 2024, the 2nd of August 2024 and the 15th of August 2024. A follow-up probe was conducted on the 8th of October 2024, nearly 8 weeks post-intervention. The sessions took place from 5:30 pm – 6:30 pm as this best suited the participating fathers' work schedule. For family 2, a total of 4 sessions were conducted on the following dates: the 2nd October 2024, the 14th October 2024, the 21st October 2024 and the 11th November 2024. The follow-up probe was conducted on the 2nd December 2024, 3 weeks post-intervention, to assess for maintenance. The sessions also took place from 5:30 pm – 6:30 pm to suit the father's work schedule.

Coaching followed a 4-step collaborative coaching model (Wetherby et al., 2014) to support fathers in implementing target goals as outlined in Table 9. Additionally, strategies from the cognitive apprenticeship framework (Dennen et al. 2007) were employed to reinforce father engagement and learning. Following the initial modelling phase, a second scaffolding-practice phase was employed as part of the coaching procedure to support fathers in implementing target goals. For example, one of the target goals was responding to all of the child's communication cues. The researcher scaffolded father-child interactions by first joining in with what the child was doing and gaining their attention. Once the researcher gained the child's attention and was engaging in back-and-forth interactions, the father was invited to join in or take the next turn. The researcher then took a step back. Following this, guided participation or caregiver-led practice with feedback was employed. During the feedback stage, fathers were encouraged to reflect on their use of the strategy and what went well. Positive reinforcement was then provided using behaviour-specific feedback with examples, to reinforce what the fathers were doing well. Across sessions, the researcher also further reinforced father learning by commenting on specific changes she had noticed in terms of their interactions with their child.

At the end of each coaching session, a plan for the week was completed using the planning grid from the SCERTS model. This highlighted activities through which the goals could be implemented during the week. One goal was introduced at a time, in line with the MBD. Similar to previous studies (Akemoglu & Tomeny, 2021; Erturk et al., 2021; Wetherby et al., 2014), parents had to achieve 80% fidelity before the next goal could be introduced. Alternatively, a criterion of 3 consecutive points above the highest baseline level was set as an alternative criterion (Flippin, 2019), should fathers present with difficulties in reaching 80% fidelity. The following reflection was noted:

> When reviewing the criteria for fidelity among previous research, it was determined that 80% fidelity was most frequently set as the minimum standard parents must achieve. However, when setting this as the criterion within my research project, I was apprehensive that this would be difficult for parents to achieve. As I was employing a MBD, this also meant that parents had to meet this criterion before moving on to the next goal. I was nervous that it would take parents a long time to reach the criterion on any one goal and prevent the introduction of new goals, increasing the overall length of the intervention. However, to overcome such possibilities, I collected data across more than one 10-minute interval in each session if deemed appropriate. In addition, an alternative criterion was set to account for the possibility of this (Reflective Diary, 10/06/2024).

Table 9: *Steps in the 4-Step Coaching Model*

Step	Description
1. Target Goal Introduced	At the start of each session, the researcher provided information about the target goal and the rationale for teaching it. Handouts developed by the researcher were provided about each goal (see Appendix 13 for sample), which included step-by-step guidelines on implementation.
2. Modelling	The researcher modelled implementation of the strategy with the child while the father observed. The father was instructed to respond to interactions if they arose and guided practice was facilitated as needed. This involved the researcher talking the father through the goal.
3. Caregiver-led practice and reflection with feedback.	The father was then given time to practice the goal and encouraged to reflect on his use of the strategy. Feedback was provided throughout.
4. Interventionist backout for caregiver independence.	The researcher observed the father across a 10-minute interval to assess learning. No feedback was provided during the interval.

3.8.3 Follow-up

A follow-up probe was conducted following the end of the intervention to assess for maintenance of the targeted goals. The follow-up probe was conducted 7.5 weeks post-intervention for family 1 and 3 weeks post-intervention for family 2. The difference in the post-intervention timeline varied due to the different schedules of the families and cancellations due to illnesses and work commitments. Conditions were similar to baseline, and fathers were

instructed to play with their children as they typically would. Ten-minute observations were conducted across different activities, and no feedback was provided during intervals.

3.8.4 Post-Intervention Questionnaire

Similar to research conducted by Akemoglu and Meadan (2019) and Akemoglu and Tomeny (2021), a post-intervention questionnaire was employed to explore each father's views and experiences of the coaching intervention (Appendix 14). The questionnaire was completed after the follow-up probe was conducted. Questions were adapted from the Akemoglu and Tomeny (2021) study and focused on the acceptability and effectiveness of intervention goals, procedures and outcomes. It also aimed to explore fathers' unique experiences of being involved in their child's intervention programme. It must be noted that this questionnaire was not validated and may have benefited from being piloted prior to use in this research.

3.9 Data Analysis

The effects of the intervention were analysed by visual inspection of the data. Patterns in the level, trend and variability were noted. As defined by Kratochwill et al. (2010), level refers to the mean score for the data within a phase. Trend refers to the slope of the best-fitting straight line for the data within a phase, and variability refers to the fluctuation of the data around the mean. In addition, the percentage of non-overlapping data (PND) was calculated to evaluate the extent of performance change between baseline and intervention phases (Scruggs et al., 1987). The PND is a metric commonly employed in SSD to assess treatment effects. Treatment effects are calculated by determining the proportion of data points in a given treatment condition that exceed the extreme value in the baseline condition. Scores ranging from 70 to 90 represent effective treatments (Scruggs et al., 1987; Tarlow & Penland, 2016).

3.10 Procedural Integrity

The researcher is a Board-Certified Behaviour Analyst (BCBA), who has over 5 years' experience completing parent training in early-intervention settings and the home environment. The researcher also obtained training on the SCERTS model in 2023. To ensure all steps in the procedure were completed in each coaching session, a checklist of the steps involved was created and followed by the researcher during all sessions (see Appendix 15). In addition, the researcher engaged in reflective practice throughout each session using Schön's (1983) *Reflection in Action and Reflection on Action* as a framework. For example, a reflection noted:

> I probably bombarded the parents with a lot of different information on all of the goals at once. This could have been overwhelming for them. Going forward, it's important to just stick to one goal and go through it step by step. (Reflection after the first session with family 1, 05/07/2024).

This impacted the researcher's practice, as evidenced in a later reflection:

> …. as I was aware not to jump ahead to the next goal or provide too much information, I stuck to relevant points only from the target goal. This supported the father to focus on mastering the current target goal, instead of trying to jump ahead to the next goal (Reflective Diary, 11/07/2024).

These reflections supported the integrity of the researchers' interactions with participants and the research in general.

3.11 Ethical Considerations

The current research conformed to the Psychological Society of Ireland's (PSI) ethical guidelines. Ethical approval from Mary Immaculate College Research Committee (MIREC) was obtained at the outset of the research process and granted on the 15th of March 2024 (see Appendix 16). It was important to consider issues such as informed consent, child assent, anonymity of data, General Data Protection Regulation (GDPR), the storage of data, and

participants' rights to withdraw. The MIREC committee was satisfied that all these risks had been considered and measures had been put in place to minimise them.

Firstly, voluntary informed consent was obtained at the start of the study from each parent-child dyad. An information handout was given to all parents outlining the purpose of the study, the parameters of participation, the duration of the study, data storage, and the reporting of results. They were told that all data would be anonymised and that participants would be given pseudonyms for the analysis and reporting of the data. It was highlighted that data and information gathered as part of their involvement would remain confidential and be stored under data protection laws (MIC research guidelines, GDPR). Participants were reminded of their right to withdraw at any time. The researcher remained sensitive and open to the possibility that participants could withdraw their participation at any stage of the study without reason.

As the children were too young to give consent, parental consent was obtained for each child's participation in the research. While conducting the research, the researcher made an effort to gain child consent, via utterances, behavioural indicators and by using visuals. Invitations to play or participate in the target routine were expressed in a way that was understandable to the child. If the child indicated that they did not want to participate at that time verbally or via behaviours such as walking/running away, screaming, crying, etc., a break was taken. No potential risks to the children were identified from participating in the current research as the researcher was committed to responding sensitively to the child's reactions. All sessions were play-based, child-led and embedded in naturally occurring routines throughout the child's day in their own homes, and based on the intial assessment of need, were developmentally appropriate.

The psychological wellbeing of the parents was also protected throughout this research. It was envisaged that parents could become upset describing their experiences during the interview/questionnaire stage of the study. Interviews were conducted in the home setting, which provided a sense of security for the parents. The option of breaks was offered during all sessions. The researcher remained sensitive and non-judgemental to information disclosed throughout the research process. The researcher also provided the option of checking in between sessions if necessary to provide parents with a feeling of support and a chance to discuss any concerns.

3.12 Results

The results for each family are summarised in terms of background information, outcomes from the SCERTS assessment process, and goals selected for each family. Following this, the results from the parent coaching intervention, findings from the follow-up questionnaire and the effects on parenting self-efficacy will be summarised. Pseudonyms are used throughout this section.

3.12.1 Background Information

A total of 2 father-child dyads participated in the study. The relevant information obtained from the background and demographics questionnaire is presented in Table 10.

Table 10: *Participant Background Information*

	Ben & Alan	**Gary & Brian**
Child Age	4 years, 7 months	4 years, 6 months
Child Diagnosis	Autism	Autism
Interests	• Outside • Tv • Music • Dancing • Bubbles • Balloons • Chase • Trolls • Teletubbies	• Bubbles • Balloon • Waterplay • Carrying small toys • Throwing stones
Education	Mainstream pre-school with level 7 AIMS support.	Department of Education EI class.
Family	Only child.	Youngest of 3 boys. Two siblings aged 6 and 9 years (neither have any identified additional needs).
Other Services	Attends private speech & language sessions. Linked with CDNT but no active support currently.	None. Linked with CDNT, but no active support currently.
Parental Jobs	Both working full-time.	Brian is working full-time. Mother is a speech & language therapist and is currently on carers leave.
Communication Stage	Language partner.	Language partner.

3.12.2 Communication Stage

The Determining Communication Stage Worksheet (WDS) was completed with both families. Both children were determined to be in the Language Partner Stage. In addition, both

children had access to an Augmentative and Alternative Communication (AAC) device and were using the application TD Snap. Further information about each child's communication profile is provided in Table 11.

Table 11: *Communication Profiles of Each Child*

	Ben	**Gary**
Number of spoken words	70-80 single words.	Approximately 300 single words.
Reasons for communicating	Requesting food e.g., "apple juice", "bickie" (biscuits), "Tayto" (crisps), "blueberry" and "strawberry". Commenting on items of interest e.g. "minion", "penguin".	Requesting items e.g, "drinkie" (drink), "cartoons" and "bubbles".
Ways of communicating	Single words Pointing Taking parents hand AAC device (TD Snap).	Single words Pointing Taking parents hand AAC device (TD Snap).

3.12.3 SCERTS Profile

Information obtained during parental interviews using the SAP-Report form and during observations using the SAP-Observation form were used to build a SCERTS profile for each child (see Table 12 for scores). It also identified what transactional supports each father was currently using and supports that could be targeted for intervention. It was noted that both children had AAC devices, however, neither father was using it to support their children's understanding and use of language. Ben's device was typically only used in speech and language sessions, while Brian commented that he "did not buy into it" at the beginning and that Gary's mother uses it more consistently.

Table 12: *Summary of Each Child's SCERTS Profile*

	SCERTS Domain	**Ben**	**Gary**
Social Communication	Joint Attention	28/62	37/62
	Symbol Use	21/50	32/50
Emotional Regulation	Mutual Regulation	27/46	35/46
	Self-Regulation	24/56	39/56
Transactional Support	Interpersonal Support	32/66	56/66
	Learning Support	12/50	24/50
	Total Raw Score	**144/330**	**223/330**

3.12.4 Goals for Intervention

Following collaboration with both families and based on the outcomes of the SCERTS assessment process, individualised goals were set with each family. Transactional supports selected were matched to developmentally appropriate social communication and emotional regulation goals for each child. The goals set for each family can be seen in Tables 13 and 14.

Table 13: Intervention Goals for Family 1 (Alan and Ben)

I can enhance my social communication by...	**When my partners…**
• Communicating for a range of functions (e.g., requesting items, requesting actions, commenting). • Using symbols to communicate (e.g., words, gestalt phrases, AAC). • Using a range of word combinations, including people's names and verbs (using speech, pictures, signs or other symbolic forms).	• Respond to ALL of my communicative signals (nonverbal and verbal) to foster a sense of communicative competence. • Model a range of communicative functions. • Provide visual supports to foster expressive communication (e.g., AAC systems).
I can enhance my emotional regulation by…	**When my partners…**
• Using language strategies to independently make a transition (e.g., referencing a picture schedule)	• Use developmentally sensible visual support to support transitions across activities (e.g., photos/pictures/written symbols).

Table 14: *Intervention Goals for Family 2 (Brian and Gary)*

I can enhance my social communication by…	**When my partners…**
• Communicating for a range of functions (e.g., requesting items, requesting actions, commenting). • Understanding and using symbols to express a range of emotions.	• Model a range of communicative functions. • Use augmentative communication support to enhance my expression and understanding of emotion.
I can enhance my emotional regulation by…	**When my partners…**
• Using behavioural strategies modelled by parents to regulate arousal level. • Waiting for desired objects/food/activities.	• Model appropriate behaviours when needed. • Use developmentally sensible visual support to support transitions across activities (e.g., photos/pictures/written symbols).

3.12.5 Parent Coaching Intervention

The primary aim of the study was to investigate the effects of parent coaching on each father's use of the target strategies. The effects of the intervention were assessed through visual analysis of the graphed data. Data from each session was graphed weekly to monitor progress and determine whether the criteria had been met before moving on to the next goal. The level, trend and variability of fidelity of implementation were analysed for each goal (Horner et al., 2005). In addition, the PND was calculated for each goal to determine treatment effects.

3.12.5.1 Family 1: Ben and Alan. Visual analysis revealed an immediate and steady increase in Alan's fidelity across all 3 goals, which is presented in Figure 6. The first goal targeted for intervention was the use of AAC. Alan was not observed to use the AAC device in any of the baseline sessions with Ben. Following the intervention, Alan showed an immediate increase in his use of the device following feedback from the researcher, which steadily increased across sessions until the criterion was reached. Alan reached the criterion (80%) in 5 sessions and achieved a mean of 49% fidelity across sessions. While there was moderate variability in his responses, it was observed to be consistent and increased in a steady trend. At the 7.5-week follow-up, Alan achieved a fidelity of 70%, indicating that intervention effects were maintained. The PND was calculated to be 100% for goal 1.

Goal 2 focused on modelling a range of communicative functions. During baseline, Alan was observed to model some requests (behavioural regulation) when Ben wanted something, however, he was not observed to model other communicative functions such as social interaction and joint attention. Following modelling and feedback during the intervention phase, Alan showed an immediate increase in his use of all 3 communicative functions. Alan achieved the criterion in 3 sessions and demonstrated a mean fidelity of 57% across sessions. Some variability in his responding was noted, with an initial dip in performance observed in session 11, however, he recovered in session 12, with a positive trend upwards observed. Alan

maintained this rate of responding at the 7.5-week follow-up, where he achieved a fidelity of 80%, while the PND was calculated to be 100%.

Goal 3 focused on responding to all of Ben's communicative signals to foster a sense of communicative competence. During baseline, Alan's responses to Ben's communicative signals were variable, and he was observed to respond to a mean of 12% of Ben's communicative signals. During the intervention phase, Alan's response rate quickly increased, and he reached the criterion within 4 sessions. A mean fidelity of 60% was achieved across sessions. Little variability in responding was observed, and his fidelity remained relatively stable once the intervention was introduced. Alan achieved 80% fidelity at the 7.5-week follow-up, indicating maintenance of treatment effects. The PND was calculated to be 100%, with the fidelity across intervention sessions consistently exceeding Alan's highest baseline value.

3.12.5.2 Family 2: Gary and Brian. Visual analysis revealed an immediate and steady increase in Brian's fidelity across all 3 goals, which is presented in Figure 7. The first goal targeted for intervention was modelling a range of communicative functions. During baseline, Brian was observed to ask his son Gary a high frequency of questions when interacting with him and commenting on his play, e.g., "do you want more?", "is that fun?". His mean use of comments was observed to be 13%, with a low, stable rate of responding consistently observed across sessions. Following feedback, Brian's use of questions decreased, and his use of comments relevant to the context increased in a stable, steady manner across sessions, with some variability noted. During the intervention phase, a mean fidelity of 68% was achieved. Brian reached criterion in 4 sessions, and this was maintained at the 3-week follow-up with a fidelity of 80% observed. The PND was calculated to be 100%.

Goal 2 focused on modelling emotional expressions using Gary's AAC device. Brian was not observed to model any emotional expressions during baseline, with a mean fidelity of

0%. A rapid increase in level and trend was observed during the intervention phase. Brian met the criterion in 3 sessions with a mean fidelity of 85%. Very little variability was noted, with performance stabilising at a high level quickly. Intervention effects were maintained at the 3-week follow-up, with a fidelity of 75%. Overall, the PND was calculated to be 100%.

Goal 3 focused on using visuals to support Gary with waiting. Brian was not observed to use any visual supports during baseline, with a mean fidelity of 0%. During the intervention phase, a steady positive trend across sessions was observed, with Brian demonstrating a mean fidelity of 67%. Little variability in his performance was observed, and he reached the criterion in 3 sessions. The 3-week follow-up probe indicated that treatment effects were maintained with a fidelity of 80%. PND was calculated to be 100%.

Figure 6: *Results for Ben and Alan*

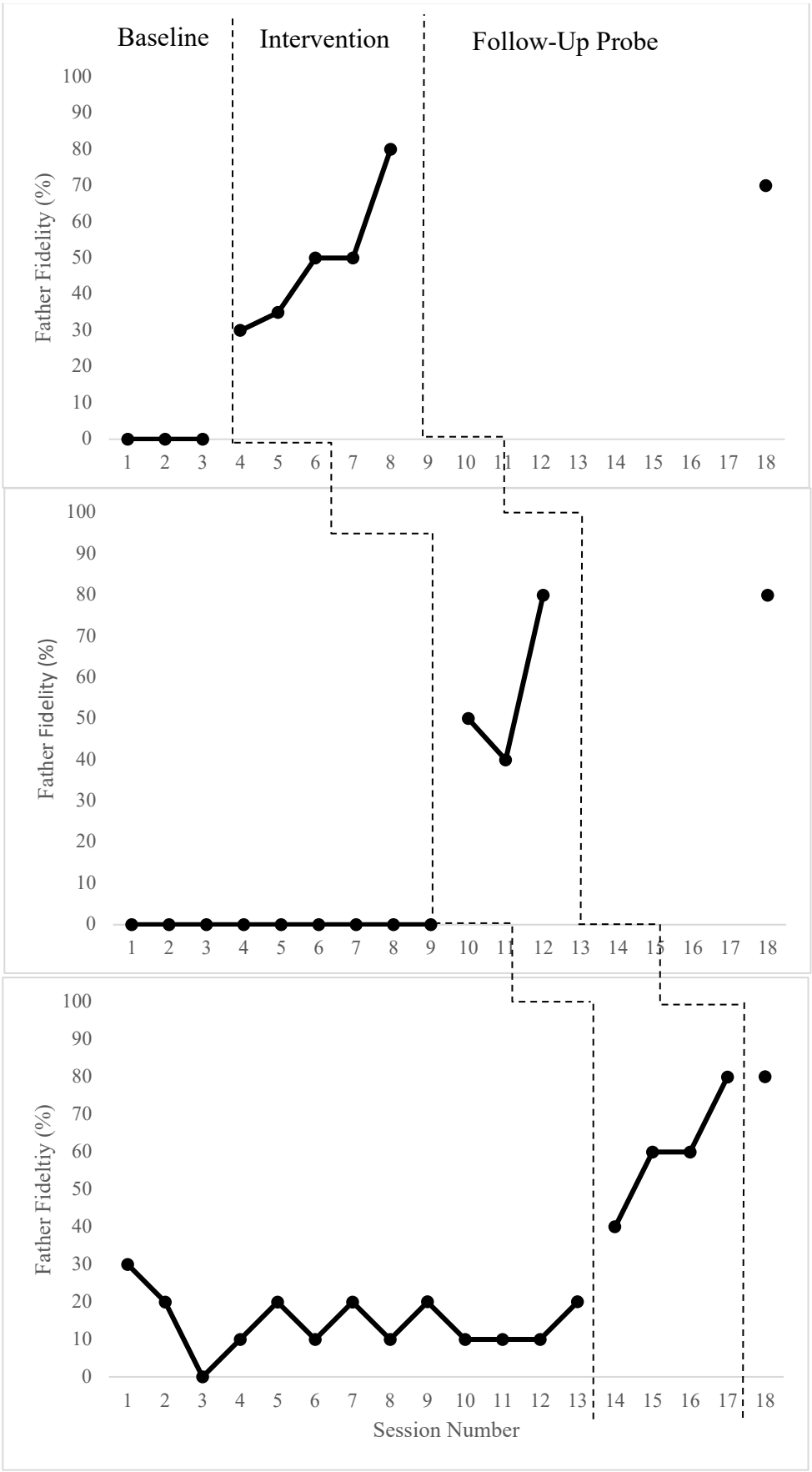
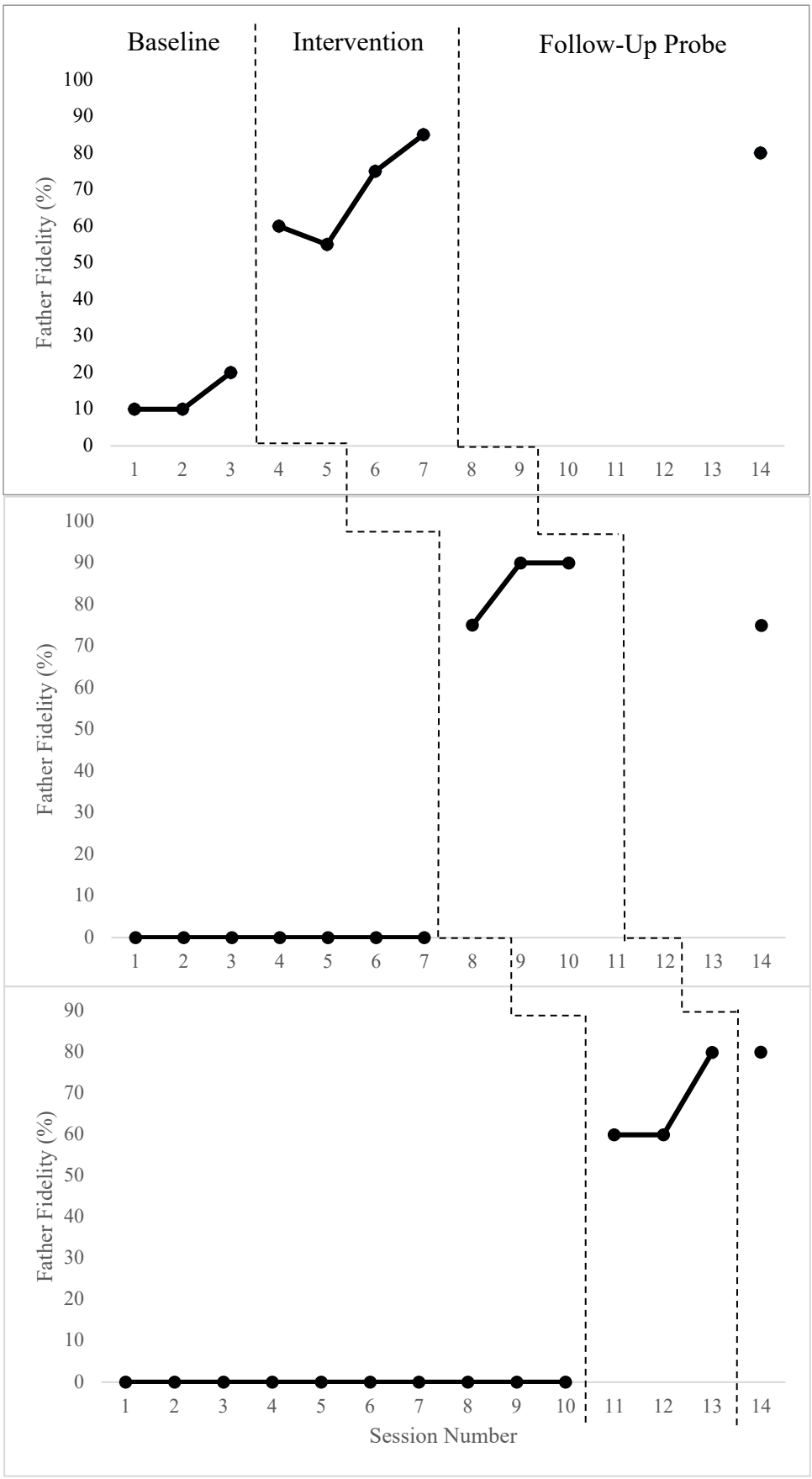


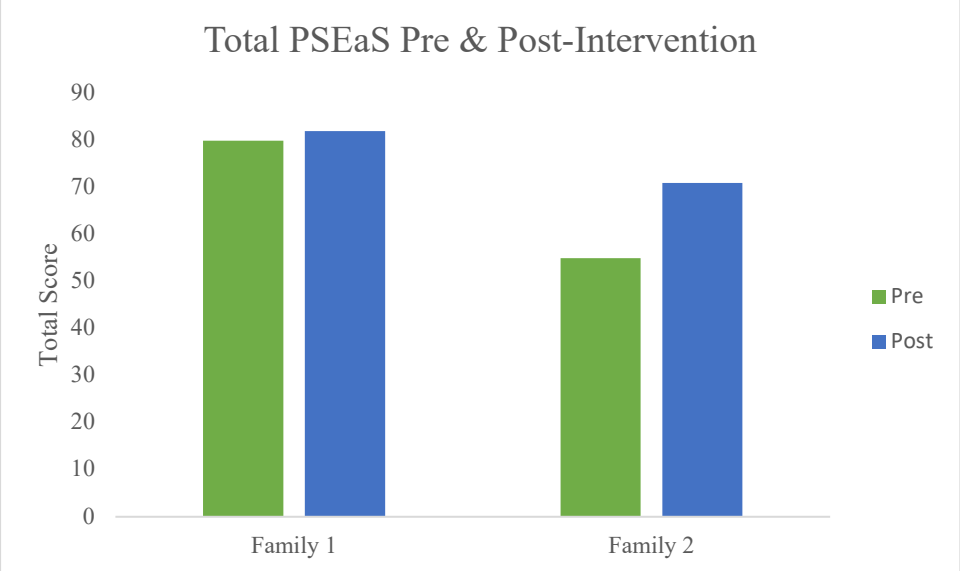
Figure 7: *Results for Gary and Brian*



3.12.6 Autism-Specific Parental Self-Efficacy (PSEaS)

The second aim of the current study was to investigate the impact of the intervention on fathers' ratings of autism-specific parental self-efficacy. A total autism-specific parenting self-efficacy (PSEaS) score was calculated pre- and post-intervention for each father (see Figure 8). Both fathers scored higher on the PSEaS post-intervention, indicating higher levels of parental self-efficacy following the intervention. Alan scored highly on the PSEaS pre-intervention (Total PSEaS=80) with only a 2-point difference reported post-intervention (Total PSEaS=82). The only statement he rated higher post-intervention related to his confidence in supporting the development of his child's skills: *"*I feel confident that I can help my child develop the skills they need to live an independent life*"*. In contrast, Brian was found to have a lower overall PSEaS score pre-intervention (Total PSEaS=55). The difference between his scores was more notable post-intervention (Total PSEaS=71), with a 16-point difference between pre- and post-intervention scores recorded.

Figure 8: *PSEaS Scores Pre- and Post-intervention*



3.12.7 Post-Intervention Questionnaire

The final aim of the current study was to explore fathers' perceptions of the intervention and its outcomes. Post-intervention questionnaires provided qualitative information related to each family's overall satisfaction with the goals, the procedures and the outcomes of the intervention.

3.12.7.1 Goals. Both families were satisfied that the goals targeted for intervention were reflective of their child's needs. For example, Alan commented: "Yes, they summed him up perfectly. It was great to work on supporting his communication and language development". Both families were asked to think about goals they might select post-intervention. Intervention goals were similar to those targeted during the intervention. Ben's parents were heavily focused on him developing his vocal speech, they commented: "We want him to be able to talk". Gary's father was interested in continuing to support him with waiting, while he also commented that he would like to continue with the current goals: "I interact with him a lot more than I used to, so to keep that up".

3.12.7.2 Procedures. Both families were satisfied with their overall experiences of the intervention. They both reported that the goals were easy to learn. They also benefited from the researcher modelling each strategy and providing examples and ideas. Alan commented: "He doesn't interact that well with many people, so he got loads out of it and it gave us loads of ideas. They [the strategies] were all explained really well and sessions were very interactive". Brian commented that the initial information provided did not make sense until it was demonstrated to him:

> The examples were a big help. I didn't get much from it until I got to watch you playing with him and demonstrate the different strategies… modelling, I couldn't even remember that word, as I said, that was the most beneficial part. When you provided

> the information before modelling the strategy, some of the language was kind of clinical so it was hard to understand. It made more sense when I got to see ye play.

Both families stated that they practiced implementing the goals outside of the sessions with the researcher and would continue to do so now that the intervention was finished. Brian saw the benefit of practicing these skills to support Gary's transition to primary school: "Yes, definitely, we want to set him up for success in school. I'm really enjoying playing loads of different games with him. I'm also more mindful of commenting on what he is doing and including feelings.

Both fathers reported that they enjoyed being involved in their child's intervention programme and that they had not had much opportunity to do this before. They also reported frustrations with the lack of available interventions available to their children through the public system. Neither family have been offered any individual therapy or post-diagnostic support. Ben's parents were recently offered the Hanen "More Than Words" training online. It was reported that having to go to a clinic setting would be a big barrier for both fathers, who both have full-time jobs. Brian commented:

> I enjoyed being involved. I haven't been involved before, but I hate bringing him to appointments as I will have to ask mum for all his details. This intervention was really pitched at my level. If had to go to a clinic – that would have been a big thing. I wouldn't be available to attend appointments generally with my working schedule. We are not offered many appointments in general through CDNT or groups either so it's hard to compare.

Gary's mother also gave the feedback that the intervention was much more feasible in the home environment: "So much better doing it at home. Everyone is so much more relaxed. Can demonstrate, with their own toys. It translates so much better to the home environment".

3.12.7.3 Outcomes. Both fathers reported that the intervention had an impact on the way they interact and play with their children. They both reported increased interactions with their child and reported playing more games based on their child's play interests and preferences. For example, Alan commented:

> Ya definitely, there are more games we are playing together; Connect 4, practicing loads of phrases and commenting on what he is doing e.g., "my turn", "your turn", "pour it out", "do it again". He really enjoys pouring the balls in the ball pit and us pouring them out over him. He will use his device to request "do it again".

Brian noted a big change in his own language and reported that he is now asking Gary fewer questions when he is playing with him. He also reported that he now feels more comfortable pushing Gary out of his comfort zone:

> I talk to him a lot more. As ridiculous as it might sound, I don't ask as many questions. I became very aware of this once you pointed it out, and how annoying it is. I push him and test him a lot more now, whereas I would not have done this before. For example, I will ask him to share sweets with me now or take turns when he is playing to see his reaction. Sometimes he will reluctantly give me a sweet, he wouldn't have done this before. So, I am pushing him outside of his comfort zone a little. He is really good at saying "stop it" now, he is doing the gestures (putting his hand up and turning away) and changing his tone of voice.

Brian acknowledged that he was supplementing what Gary's mother (speech and language therapist) was already doing and that he feels like he has more of a role now. He commented: "I have tried to model emotions, e.g., pretend to be sad to get sweets. I am trying to teach skills mum was predominantly doing*"*. Brian's sense of having the same role as Gary's

mother was also reflected in one of the sessions when he commented: “I feel like I can do more for him than just care for him”.

In terms of collateral effects on each child’s behaviour, both parents reported some observed differences. Ben’s father reported that he uses his AAC device more and that he will initiate more cause-and-effect games with him now. His parents have also observed him using phrases he would never have used before in context. For example, they reported he said “come on” when he was in his auntie’s house recently and wanted to leave. He also enjoys copying the actions from different songs, which his father will now do with him when watching different videos. Ben’s creche also reported that he is more sociable since returning after the summer break, and he will use phrases like “baby shark” and “run away”.

Brian also reported more positive interactions with Gary and reported that Gary is approaching him more than before: “He typically goes to mom first, but I think I’m a closer second than before”. He also reported that he is saying “Daddy” more frequently when trying to gain his attention or request items. This was observed in the last few sessions, and Gary’s mother also reported the same. She observed differences in their interactions with each other: “I definitely think the two of them are closer. Brian uses a lot more statements and less questions. There is more engagement on Gary’s end”. Brian did comment that it is still difficult for Gary to understand the concept of waiting: “I stopped asking questions and tried using the timer a few times. I felt like it was more of a distraction, and that he did not get the concept of waiting”. Both fathers also felt more confident in their ability to interact with and support their child’s development post-intervention. Overall, both families reported that they would recommend this intervention to other parents and that it was very beneficial.

3.13 Discussion

The overall aim of the current study was to evaluate the outcomes of a parent coaching intervention with fathers of autistic children. The SCERTS model (Prizant et al., 2006) was central to goal selection and the intervention process. In addition, a family-centered approach was adopted throughout, which some authors argue is as important as the intervention itself (Espe-Sherwindt, 2008; Henneman & Cardin, 2002; McCarthy & Guerin, 2022). The outcomes of the intervention will be discussed in the context of previous literature in the field, the theoretical context in which the research is situated, and the frameworks employed. A particular focus will be placed on the outcomes of the intervention, while due consideration will be given to effects on autism-specific parental self-efficacy and fathers' reported experiences of the intervention and its outcomes. Limitations of the study's methodology and implications for practice will be discussed in Chapter 4. In summary, the overall aims of the study were to answer the following research questions:

1. To what extent is parent-coaching effective with fathers of autistic children?
2. What effect does the intervention have on fathers' autism-specific parenting self-efficacy?
3. What are fathers' perceptions of the intervention and its outcomes?

3.13.1 Parent-Coaching with Fathers

The first research question aimed to explore the extent to which parent coaching is an effective instructional approach with fathers. While there is a substantial amount of research documenting successful parent-coaching interventions in the field of EI, most studies only include mother-child dyads as participants (Flippin & Crais, 2011). Very few parent-coaching interventions have specifically included fathers in the parent sample (e.g., Flippin, 2019; Zaghlawan & Ostrosky, 2016). This limits the generalisability of such findings and risks

promoting interventions that are not inclusive of fathers' needs. Moreover, the concept of family-centered practice was central to the development of this research project and is recognised as international best practice in early childhood intervention (Dunst & Espe-Sherwindt, 2016; Hiebert-Murphy et al., 2011; Moeller et al., 2013). Therefore, it is essential that both parents, including fathers, have a role in their child's intervention program, feel valued and are treated with dignity and respect.

The results indicated that there was evidence to support parent-coaching as an effective instructional approach with fathers. Both fathers quickly learned all 3 targeted goals and reached a high degree of fidelity (80%). Intervention effects were maintained at a 7.5-week follow-up probe for family 1 and a 3-week follow-up probe for the second family. In addition, the percentage of non-overlapping data (PND) was calculated for each goal and allowed for treatment effect sizes to be calculated. The PND was calculated to be 100% for all targeted goals across both families, which, according to Scruggs et al. (1987), indicates a "very effective" treatment. Fathers also demonstrated the ability to learn the targeted goals in a brief time frame (3-5 sessions), with improvements in their fidelity noted almost immediately after each coaching session.

Such findings are comparable with the limited amount of research on parent-coaching interventions which include fathers (Flippin, 2019; Zaghlawan & Ostrosky, 2016). For example, most recently, Flippin (2019) piloted a coaching intervention with one father-child dyad. Results indicated that the participating father was successfully able to learn three out of the four targeted strategies using a coaching-based approach. An emerging body of research indicates that fathers have different and unique interaction styles from mothers, e.g., father-child play tends to be more physical and involves rough and tumble play such as chasing, tickling and throwing (Bagner, 2013; Pancsofar & Vernon-Feagans, 2010; Rankin et al., 2019; Robinson et al., 2021; Tully et al., 2017). Therefore, Flippin (2019) focused on teaching

responsive verbal and physical play strategies. The authors argued that adapting goals in line with fathers' interaction styles supported successful outcomes and led to greater adherence from the participating father. Flippin (2019) refers to many father-related characteristics when discussing their findings, which can be related to the person element of the PPCT model (Bronfenbrenner & Morris, 2006). Central to the PPCT model is the assertion that development can be influenced over time through the interactions among the person, context, and proximal processes (Tong & An, 2024). When considering the outcomes of the current intervention, it is useful to consider the interplay between the process and person elements of the model, in particular.

Firstly, the process by which father-child interactions were developed was considered. The main focus of the current study was to support proximal processes in the context of the home environment using parent coaching. Within the SCERTS framework, transcational supports can be conceptualised as proximal processes. Target transactional supports for the fathers included: responding to all communicative signals (verbal and non-verbal), modelling a range of communicative functions (including comments relevant to the context), providing visual supports to foster expressive communication and understanding (including AAC devices and picture schedules) and modelling appropriate behaviours. Within the SCERTS framework, symbols represent the different ways a child communicates, which can also be conceptualised within the process element of the PPCT model (Bronfenbrenner & Morris, 2006). Key proximal processes highlighted within this element include interactions with objects and symbols. As stated by Bronfenbrenner and Morris (2006, p. 798):

> Proximal processes are not limited to interactions with people; they also can involve interaction with objects and symbols. In the latter circumstance, for reciprocal interaction to occur, the objects and symbols in the immediate environment must be of a kind that invites attention, exploration, manipulation, elaboration, and imagination.

Therefore, it was important to coach fathers to model developmentally appropriate language while also providing objects and symbols through which their child could communicate. Bronfenbrenner and Morris (2006) noted that proximal processes are bilateral; the use of AAC devices and pictures created the means for bilateral interactions to occur. Additionally, by coaching the fathers to follow their child's lead, different play materials of interest to the child were introduced, which provided a foundation for learning through play.

Secondly, the individual characteristics of both the father and child (person) were considered when evaluating intervention outcomes. In the current study, the goals targeted for intervention were not specifically designed in line with the research on father-child interactions, as was the case in the Flippin (2019) study. Instead, the goals were guided by the individual characteristics of the individual fathers and children within the context of this study. The SCERTS assessment framework was used to guide this process, and goals were embedded into naturally occurring father-child interactions. This also represents a more objective way of designing goals. Father's goals were selected from the transactional supports domain, while child goals were selected from the domains of social communication and emotional regulation. This method of goal selection took into consideration typical father-child interactions and supports, while an individual profile of each child was also developed. These goals represent a more holistic view of the child's development and the core domains in which autistic children present with differences (American Psychiatric Association, 2022; Yi et al., 2022). In the Flippin (2019) study, father goals were designed to support verbal language development as measured by single-word and multi-word utterances. In comparison, in the current study, social communication goals did not focus solely on verbal communication and encompassed each child's communication preferences and abilities. Consequently, the emphasis was placed on the child expressing themselves through various modalities, such as gestures, non-verbal cues, the use of symbols like pictures or AAC devices, and gestalt phrases. This approach can be

considered neuro-affirmative as it respects each child's strengths and preferences, with no expectation for the children to communicate verbally (Leadbitter et al., 2021).

Other important personal characteristics to consider when evaluating outcomes include both the child's and father's play preferences and styles. The play preferences of autistic children should be taken into account when designing naturalistic interventions in the home environment. In a study conducted by Doody and Mertz (2013), it was found that autistic children show a preference for play experiences that are sensory, cause-and-effect, or movement-based. This was also reflected in the current study, where the participating children showed a preference for cause-and-effect games and movement-based activities with their parents. Flippin (2019) also noted that the participating father tended to engage in more responsive physical play than responsive object play. The father reported that his child preferred movement activities and showed less interest in playing with objects, highlighting the need to account for child preferences when designing interventions.

The research shows that physical aspects of father-child play may benefit young children who seek out more movement-based activities and could align well with fathers' interaction styles. Parents of autistic children have previously cited difficulties in finding play activities that their children could learn from and engage in interactions with others (Doody & Mertz, 2013). However, the current study demonstrated that following the child's lead and attempting to become involved with their play preferences created multiple opportunities for father-child social interactions. Fathers were not bound by specific types of interactions, leading to naturally occurring opportunities for strategies to be embedded. Therefore, it may be more inclusive to consider an individual's play style and the child's preferences rather than imposing a gender bias when designing parental goals.

In support of this, findings from the Zaghlawan and Ostroskystudy (2016) indicated that it was not necessary to adapt target strategies in line with paternal interaction styles. The sample included in their study included one mother-child dyad and one father-child dyad. The same set of strategies were coached to both sets of parents during the intervention phase. While it was not the purpose of their study, no significant differences across parental gender were noted in their ability to learn the targeted strategies. Strategies targeted in the study included imitating the child's play with toys, using gestures, body movements and making vocalisations. Parents were encouraged to follow their child's lead and copy their actions as appropriate. Both parents successfully learned to implement imitation strategies to fidelity. Therefore, including the child's preferences and following their lead to support parent-child interactions may be key to the success of parent-mediated interventions.

Additionally, when looking at the PPCT model (Bronfenbrenner & Morris, 2006), what might be more important to consider when designing successful interventions is the process through which the strategies are learned. Interventions should support the resource characteristics of a person by increasing their skills and knowledge. The current intervention consisted of a 4-step collaborative coaching model (Wetherby, 2014): (1) The target goal was introduced, and information was provided; (2) the researcher modelled implementation of the strategy with the child while the father observed; (3) caregiver-led practice and reflection with feedback; (4) interventionist backout for caregiver independence. The outcomes of this research lend further support to coaching as an effective instructional method for adults. This is consistent with research on adult learning theory and key components of parent-mediated interventions, which suggest that adults may learn best when they are provided with guided practice and feedback (Sone et al., 2021, 2023; Wyatt Kaminski et al., 2008), and as reflected in the qualitative feedback comments from fathers in the current study.

In summary, intervention sessions were child-led, which is central to both FCP and NDBIs. Child-led learning, which builds on a child's current interests and abilities, is central to NDBIs and capitalises on their intrinsic motivation (Pickard et al., 2024; Schuck et al., 2022). The strategies in the current study were embedded in naturally occurring father-child interactions, and the children in the study frequently requested or indicated that they wanted physical or cause-and-effect play, including swinging, chasing, tickling, bubbles, actions to songs and ball throwing. Therefore, one interpretation of the successful outcomes in the current study was the degree to which both the child's and father's preferences were taken into consideration, which promoted the quality of the proximal processes between them. Through the process of coaching, an environment that was engaging and invited attention and exploration from the child was created (Bronfenbrenner & Morris, 2006).

3.13.2 Autism-Specific Parental Self-Efficacy (PSEaS)

Bronfenbrenner and Morris (2006) also highlight the importance of the resource characteristics of a person when evaluating outcomes. Another important aim of this study was to investigate the effects of the intervention on each father's autism-specific parental self-efficacy. Parental self-efficacy can be characterised under the resource characteristics of the father, within the person element of the PPCT model (Tong & An, 2024). Due to the documented research on the relationship between parent involvement in intervention (Estes et al., 2019; Flippin, 2019; Kurzrok et al., 2021), it was hypothesised that directly involving fathers in their child's intervention programme in the current study would increase PSEaS. Results from the current study found that both fathers reported higher PSEaS scores post-intervention, which lends support to this hypothesis and previous research in the field (Elder et al., 2005; Flippin, 2019; Kurzrok et al., 2021; May et al., 2015). Furthermore, previous research has shown that providing fathers with information that helps them to understand their children's behaviour and initiate interactions with them supports their interactions and

engagement (Elder et al., 2005). Providing information and a rationale for each goal was a key component of the current intervention. Consistent with the previous research, this may have enhanced understanding among fathers and, in turn, led to improved PSEaS. However, it was also necessary to use less clinical language, and the researcher adapted the language used following feedback from the second father (Brian).

It must be noted that for family 1 (Ben and Alan), minimal differences in pre- and post-intervention scores were noted. Alan reported a high PSEaS score pre-intervention. The effects of social desirability, along with individual family factors (mainly resource characteristics), should be taken into consideration here. For example, Ben was an only child, and the family, therefore, may have had more resources (including time) to understand his needs and invest in services/interventions. He only had the experience of raising an autistic child, so he may be navigating his parenting experiences through this lens. For family 2 (Gary and Brian), Gary was the youngest of 3 boys. None of his siblings had any identified developmental differences and could be considered typically developing. Therefore, Brian may have compared his confidence in parenting his autistic child with his experiences of raising his typically developing children. Brian demonstrated a higher PSEaS score post-intervention, indicating that participating in the intervention increased his overall confidence in supporting his autistic child.

However, the limited number of participants and the pre-test and post-test analysis make it difficult to determine if any reported changes were significant. It should also be considered that the scale employed was not sensitive enough to measure changes in autism-specific parental self-efficacy for this intervention. Many of the statements related to confidence in advocating for their child and navigating services. Such statements have a more distal influence on the child's development and were not situated within the context of the intervention. The PPCT model (2006) provides a framework for conceptualising the

environment and how the interactions and relationships among the components of the ecosystem may affect children's development (Shelton, 2018; Tong & An, 2024). The context is a central element of the framework and highlights the various systems of influence in which the child interacts (Tong & An, 2024). The current intervention was situated within the microsystem and did not focus on wider systemic issues at the exo-system level. However, such factors can not be separated from the ecosystem surrounding the child and may have affected the outcomes of this study. Both families noted that they received minimal input from their local children's disability network teams (CDNTs) and were frustrated with the same. Therefore, such issues may need to be addressed to support a higher level of PSEaS among parents. Lastly, the impact of father involvement in the intervention on the mother's efficacy or parental stress levels was not explored in the current study. While the participating father demonstrated higher PSEaS, it is unknown whether this had an impact at the wider family level.

3.13.3 Fathers' Perceptions of the Intervention

The final research question aimed to explore fathers' views on the intervention procedures and the outcomes. When designing interventions within the field of single-subject research, the need to assess the social validity of interventions is emphasised (Wolf, 1978). In particular, the need to determine whether the chosen goals are socially significant, the intervention procedures are socially acceptable, and the outcomes are socially important is fundamental. Xie et al. (2023) emphasise the importance of family outcome measures when evaluating interventions in the field of EI. Another strength of this study was the inclusion of qualitative feedback, which allowed for a broader understanding of the father's experiences of the intervention and a true measure of social validity. By including fathers in the research process and examining perceptions of their experiences, researchers can better understand ways to include them in future interventions.

Firstly, the social significance of the goals targeted for intervention was assessed. Similar to findings from Akemoglu and Tomeny (2021), both fathers wished to support their child's communication pre- and post-intervention. Such goals were socially significant to the family as they would allow them to understand their child's wants and needs, while allowing them to further develop positive social interactions. According to Chazin et al. (2024),, social validity measures should acknowledge both direct and indirect consumer perspectives. Direct consumers include those who directly receive the intervention, such as the autistic children in the context of the current study. Indirect consumers include those who are directly involved and impacted by the intervention, but are not direct recipients, namely the parents in the current study. McNeill (2019) argues that if indirect consumers perceive interventions to be feasible, useful and aligned with personal values, they will be more likely to implement them. The fathers in this study were involved at each stage of the assessment and intervention process in line with a family-centered approach. The goals selected for intervention aligned with their values and beliefs, which may have contributed to the successful intervention outcomes.

The intervention itself consisted of a 4-step collaborative coaching model (Wetherby, 2014). Both fathers reported the intervention procedures to be socially acceptable and accessible to them. Modelling and guided feedback were cited as the most beneficial components of the intervention. Sone et al. (2023) argue that guided practice and collaboration are essential components of coaching interventions, as they promote a triadic relationship between the clinician, the parent and the child. Feedback obtained in the current study lends support to this argument.

In terms of improving the intervention procedures, one father noted how the information provided in the handouts and at the outset of the intervention was clinical and difficult to understand. This highlights the need to ensure information is presented in accessible ways to families and the importance of modelling to support learning. While it may not be

feasible to provide in-person demonstrations in clinical practice, attempts should be made to provide video demonstrations where applicable to reinforce learning, as this was highlighted by one father in this study as key for implementation success. Other forms of technology and the use of telehealth could also be explored. For example, May et al. (2022) employed a text-based programme for fathers of autistic children, where they shared information related to 5 different areas about parenting an autistic child. Results showed a significant decrease in parenting stress and an increase in parenting self-efficacy.

It was also important to determine whether the outcomes of the intervention were socially significant. Both fathers reported a high level of satisfaction with the intervention's outcomes. Specifically, they were pleased with their ability to learn the targeted goals and noted an increase in positive interactions with their children. Both fathers indicated that they would continue to implement the targeted goals, which, as previously mentioned, relate to parental self-efficacy. Lastly, one father highlighted how the intervention impacted his role identity. He reported that he now felt he had more than a caring role and was adopting a role similar to that of the child's mother. This aligns with previous research conducted by Laxman et al. (2015), which suggested that father involvement in intervention programmes can lead to an enhanced role identity. This is significant, as the research suggests that fathers within the disability sector often feel undervalued, excluded, and overlooked in many aspects of their child's care, due to mothers frequently being viewed as the primary caregivers (Carpenter & Towers, 2008; Hodkinson & Brooks, 2023; May et al., 2022).

3.14 Chapter Conclusion

Bronfenbrenner and Morris's (2006) PPCT model provided a comprehensive and developmentally sensitive framework for understanding the complexities of parent coaching with fathers of autistic children. Overall, the results of the current study were consistent with the limited amount of research that currently exists on parent-coaching interventions, including

fathers. Both fathers successfully achieved targeted goals via coaching, and these results were maintained at follow-up. Following a family-centered approach that was respectful of each family's needs and values was an essential component of the intervention process. Meanwhile, the SCERTS model acted as an effective framework from which autism-affirming goals were developed. Post-intervention data demonstrated minor improvements in one father's PSEaS and more notable improvements for the second father. Both families reported a high level of satisfaction with the intervention goals, procedures and outcomes. While results from the current study are promising, ultimately, the need for more extensive research in the field of father-implemented interventions is warranted. Additional studies exploring the use of parent-coaching with fathers of autistic children are necessary to allow any strong conclusions to be drawn. However, it should be noted that recruitment for such studies can be extremely difficult. Consequently, there is a need to further explore the barriers to father participation and make interventions more accessible for future research and practice. Further limitations, a broader discussion of the theoretical context and implications for future research and practice will be discussed in Chapter 4.

4 Critical Review and Impact Statement

4.1 Chapter Introduction

This chapter presents a critical review and reflection on the research process as a whole, encompassing the research paradigm, theoretical framework, and employed research methods. Additionally, the researcher reflects on how the study aligns with family-centered and neuro-affirmative practice. Finally, implications for practice and areas for future research will be discussed.

4.2 Research Paradigm

The research process and methodology employed in the current study were guided by the philosophical underpinnings and beliefs of the pragmatic paradigm in which it was situated. Adopting a pragmatic approach to the current study was deemed well-suited for many reasons. Firstly, researchers must be aware of their personal views and biases when carrying out research (Creswell, 2014). At the outset of the study, the researcher acknowledged that her views of autism most closely aligned with a biopsychosocial model of development (Engel, 1979). Such a model considers the interactions between a child and their environment, along with genetic and individual factors; this underscores the theoretical framework employed, the bio-ecological model (Bronfenbrenner & Morris, 2006). Specifically, this study was concerned with parent-child interactions in their natural environment, and a pragmatic approach gave the researcher the most flexibility to explore this phenomenon. A pragmatic approach is well suited to action-based or intervention research as it acknowledges the reality of collecting data with human participants in real-life settings. It facilitated the collection of both quantitative and qualitative data. The quantitative aspect allowed the efficacy of the intervention to be evaluated, while the qualitative component allowed for the real-life impact of the intervention to be evaluated on a deeper level, thereby capturing personal experiences.

Perhaps most relevant to the current study was the extent to which a pragmatic approach complemented the single-subject methodology and its underlying principles. Autism can be considered highly heterogeneous, and the use of single-subject design has often been used to evaluate the effectiveness of educational interventions for young autistic children (Odom et al., 2003). Due to small sample sizes, the issue of generalisability often arises when critically evaluating single-subject interventions. However, adopting a pragmatic approach accounted for such methodological concerns. A pragmatic standpoint argues that the real test of knowledge is the degree to which it enriches humanity, even if in some small way (Gillespie et al., 2024). Power et al. (2023) argue that the most rigorous test of a theory is not whether it works in contrived settings, but whether it has a real-world impact on its target consumers. The final sample in the current study included two father-child dyads; feedback suggested that the value of the intervention to these two families was substantial. In addition, the intervention was implemented in the home environment, where it would have the most meaningful impact for the families involved. Lastly, it has also been argued from a pragmatic viewpoint that larger-scale studies conducted in controlled settings are more likely to produce knowledge that does not generalise to applied environments and detracts from the diversity of human experience (Gillespie et al., 2024). Therefore, adopting a pragmatic stance to the smaller-scale intervention in the current study allowed for a greater analysis of its real-world applicability at the individual level.

4.3 Theoretical Framework

Bronfenbrenner and Morris' (2006) bio-ecological theory, or person, process, context, time (PPCT) model, was adopted as the primary underlying framework for the current research. Many theoretical frameworks were considered when conceptualising the current research, such as family systems theory (Bowen, 1978), ecocultural theory (Weisner, 2002) and Sameroff's (2000) transactional model of development. However, the PPCT model was deemed the most

appropriate to explore the mutual and interactive relationship between the child and father at the micro level, while the wider, systemic variables that influenced intervention outcomes could also be considered. It was seen as the most comprehensive framework, which combined many key aspects of alternative frameworks. In addition, the emphasis on proximal processes aligned directly with the relational focus of the coaching intervention. All components of the PPCT model could be mapped onto key elements of the research process and its outcomes.

Firstly, individual father and child characteristics and preferences, along with their children's developmental profiles, were considered in the design and analysis. Taking both father and child play preferences into account was considered fundamental to the study's outcomes. The Social Communication Emotional Regulation Transactional Supports (SCERTS) model (Prizant et al., 2006) provided a framework to determine the communication stage of each child. Additionally, it has been highlighted in the literature (May et al., 2015) that higher levels of autism-specific parenting self-efficacy among fathers have the potential to positively impact parenting behaviours, such as fathers making a greater effort to respond to cues from their autistic child. The PPCT framework gave the researcher the flexibility to explore the specific demand and resource characteristics related to each family when evaluating differences in parental self-efficacy.

Contextual layers, including the home environment, working schedules, access to services, attitudes towards autism and cultural beliefs about parenting, helped situate coaching within the broader ecological influences that shape both parenting practices and outcomes. Firstly, the parent-coaching intervention took place at the microsystem level. The intervention focused on enhancing the immediate environment around the father and child, and strategies were embedded into daily routines and naturally occurring opportunities. In one of Bronfenbrenner's (1977) earliest works, he emphasised the dynamic relationship between learners and their environments. As the basis of the current intervention was on enhancing the

multi-directional relationship between the child, the father and the home environment, it was considered a good match.

At a mesosystem level, variables outside the home environment that may have affected father engagement with the intervention could also be considered. One factor that significantly impacted intervention delivery was fathers' availability due to their work schedules. Both fathers appreciated the intervention being delivered in the home environment at a time that suited them. Bronfenbrenner focused on the real-world applicability of research and how findings could be generalised to practice (Tong & An, 2024). The outcomes of this research have significant implications for future practice when considering how best to meet the needs of families in the disability sector. Such implications will be discussed further in the chapter.

The exosystem encompasses external factors that indirectly influence the father-child relationship, such as access to social support, additional services, and healthcare. Both fathers expressed frustration regarding the limited support they have received to date from their local children's disability network teams (CDNT). This supported their motivation to engage with the current study. At a macrosystem level, broader societal and cultural influences that may have impacted the intervention's outcomes were also taken into consideration. Such influences can shape how fathers perceive their roles and their children's needs. Traditionally, the mother was viewed as the primary caregiver, which impacts father engagement with services and roles within the home environment (Bagner, 2013; Carpenter & Towers, 2008; Fox et al., 2015; Rankin et al., 2019). By including fathers within the intervention at the microsystem level, this shifted the values and beliefs held by the participating fathers regarding their roles, which have significant consequences over time in what Bronfenbrenner and Morris (2006) referred to as macro-time. Consequently, this can significantly influence the child's overall development if fathers develop a greater sense of competence and self-worth and see themselves as equal partners in parenthood (Fox et al., 2015).

Perhaps most importantly, the model focuses on developmental changes over time (Hayes et al., 2017). It was hoped that the current intervention (micro-time) would produce long-term changes in the participating fathers' parenting behaviour (meso-time). The PPCT model enabled the researcher to frame the intervention in terms of practical goals that the fathers could implement to promote changes over time in their children's development. As it was a short intervention, it was emphasised that the impact of the goals would not lead to immediate changes in the children's skills or abilities. However, over time, such goals had the potential to support the development of social communication and emotional regulation abilities. The following quote succinctly summarises the overall rationale for the current intervention and why the bio-ecological theory was a good fit:

> A child requires participation in progressively more complex reciprocal activity on a regular basis over an extended period in the child's life, with one or more persons with whom the child develops a strong, mutual, irrational, emotional attachment and who is committed to the child's well-being and development, preferably for life (Bronfennbrenner, 1991, p. 2).

In summary, the bio-ecological theory provided a comprehensive and multidimensional framework in which to understand the various factors that influenced the design and outcomes of this research. Bronfenbrenner (1975) argued that for early intervention to be effective, all aspects of the child's environment need to work together. Taken together, the PPCT model supports a nuanced, holistic exploration of how and why parent coaching may be effective with fathers of autistic children, offering a strong theoretical grounding for this research.

4.4 Neuro-affirmative Practice

The neurodiversity movement has challenged many researchers and clinicians to reflect on what the goals and purpose of early intervention should be (Dawson et al., 2022). Leadbitter

et al. (2021) argue that there is a pressing need to reflect on how intervention practices align with a neurodiversity framework. At the outset of this thesis, the researcher set out to adopt a neuro-affirmative approach, while also acknowledging and being mindful of the challenges families may face as a result of an autism diagnosis. The researcher will now reflect on how well the current intervention aligned with guidelines on neuro-affirmative practice within early intervention.

According to Schuck et al. (2022), proponents of the neurodiversity movement and autism intervention often seem to be at odds with one another. Advocates of the neurodiversity movement view autism as a form of human diversity, prioritising greater understanding, awareness, and accommodation of neurocognitive differences. The focus of autism intervention typically revolves around supporting functional communication, interpersonal competencies, and self-regulation strategies (Schuck et al., 2022). As noted by Leadbitter et al., p. (2021, p. 3), "the complexity for autism interventions concerns the fine line between supporting a child's development and attempting to change the essence of the person". The researcher believes that EI can be delivered respectfully, without attempting to "change" or "cure" young children of their autistic traits. To ensure this research project adhered to a neuro-affirmative approach, current guidelines on neuro-affirmative practice were followed at each stage of the process, supporting effective intervention.

Firstly, many advocates of the neurodiversity movement favour intervention when it is provided respectfully, focused on teaching functional skills and improving subjective quality of life. Schuck et al. (2022) argue that naturalistic developmental behavioural interventions (NDBIs) offer one potential avenue to bridge the gap between early intervention and the neurodiversity movement. In line with this, the SCERTS model (Prizant et al., 2006) was adopted as a framework for the assessment and selection of intervention goals. The SCERTS

model (Prizant et al., 2006) can be classified as an NDBI and is grounded in the principles highlighted in Table 15 as reported by O'Neill et al. (2010).

Table 15: *Key Principles of the SCERTS Model (O'Neill et al., 2010)*

1.	Fostering spontaneous functional communication is the priority objective.
2.	Goals and activities should be developmentally appropriate and functional, relative to a child's adaptive abilities and promote the necessary skills for maximising enjoyment, success and independence
3.	Natural routines across the home, school and community environment provide the educational and treatment context for learning.
4.	All behaviour is viewed as purposeful.
5.	Social partners and the environment are viewed as having the greatest impact on supporting the child's development.

Such principles can be considered to mirror some of the principles of neuroaffirmative practice, and they ensured that the targeted goals were functional, embedded in the child's natural routine and respectful of each child's interests, communication abilities and preferences. In addition, Schuck et al. (2022) argue that NDBIs have a strong theoretical alignment with neuro-affirmative practice due to the following underlying principles: (i) co-construction and agency in intervention experience, (ii) strength-based approach, and (iii) an emphasis on naturalistic skill building.

4.4.1 Co-construction and Agency in Intervention Experience

Within NDBIs children are viewed as co-constructionists, and a child-led approach is emphasised (Schuck et al., 2022). During the coaching sessions, parents were encouraged to follow their children's lead and allow them to direct the session. Leadbitter et al. (2021, p. 3) emphasise the importance of coaching parents, caregivers and professionals to "speak the child's language" to support effective communication on both sides. In the current study, the parents' role was to respond to all of their child's communicative signals and embed

opportunities for reciprocal interactions in a way that was meaningful to their child. This allowed the children to learn through experiences that were meaningful and relevant to them, while also motivating them to acquire functional skills. All interactions were respectful of the children's interests, and the focus was on providing language models both verbally and through the use of AAC to promote understanding and expression of language. A strong emphasis was placed on "modelling without expectation". Honouring differing communication preferences and styles is frequently advocated for by the autistic community (As I Am, 2024), which was adhered to throughout the intervention process.

In addition, it must be noted that many autistic children also present with co-occurring differences in their language development, which become evident between 18 and 36 months (Mitchell et al., 2006). It is estimated that about half of all preverbal children become verbally fluent by the time they attend pre-school; however, about 30% remain "minimally verbal". Parents of such children have argued that autistic adults who have not experienced these challenges could not relate to their child's experience and that intervention was essential to support a reasonable quality of life (Happé & Frith, 2020; Hughes, 2021).

Lastly, a family-centered approach was adopted throughout this research process. This ensured the parents had agency within the intervention procedures. Strong parent collaboration is another core tenet of NDBIs and neuro-affirmative practice, which was fundamental to the entire research process (Schreibman et al., 2015; Schuck et al., 2022). Both parents were included at each stage of the research process, and decision-making was shared in terms of goal selection. Goals that were socially important, acceptable and valued by the family were selected, which supported greater adherence (Schreibman et al., 2015).

4.4.2 Strength-based Approach

One of the main tenets of neuro-affirmative practice is adopting a strength-based approach. This entails acknowledging the inherent strengths associated with being autistic, while also changing the way we speak about traits associated with autism (den Houting, 2019; Hartman et al., 2023). According to Leadbitter et al. (2021), adopting a strengths-based approach shifts the focus of intervention away from reducing "deficits" and towards a focus on activities and skills that naturally lead to learning, social connection, and wellbeing. During the assessment process, the researcher took note of the child's interests, strengths, and preferences. This was incorporated into each child's SCERTS profile, and a focus was placed on the skills the child was engaging in, as opposed to what they could not do. NDBIs do not focus on behaviour reduction, and none of the goals targeted for intervention were related to this. The emphasis was placed on transactional supports or accommodations that the parents could implement to support these skills, not on the child needing to learn these skills as an outcome measure. Lastly, the intervention capitalised on the child's existing interests as a means to maximise engagement, responsiveness and skill acquisition.

4.4.3 Emphasis on Naturalistic Teaching

Incorporating learning opportunities into the child's natural context is fundamental to NDBIs (Schreibman et al., 2015). As such, the current intervention was implemented in the child's home environment, with the focus on coaching fathers how to intersperse learning opportunities throughout the child's day and interests, as opposed to being restricted to specific, contrived opportunities or activities.

4.4.4 Environmental Accommodations

Advocates of the neurodiversity movement frequently emphasise the importance of changing the environment around the child and providing education to promote a greater quality of life (Dawson et al., 2022; Leadbitter et al., 2021; Pellicano & den Houting, 2022;

Schuck et al., 2022). This overlaps with a social model of disability, which argues that the difficulties experienced by autistic individuals arise from a mismatch between their needs and the environment (Kapp et al., 2013; Leadbitter et al., 2021). The core goals selected for intervention in the current research project focused on the parents incorporating environmental accommodations to better support their child's needs. Fathers were coached on transactional supports, which include adjustments of their interpersonal skills and accommodations made to the environment to foster positive learning outcomes, e.g., visual supports and sensory strategies. In the current study, some of the transactional supports targeted included modelling a range of different communication functions, the use of AAC and the use of a visual timer. All goals were framed in the lens "I can do this… if my communication partners do this…", putting the responsibility on the parents. Leadbitter et al. (2021) advocate for better outcome measures in the field of early intervention that focus on social validity, overall quality of life and the fit between an individual and their social, emotional and physical environment.

In summary, the current research was conceptualised to align well with principles of neuroaffirmative practice due to the implementation of the SCERTS model, an evidence-based NDBI within the field of autism intervention. In addition, a family-centered approach promoted shared decision-making and ensured that the intervention goals were socially acceptable to the family. As such, NDBI models can allow autistic children to interact with the world around them in a way that aligns with their individual preferences and cognitive functions, improving their quality of life by increasing agency and autonomy (Schuck et al., 2022). Goals that focus on supporting a child's functional communication, language, adaptive and daily living skills are distinct from goals that attempt to change the essence of a person's identity and are in agreement with embracing autistic strengths and teaching self-advocacy skills (Dawson et al., 2022).

4.5 Strengths and Limitations of the Current Research

4.5.1 Research Design

The current research study adopted a single-subject research design (SSD). Specifically, a multiple baseline across behaviours design was used to evaluate the effectiveness of the coaching intervention. Adopting this research design had many advantages, but its limitations in the context of this research project must also be acknowledged.

Firstly, SSD can be considered a powerful tool in certain contexts, particularly for studying individual responses to interventions (Byiers et al., 2012; Slocum et al., 2022). SSDs allow for a strong level of internal validity as they enable the researcher to explore questions that could not be explored through larger group designs (Byiers et al., 2012). In the field of interventions for young autistic children, SSDs are frequently adopted to identify the effectiveness of individual practices (National Research Council, 2001; Odom et al., 2003). Such designs are frequently chosen as they allow for experimental control with small participant groups. Two families participated in this study, and an increase in each father's fidelity was observed upon the introduction of the coaching intervention. A multiple baseline across behaviours design involves the intrasubject replication of an intervention to assess if the intervention leads to improvements in more than one behaviour (Morgan & Morgan, 2008). If the intervention effects can be replicated across more than 1 behaviour or skill for the same individual, then there is a strong argument that the intervention is responsible for this change. Another strength of this study was that it demonstrated 3 replications across goals for each father-child dyad, adding to the overall validity of the results. Lanovaz and Turgeon (2020) suggest that 3-5 replications are more convincing in terms of experimental control, which was achieved in this study. Moreover, extending the results to more than one subject can be an important process for establishing the external validity of findings (Morgan & Morgan, 2008).

As similar effects were found for the 2 families in this study, this lends support (albeit minimally) to its possible clinical utility with other families.

Another strength of the design was that it provided flexibility to individualise the intervention for both families. This supported the principles of FCP, in which goals that were important to each family were selected and targeted for intervention. Both fathers presented with differing interaction styles, which could be accounted for in a MBD. While target goals were all taught using the same coaching approach (IV), transactional supports and child goals varied between families. As the experiences of families vary, the need to individualise interventions within early intervention is frequently emphasised (Oono et al., 2013), which the current design allowed.

The flexibility of the design to respond to intervention progress was another key strength. The design allowed for the continued monitoring of each father's progress as intervention data was collected continuously across sessions. This provided the researcher with individualised insights into each father's response to the intervention. This meant that the researcher could closely monitor the design and adapt the intervention procedure if necessary. The research design also included a follow-up probe to assess the maintenance of intervention effects. As fathers were observed to acquire the target goals in a small number of sessions, it was therefore important to assess whether these effects were maintained once the intervention had ceased. A follow-up probe was conducted at 3 weeks post-intervention for one family and 8 weeks post-intervention for the other family, again adding to the validity of the results.

Lastly, as a result of the What Works Clearinghouse (WWC) initiative, Kratochwill et al. (2010) developed guidelines on the use of SSD, which included specific design criteria on the implementation of MBDs. Such criteria state that the introduction of the IV must be staggered across tiers, the design must contain a minimum of 3 AB tiers, and each phase must

have at least 5 data points. Additionally, for a strong functional relationship to be demonstrated, all 3 replications must demonstrate an effect. Another strength of this study was that it implemented the majority of these guidelines. One of the main limitations of the final design was that not all phases had at least 5 data points. The criterion was set at 80% fidelity, and once this was achieved, the next goal was introduced. Fathers reached the criteria for some goals in just 3 sessions, and upon reflection, the researcher should have continued to collect data on such goals to ensure a stable pattern of responding before moving on to the next goal. A minimum of 5 data points would have ensured that rates of responding were stable, consistent, and trends could be evaluated. The researcher's reflective diary showed this was due to anxiety that the other goals wouldn't be commenced or that more sessions than originally agreed with the parents would be needed.

Other limitations important to be mindful of when interpreting the overall findings of the study include issues surrounding external validity and generalisability. While a high degree of internal validity was achieved, one of the main limitations of the current research design is the degree to which the results can be generalised at a wider scale, considering only two families participated. According to the American Pscyhological Association (APA) task force on the promotion and dissemination of psychological processes (Lonigan et al., 1998), practices can be regarded as "well-established" if a large series of single case designs (n>9) used good experimental design, compared the treatment to another treatment or condition, had a treatment manual and clearly described the participants. While intervention effects were replicated across behaviours for each family, the degree to which such findings may generalise further to similar populations is unknown. More replications across subjects are required to further enhance the generalisability of the findings and assess the intervention's true effectiveness. A multiple baseline across subjects' designs may have worked well as an alternative design. In a multiple baseline across subjects design, treatment effects are replicated

across subjects. This may have addressed issues with external validity if several intersubject replications could be achieved (Morgan & Morgan, 2008). However, this would have limited the number of goals families would have had the opportunity to work on, therefore limiting the overall impact of the intervention for each family. In line with task force guidelines (Lonigan et al., 1998), comparing the intervention to another treatment or condition would have allowed its efficacy to be compared to other parent-mediated interventions such as parent-education in isolation.

Additional threats to external validity associated with a multiple baseline across behaviours design include issues around the degree to which the effects of the intervention can be generalised to other contexts and other behaviours (Kratochwill et al., 2010; Ledford et al., 2021). The current study was conducted in the home environment with fathers. Therefore, the degree to which it may generalise to other caregivers, siblings, clinic settings or other environments in which parent coaching sessions may take place is unknown. Furthermore, while results were replicated across 3 different behaviours for each father, such results may be behaviour-specific and not generalise to other parent goals. There may also have been some intervention overlap between phases, due to goals being functionally similar (all aimed at supporting social communication). This confounds the degree to which the results can be interpreted across phases. To overcome such issues, the study would have benefited from a generalisation probe in another context and with a novel goal. Lastly, in line with guidance from Kratochwill et al. (2010), the maintenance phase would have benefited from at least 3-5 data points to ensure responding was maintained over a longer period of time. The current study included only 1 follow-up probe for each family, which limits the degree to which intervention effects can be generalised over time.

In summary, the overall results of the current study should be interpreted with caution, due to the inherent limitations associated with the multiple baseline design employed: the small

sample size; lack of 5 data points in each intervention phase; only 1 follow-up probe in the maintenance phase and the lack of generalsiation probes to overcome issues associated with context and behaviour specific results. The impact of intervention overlap between phases should also be considered.

4.5.2 Data Collection and Sample

Partial interval recording (PIR) was used as a behaviour sampling technique to collect intervention data during this study. Adopting this data collection method came with both its strengths and limitations. Firstly, a major strength of this study was that it collected direct observational data. According to Pustejovsky and Swan (2015), direct observation of a behaviour is considered the "hallmark" of SSD. In comparison to self-report data such as rating scales or qualitative feedback, the measurements produced via direct observation are considered low inference (Pustejovsky & Swan, 2015). It enables the researcher to readily evaluate the effects of the intervention on behavioural outcomes. A major advantage of PIR is that it allows for data collection in naturalistic settings to account for the practical challenges of collecting data in such settings (King et al., 2021). In the context of the current study, it allowed the researcher to evaluate if the fathers were using the target strategies without the need for continuous data collection procedures such as frequency or duration measures. On the other hand, one of the main disadvantages of using PIR is that it may overestimate the true frequency of a behaviour, given that the behaviour or response does not have to occur for the entire duration of the interval (Cooper et al., 2014). However, whole interval recording was considered to be inappropriate as parents would not have been expected to implement a strategy for an entire 30-second interval. Given that the nature of the behaviour for increase was low duration and low frequency, PIR with 30-second intervals was deemed most appropriate (Fiske & Delmolino, 2012).

While data was collected on parent fidelity using PIR, it must be noted that no data was collected on child outcome measures during or after intervention. Therefore, collateral effects of the intervention on the children's overall development could not be evaluated accurately. While some qualitative feedback was obtained from the parent's post-intervention, the addition of data on target child goals would have added value to this feedback and the intervention's overall impact. As the long-term purpose of parent-mediated interventions is to promote positive child development over time, collecting respective data is essential to assess the true impact of such interventions (Beaudoin et al., 2019; J. Brian et al., 2022; Kasari et al., 2015). In addition, as individual child characteristics such as cognition can be predictors of the later development of language and related skills, including such variables in the anlaysis of child outcomes is also important (Bal et al., 2020).

Another strength of the data collection procedures was the use of the autism-specific parental self-efficacy scale (PSEaS). According to a review conducted by Costa e Silva and Roama-Alves (2023), many studies exploring parental self-efficacy among parents of autistic children have used measures not specifically designed for this population, which calls into question the validity of such findings. To account for the unique experiences of raising an autistic child, Kurzrok et al. (2021) developed the PSEaS, which was employed in this study. However, one of the main limitations was the analysis of this data. Firstly, a pre-test post-test comparison was conducted on fathers' ratings on the PSEaS. This data analysis was limited and could not determine if any changes in ratings were statistically significant. Additionally, a few changes were reported by one father pre- and post-intervention. Perhaps this measure wasn't sensitive enough to aspects related to the intervention and encompassed too many variables associated with overall parental self-efficacy across broader levels of the ecosystem. Additional time researching, piloting, developing, and assessing a measure directly related to the impact of the intervention on fathers' parental self-efficacy would have enhanced the

quality of the resulting data. This may also be true for the post-intervention interview. While the questions were adapted from the Akemoglu and Tomeny (2021) study, Xie et al. (2023) highlight the need for validated measures to assess and monitor family outcomes in developing and delivering sustainable interventions. Therefore, a validated measure such as the Family Outcomes Survey-Revised (Bailey et al., 2011) may have added further support to the qualitative findings.

It is also important to acknowledge that the parents' responses to both the quantitative measure and the qualitative post-intervention feedback may have been impacted by participant reactivity and social desirability (Crocker & Wolfe, 2001; Podsakoff et al., 2003). As the researcher conducted the post-intervention interviews herself, this may have influenced the fathers' responses, causing them to answer more favourably or in the way they believed would please the researcher. Lastly, given the advantages and use of SSD in the field of autism interventions, King et al. (2021) highlight the need for corresponding methods of statistical analysis. Another strength of this study was that it included the percentage of non-overlapping pairs (PND) as a metric to quantify treatment effect sizes. Without this metric, treatment effects would have been difficult to quantify for each family.

In terms of the sample, one limitation of the current study was that both father-child dyads were relatively similar in terms of child and family characteristics. Firstly, both dyads in the current study were father-son. This dynamic is not surprising given that boys are nearly 4 times more likely to be diagnosed with autism than girls (Maenner et al., 2023). As part of the dissemination process, the researcher presented the preliminary findings of this research at the Psychological Society of Ireland (PSI) conference in November 2024. The following reflection was noted:

> After presenting the preliminary findings of my research, I was approached by an enthusiastic psychology student. While her feedback was very positive, she asked me a question about an aspect of my findings that I had not considered to date. She wondered if I thought the intervention outcomes or process would have been the same if my sample had included father-daughter dyads. While considering this dynamic seemed obvious the minute she asked the question, it was something that I had overlooked up until now (Reflective Diary, 15/11/2024).

Reflecting on the possibility of this dynamic now, some research indicates that fathers of autistic children engage in differing interactions with their child based on their gender; for example, fathers tend to engage in more rough-and-tumble play with their sons in comparison to their daughters (Lindsey & Mize, 2001; Rankin et al., 2019). While fathers in this study may have found it easier to follow their child's lead during play due to male preferences for physical play, the research shows that autistic girls also show a preference for sensory and movement-based play (Doody & Mertz, 2013). Fathers would have been coached to follow their child's lead and play preferences regardless of their gender. However, they may not have felt as comfortable engaging in stereotypical "feminine" play. Nevertheless, it is important to include father-daughter dyads in future research so that potential gender implications can be explored. Lastly, in line with true FCP, it may have been beneficial to explore the inclusion of siblings within the coaching process. The focus of this research was on directly exploring its effects with fathers. However, one of the participants had two siblings, and while they were present during coaching sessions, they often kept to themselves. It was noted that one sibling was eager to engage with the researcher and show her what he was doing. It would have been a nice addition to include him in the process, however, it was beyond the scope of the current research.

4.5.3 Implementation Fidelity

As the researcher designed and delivered the intervention, it was important to reflect on issues related to implementation fidelity and how they were accounted for. Firstly, the researcher is a Board Certified Behaviour Analyst (BCBA) and has developed competencies in many areas related to the implementation of the intervention, including NDBIs and the SCERTS model. In addition, an implementation task analysis was created to ensure the intervention was implemented with fidelity in each session. However, while such steps were taken, Watkins & Pacheco (2000) highlight the importance of collecting inter-observer agreement (IOA) or inter-rater reliability (IRR) data to address issues surrounding reliability in single-subject research. This would have involved the presence of a second observer during sessions or entailed the coaching sessions being video recorded so IOA could be calculated at another stage. Several ethics issues had to be considered, including those related to GDPR, the storage of video data, participant anonymity, and participant welfare. In addition, a second observer or a video camera may have altered natural interactions between the father, child and researcher. As developing rapport and establishing trust among the father-child dyad was a key component to the success of the intervention, employing IOA for such a small-scale study may have compromised this relationship. Nevertheless, collecting IOA data is a fundamental element of single-subject case design to ensure reliability and validity in the field (Kratochwill et al., 2010; Watkins & Pacheco, 2000). The use of video recording should be considered for future research to enhance the reliability of the findings. Additionally, video recordings would have allowed the researcher to reflect on key clinical skills and identify areas for improvement. In addition, it would have enabled the researcher to spend more time in the moment with families and remove the need to take data in real time.

4.6 Ethical Considerations

The current research study received ethical approval from the Mary Immaculate Research Ethics Committee (MIREC) at the beginning of the research process. The researcher adhered to ethical guidelines regarding informed consent, child assent, participant confidentiality and anonymity, and the welfare of participants. However, unforeseen ethical dilemmas arose during the intervention phase that merit discussion.

One family offered to financially reimburse the researcher for her time, which raised concerns over the integrity of the intervention. While ethical guidelines address participant compensation (Grant & Sugarman, 2004), the potential impact of financial incentives on the researcher must also be considered. Accepting the reimbursement could have appeared coercive or suggested a conflict of interest. In response, the researcher reaffirmed the research boundaries by clarifying her role, the ethical guidelines in place, and that the family's involvement should be solely voluntary. This approach ensured that participation was based on informed consent and that financial factors did not influence the families' decisions. Including a note about financial reimbursement in the informed consent form may have been beneficial, as it would have informed families from the start.

Secondly, during the intervention process, both families frequently asked questions about their child's future. The following extract was noted in the researcher's reflective diary:

> The parents are constantly asking questions about their child's future, e.g., if I think he would be able to attend mainstream [school], if he will talk, what level of autism I think he has. This is having a significant emotional impact on me, and I feel like I have to have the answers for them in the moment. Parents are understandably always keen to know what the future might look like. However, I feel they can sometimes overlook all

the strengths their child has and the progress they have made (Reflective Diary, 05/07/2024).

Again, the researcher re-established professional boundaries and was clear about the scope of the research. It was important that the researcher remained neutral, prioritised the integrity of the research and avoided stepping into the role of a clinician in this context.

4.7 Implications in the Field of Psychology

This study contributes to the ongoing advancement of knowledge in the area of parent coaching interventions, offering valuable insights into its efficacy with fathers. This has several implications in the field of psychology, such as expanding the focus on fathers, enhancing parent coaching models, and shifting the narrative in parenting.

4.7.1 Expanding the Focus on Fathers

Historically, there has been a strong focus on exploring mother-child interactions (Rankin et al., 2019). EI programmes typically focused on the role of mothers, as they were traditionally viewed as the primary caregivers (Smythe et al., 2019). Although there is a growing interest in fathers' contributions, they remain underrepresented in both early intervention and research (Flippin & Crais, 2011). This issue was further emphasised in the current research project through the systematic literature review process. Five studies were included for final review, and out of 94 parent-child dyads represented in the studies, only 2 were father-child dyads. This underscores the existing gap and highlights the necessity for both clinicians and researchers to actively involve more fathers in intervention programmes or at least invite their participation. By specifically targeting fathers in the current research project, it contributed to the knowledge base regarding suitable interventions and how fathers engage with their children. While child outcomes were not collected as part of the current research, including such data may provide a deeper understanding of the role fathers play in the emotional and social development of their autistic children.

4.7.2 Enhancing Parent Coaching Models

Secondly, the current research provided insights into the efficacy of parent coaching models for fathers of young autistic children. Specifically, the Wetherby et al. (2014) 4-step collaborative coaching model was adopted during the current intervention and demonstrated positive results with both fathers. This provided insights into coaching programmes that may be the most effective with parents and have the potential to be rolled out in the future. While previous studies (Flippin, 2019) have acknowledged and addressed the particular ways fathers engage with their children, the current study did not account for such factors. This demonstrated that it may not be necessary to tailor intervention programmes to the specific needs of fathers. However, more research is warranted to make a strong conclusion in this area. In addition, the SCERTS model (Prizant et al., 2006) was adopted as a framework for the assessment and selection of intervention goals. The SCERTS model falls under the umbrella of NDBIs, and the current study added to the efficacy of such interventions for young autistic children, specifically the efficacy of SCERTS as a model for coaching interventions.

4.7.3 Shifting the Narrative in Parenting

Lastly, the current research was situated within the context of the PPCT (Bronfenbrenner & Morris, 2006) model of development. The involvement of fathers at the microsystem level can help shift societal and professional perceptions of fatherhood concerning autism. It challenges traditional views that regard mothers in a stereotypical role as the primary experts on childcare. Results demonstrated that fathers were able to successfully learn strategies that had previously been taught to mothers. One father in the current study remarked on how he noticed a shift in his role, perceiving himself to be in a more equal position to the child's mother than before. This may support a move away from traditional roles and emphasise shared responsibilities between both parents. Additionally, the impact of the current intervention on parental self-efficacy was also explored, contributing to research on the

positive effects of father involvement on family functioning and well-being (Bagner, 2013; Fox et al., 2015).

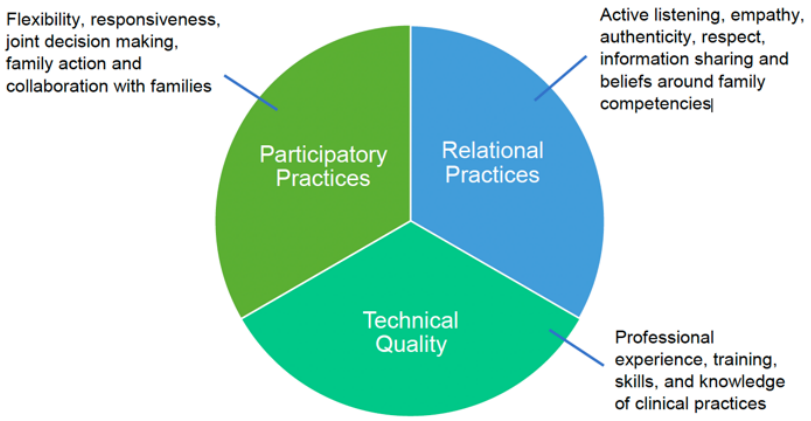
4.8 Implications for Professional Practice

The current study was underscored by a family-centered approach, which is considered international best practice in EI service delivery (Dunst & Espe-Sherwindt, 2016). The outcomes of this study were considered to have several implications from an FCP service delivery perspective, as well as contributing to evidence-based practices for autistic children.

4.8.1 Family-centered Practice (FCP)

At a policy level, CDNTS are governed by the Progressing Disability Service's (PDS) service delivery model. FCP underscores one of the core elements of PDS. As previously outlined, FCP can be conceptualised as a transactional process between families and professionals, comprising two key caregiving practices: participatory and relational practices (Dunst et al., 2007; Dunst & Epse-Sherwindt, 2016; Dunst & Trivette, 2009; Schenker et al., 2016). Furthermore, the European Association for Early Childhood Intervention (EURYAID; 2019) has expanded upon these two care-giving practices to include a third component deemed essential for effective service delivery: Technical Quality (see Figure 9). The current research is considered to have implications for professional practice across these three components.

Figure 9: *The 3 Components of Effective FCP*



Note. Retrieved from the HSE (2020, p. 20)

Firstly, the current research has implications in terms of how professionals are including fathers in participatory practices. According to Dunst and Espe-Sherwindt (2016), participatory practices should be dynamic and responsive to each family's needs with the goal of engaging them in the process. This can be achieved through flexibility, collaboration, joint decision-making and family actions. However, at present, there appears to be a disconnect between theory and practice, and fathers appear to be overlooked in the process. Supporting the family should include, or at least invite, both parents (where appropriate) to promote more favourable outcomes for the whole family. Therefore, there is a pressing need for clinicians to reflect on how they can engage more fathers in the FCP process, with the need to be flexible in response to their needs. Most evidently, the participating fathers in the current research noted how the delivery of the intervention in the home environment at a time that suited their work schedule was a key factor in their engagement. The need to be more flexible around fathers' work schedules is a factor that has come up in previous research. For example, McBride et al. (2017) highlighted how both the work schedules of EI providers and fathers are a significant barrier to service delivery, and if we truly want to see change in EI services, this issue needs to be addressed. Potential solutions for overcoming these issues include financial incentives for

clinicians to offer weekend or evening appointments, as well as paid parental leave for fathers so they can attend appointments. As an alternative to face-to-face contact, many coaching programmes have also been delivered via telehealth (Franz et al., 2022; Lerman et al., 2020; Tsami et al., 2023). The outcomes of such programmes have been positive and may serve as an alternative to supporting fathers in implementing agreed-upon goals. At the very minimum, the option of offering a follow-up phone call to fathers who cannot attend appointments should be provided.

Additionally, this gender-based assumption that fathers' work schedules need to be accommodated more in comparison to mothers' prompted a further critical reflection from the researcher:

> Many intervention programmes for autistic children are built on the assumption that one parent, typically the mother, has the time and flexibility to attend sessions. This reinforces gendered caregiving roles, often excluding fathers, even when they are willing and available to participate. In reality, mothers frequently have equally demanding work schedules, and assuming their default availability risks marginalising dual-working-parent households and limiting inclusivity. Practitioners must critically reflect on these assumptions and design services that accommodate diverse family structures and employment patterns. This includes offering more flexible formats, such as remote sessions and encouraging shared caregiver responsibility within programmes. At a policy level, enabling equitable parental leave for both mothers and fathers is essential to support balanced participation in intervention programmes. (Reflective Diary, 02/07/2025).

Relational practices encompass essential clinical competencies vital in the therapeutic process, such as active listening and empathy. They also include clinicians' attitudes towards

the abilities and skills of families (Dunst & Espe-Sherwindt, 2016). In a profession predominantly occupied by females, we must reflect on our own personal biases and perspectives regarding our work with fathers of autistic children. In the course of this research, the following reflection was noted:

During my placement, I became aware of a bias toward engaging more readily with female caregivers. I often defaulted to contacting mothers for appointments, directed questions toward them in consultations, and made more eye contact with them. While I stressed the value of both parents attending key sessions, I rarely followed up with fathers, prompting me to question whether I truly valued their perspectives. This insight motivated my research with male caregivers, through which I developed a deeper understanding of the challenges fathers face when engaging with female professionals. Even in my research, I initially contacted mothers to schedule sessions, until I consciously shifted to engaging directly with fathers. Notably, I caught myself verifying a father's availability through his wife, which further highlighted my assumptions (Reflective Diary, 26/09/2024).

It is hoped that the findings of this research will inspire more professionals to reflect on their attitudes and biases towards working with and including the male caregiver. Furthermore, it is anticipated that the findings will highlight the importance of recognising the fathers' role and their potential to engage effectively in intervention programmes. Finally, in support of this, McBride et al. (2017) examined the perceptions of EI providers regarding the role fathers play in service delivery. While their findings suggested that providers acknowledged the valuable contribution of fathers to their children's development, they did not view them as effective targets for intervention. Providers may be unaware that these perceptions could inadvertently influence their intervention practices if they consider fathers as lacking the necessary skill set for effective intervention delivery. The qualitative analysis indicated that providers did not

recognise their perceptions as barriers to father engagement, again emphasising the need for professionals to reflect on their current practices.

The EURYAID (2019) also emphasise the importance of technical quality as a key element in effective FCP service delivery. As defined by Dunst et al. (1998), technical quality encompasses aspects like professional knowledge, skill set, experience, and specialisation. The current research highlighted significant implications for professional training and skills development for clinicians in the Irish context. Key skills related to the implementation of FCP include the help-giving practices outlined above. Additionally, designing Specific Measurable Achievable Relevant and Time-Bound (SMART) goals and developing IFSPs are crucial skills that clinicians need to employ an outcome-focused, family-centred approach. As part of PDS, clinicians are encouraging families to collaborate with them in developing IFSPs for their children and family (Health Service Executive, 2020). However, to facilitate effective collaboration, this must be supported by adequate training and supervision. Current reviews suggest there have been issues with the rollout of PDS, indicating that further training is required in this area (Ingólfsdóttir et al., 2018; Louise Mc Hugh, 2021). According to the operational framework for progressing towards outcomes-focused FCP (HSE, 2020), IFSPs should be dynamic rolling plans, with frequent monitoring and updating of goals. However, it was noted in the current study that neither family had an active IFSP with their local CDNT, highlighting a policy-to-practice gap and the need to address such issues.

Another implication of the current study was the effective use of a parent-coaching model. While the current study was conducted with fathers, the majority of the previous research has indicated its effectiveness with mothers (Artis et al., 2022; Hernandez Ruiz & Braden, 2021; Pellecchia et al., 2022). Therefore, coaching may represent a much-needed way of working with families to support them in implementing IFSP goals in the home environment. While it is acknowledged that it is not be feasible to provide the level of coaching that was

employed in the current study, clinicians may benefit from upskilling in the area of coaching to support their professional practice and the implementation of IFSPs. Elements of a coaching approach could be employed as needed, e.g., modelling and reflective feedback. While it may not be practical to provide in-vivo demonstrations for all goals, participants in the current study highlighted the positive impact of these, therefore efforts should be made to offer video demonstrations/modelling and offer guidance and problem-solving sessions over the phone or in person in the clinic to support parents in implementing goals in the home environment. As highlighted in the FCP guidelines (HSE, 2022), it is fundamental that CDNT members develop their skill set in effectively using FCP, and parent-coaching could be viewed as a positive addition to these skill sets. CDNTs operate as multi-disciplinary teams, and parent coaching could be rolled out across all specialisms (e.g., OT, SLT) within the team as a framework for practice, further adding to the implications of this study (Pierson et al., 2021; Snodgrass et al., 2017). In addition, as suggested by McBride et al. (2017), clinicians may also need upskilling in providing more gender-sensitive services, helping fathers cope with their response to receiving an autism diagnosis and supporting fathers to become more comfortable with EI. Additionally, Lee et al. (2024), highlight the need to develop more culturally sensitive EI services for families from marginilised and diverse backgrounds. In the HSE (2020) operational framework for FCP, it was highlighted that professionals must have the skill set and disposition to excel, but likewise, the service system must enable them to do this. Therefore, the responsibility should be placed on the HSE to ensure good standards of FCP while providing the necessary training to do so.

4.8.2 Evidence-based Practice

The SCERTS model (Prizant et al., 2006) represents a holistic, flexible and evidence-based framework for the assessment and development of educational goals for autistic students. The true implications of the SCERTS model may be best situated within educational and

curricular planning for young autistic children in Ireland. Currently, there are various practices regarding goal selection, Individualised Education Plan (IEP) development, and the curricula employed for autistic students in schools (Finlay et al., 2023). EI classes are guided by the Aistear Framework (Department of Education, 2022) and the Autism Best Practice Guidelines (Department of Education, 2022). In designing IEP goals, assessment frameworks such as the Assessment of Basic Language and Learning Skills-Revised (ABLLS-R; Partington, 2006) and the Verbal Behaviour Milestones Assessment and Placement Program (VBMAPP; Sundberg, 2008) have been utilised both in EI classes and at primary level. The SCERTS model is also referenced as a framework for identifying the communication and emotional regulation needs of autistic students in the Autism Good Practice Guidelines for Schools (Department of Education, 2022). Therefore, an implication of the current research is that it may promote the use of the SCERTS model within such settings to design better environments for autistic students and promote better outcomes.

4.9 Implications for Future Research

The current research also has several implications for future studies in this area. Firstly, this study was the first of its kind to explore the use of parent-coaching with fathers of autistic children, employing the SCERTS model as a framework. Although the results demonstrated positive effects for both fathers, further studies are necessary to draw firm conclusions about the efficacy of the intervention. This study needs to be replicated on a larger scale to support the generalisability of the findings. Piloting parent-coaching as a framework for practice in the implementation of IFSPs across the HSE is recommended as a valuable research endeavour within the Irish context. Additionally, several limitations in the overall study design were noted in Section 4.5. Future investigations should attempt to address these limitations and, in particular, ensure fidelity checks to enhance the reliability of the findings. Furthermore, collecting data on child outcomes will assess the efficacy of the intervention on children's

social communication and emotional regulation abilities. Dawson et al. (2022) advocate for the need to develop improved outcome measures in EI that focus more on quality of life and wellbeing to promote a shift towards neuroaffirmative practice. Designing outcome measures centred on the strengths, interests, and abilities of autistic children would be a significant and welcome contribution to the literature and help reconcile perspectives on the goals of early intervention (Dawson et al., 2022).

As technology becomes more integrated into therapy and intervention programmes, future research could also explore how remote coaching platforms (e.g., video demonstrations, online workshops, mobile apps) could enhance the accessibility and scalability of father and family-focused interventions. This could make interventions more feasible for fathers with limited access to in-person services or those living in remote areas. There is also the potential to explore the use of parent-coaching with parents of children with other and co-occurring neurodevelopmental differences.

Another implication of the current research is the possibility of scaling it out within special educational classes/ schools in the Irish context. Previous research has indicated its effectiveness within the school system both in the United States and the United Kingdom (Mackdonald, 2020; L. Morgan et al., 2018; O'Neill et al., 2010). Of interest, Mackdonald and colleagues (2020) conducted an appreciative inquiry with 4 mainstream teachers to support them in implementing transactional supports for autistic students in their classroom. This led to a strength-based coaching approach, which had a significant impact on teacher change. The appreciate inquiry model presented in the paper may present a useful framework to support teachers to implement the SCERTS model in the Irish context. The appreciate inquiry could be facilitated by the National Council for Special Education (NCSE) or a psychologist from the National Educational Psychological Service (NEPS). This could facilitate the development of

more inclusive learning environments for autistic students that are respectful of their strengths, needs and preferences.

4.10 Unique Contribution

The current research made a distinct and significant contribution to the literature in several important ways. Firstly, the findings provide a better understanding of a grossly under-researched issue. To date, no studies have been conducted in the Irish context exploring parent-coaching with fathers of autistic children. In addition, the SCERTS model (Prizant et al., 2006) underpinned the assessment and development of goals. Previous studies that have explored parent-coaching with fathers (e.g. Flippin, 2019) have not used an evidenced-based framework for this purpose. Therefore, another contribution of this study is that it was underpinned by an evidence-based practice. In addition, post-intervention qualitative interviews were employed to provide a greater understanding of fathers' experiences of the intervention, further enriching the findings of the current study. Previous research has typically employed brief rating scales to assess the social validity of interventions (Flippin, 2019). As highlighted in previous sections, the current findings have implications at the empirical, practical, policy and training level for professionals in the field of early intervention. The adoption of the bio-ecological PPCT model (Bronfenbrenner & Morris, 2006) as a theoretical framework allowed for the conceptualisation of the research findings within a wider social ecology allowing for intervention outcomes and implications for professional practice to be understood. In particular, the current research process shed light on families' experiences of PDS in Ireland and highlighted that some families are receiving little to no support.

Lastly, at a time, when there is considerable controversy around the appropriateness of EI and what the goals of EI should be (Dawson et al., 2022; Schuck et al., 2022), the current research offered a framework for how EI can be provided in a respectful, strengths-based manner, through the implementation of NDBIs. While it seems there is still a long way to go

in reconciling perspectives between neurodiversity and the appropriateness of intervention, it is hoped that the outcomes of the current research are a step in the right direction.

4.11 Impact Statement

Outcomes from the current research have the potential to transform both the field of autism research and the broader field of psychology. By focusing on fathers, enhancing intervention strategies, and contributing to family-centered practices, more effective and inclusive intervention models could be designed at a service delivery level. Inclusive practices need to be embedded within disability services to ensure that a family-centered approach is truly being offered. This would not only benefit families with autistic children but could also shape the future direction of psychological research and practice related to parenting and child development. In addition, findings from the empirical study and systematic literature review have added to the dearth of empirical literature in the areas of EI, FCP, coaching and NDBIs. The systematic review highlighted the scarcity of research on father-implemented interventions while offering insights into current elements of parent coaching interventions. Recommendations for areas of professional training were also provided in the areas of FCP, parent coaching and the SCERTS model.

At an individual level, the current study had a significant impact on the families who participated in the intervention. At a time when waiting lists for access to services are significant the intervention came at a much-needed time for both families involved. According to a report in The Irish Examiner in 2024, more than 9,000 families had been waiting over a year to receive initial contact from their CDNT, with one family reporting that they waited 4 years for access to interventions. This underscores the impact the current intervention had on the families involved, as none of them currently had an active IFSP with their local CDNT. The intervention also impacted each father's role identity. One father could see a shift in his role and commented: "I realised I can do more than just care for him". This comment allowed

the researcher to see the true impact of the intervention. In addition, as the intervention was conducted in the home environment, it was highly accessible and directly targeted skills that were relevant in the context of everyday interactions.

It is envisioned that the findings of this study can make an impact through dissemination in the field of Educational and Child Psychology. The preliminary findings of the research were disseminated at the Psychological Society of Ireland's conference in November 2024. Additionally, findings from the systematic literature review were published in *The Journal of Autism and Developmental Disabilities* on the 28th March 2025 (see Donohue & Tynan, 2025). The researcher hopes to further disseminate this research by submitting the findings from the empirical paper to relevant journals such as *The Journal of Early Intervention.* Through such dissemination, it is hoped that greater awareness will be created around the need to include the father in future coaching and parent-mediated interventions. In addition, such findings must be disseminated at the individual service level to inform the FCP model of service delivery.

Lastly, undergoing the current research process has had a significant impact on the researchers' own professional practice, personal beliefs and biases towards working with the male caregiver, as documented in the reflective excerpts throughout. Additionally, the following reflection was noted:

> I am currently completing a placement with the National Educational Psychological Service (NEPS), and I have already seen a shift in my practice towards including fathers at the consultation and feedback stages. This has been facilitated by Schön's (1983) *Reflection in Action, Reflection on Action model*. Most recently, after completing a feedback session with a mother who was separated from the child's father, I immediately identified the need to follow up with the father and complete feedback

with him. This is something I would not have previously considered in the moment (Reflective Diary, 25/03/2025).

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Appendices

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Appendix 2: WoE A Scores

WoE A Scores for the Studies which Employed a Single-Subject Design using the SCED (Tate et al., 2008)

	Akemoglu & Tomeny (2021)	**Erturk et al., (2021)**	**Flippin (2019)**	**Zaghlawan & Ostrosky (2016)**
1. **Clinical history**	Yes	Yes	Yes	Yes
2. **Target behaviours**	Yes	Yes	Yes	Yes
3. **Design**	Yes	Yes	Yes	Yes
4. **Baseline**	Yes	Yes	Yes	Yes
5. **Sampling behaviour during treatment**	Yes	Yes	Yes	Yes
6. **Raw data record**	Yes	Yes	Yes	Yes
7. **Inter-rater reliability**	Yes	Yes	Yes	Yes
8. **Independence of assessors**	Yes	Yes	Yes	Yes
9. **Statistical analysis**	No	Yes	No	No
10. **Replication**	Yes	Yes	No	Yes

11. **Generalisation**	Yes	Yes	Yes	No
WoE Quality Score as a Percentage (% of "Yes" Scores)	90%	100%	82%	82%
WoE A Quality Rating Score	3	3	3	3
WoE A Descriptive Quality Rating	High	High	High	High

WoE A scores for Harrop et al. (2017), using the CASP tool for RCTs (2001)

SECTION A:		
1.	Did the study address a clearly focused research question?	Yes
2.	Was the assignment of participants to interventions randomised?	Yes
3.	Were all participants who entered the study accounted for at its conclusion?	Yes
SECTION B:		
4.	(a) Where the participants blind to the intervention they were given?	No
	(b) Were the investigators blind to the intervention they were giving participants?	No

	(c) Were the people assessing/analysing outcomes blinded?	Yes
5.	Were the study groups similar at the start of the randomised controlled trial?	Yes
6.	Apart from the experimental intervention, did each study group receive the same level of care (that is, were they treated equally)?	Yes
SECTION C:		
7.	Were the effects of intervention reported comprehensively?	Yes
8.	Was the precision of the estimate of the intervention or treatment effect reported?	Yes
9.	Do the benefits of the experimental intervention outweigh the harms and costs?	Yes
SECTION D:		
10.	Can the results be applied to your local population/in your context?	n/a
11.	Would the experimental intervention provide greater value to the people in your care than any of the existing interventions?	n/a
	WoE Quality Score as a Percentage (% of "Yes" Scores)	82%
	WoE A Quality Rating Score	3
	WoE A Descriptive Quality Rating	High

Appendix 3: WoE B Scores

WoE B Rating and Descriptive Scores for Each Study

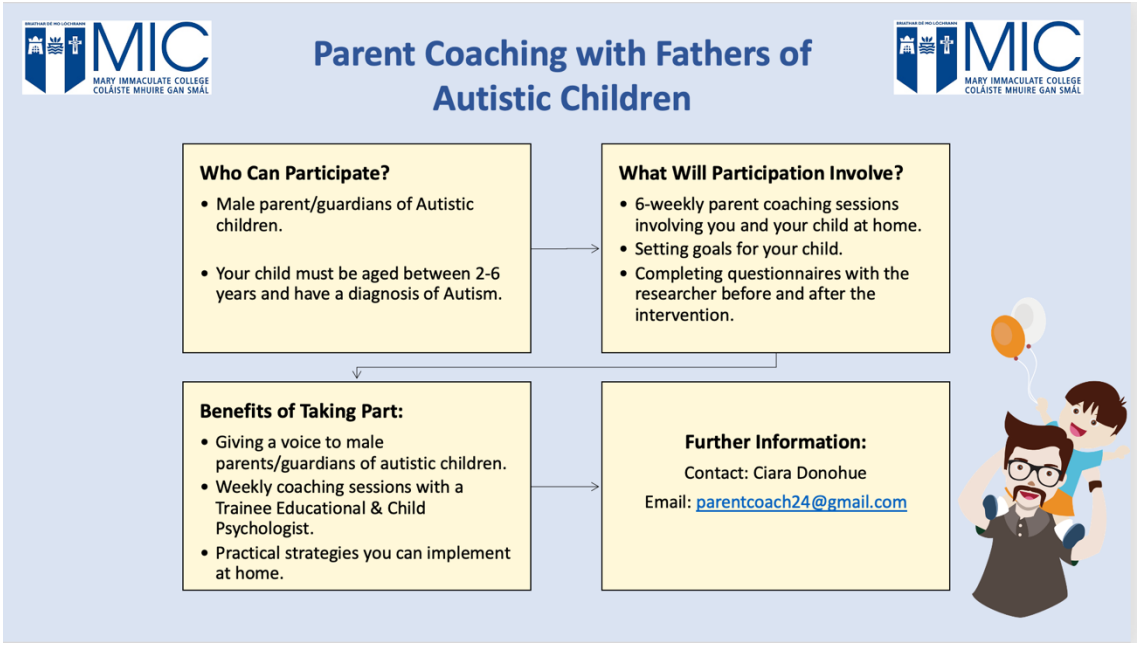
Study	WoE B Rating Score	Descriptive Quality Rating	Rationale
Akemoglu & Tomeny (2021)	1	Low	Single-subject research design
Erturk et al., (2020)	1	Low	Single-subject research design
Flippin (2019)	1	Low	Single-subject research design
Zaghlawan & Ostrosky (2016)	1	Low	Single-subject research design
Harrop et al. (2017)	3	High	Randomised Control Trial

Appendix 4: WoE C Scores

WoE C Rating and Descriptive Scores for Each Study

Study	Sample	WoE C Rating Score	WoE C Descriptive Quality Rating
Akemoglu & Tomeny (2021)	Mothers (n=3)	1	Low
Erturk et al., (2020)	Mothers (n=2)	1	Low
Flippin (2019)	Fathers (n=1)	3	High
Zaghlawan & Ostrosky (2016)	Mothers (n=1) Fathers (n=1)	2	Medium
Harrop et al. (2017)	Mothers (n=86)	1	Low

Appendix 5: Recruitment Poster



Appendix 6: Parental Information Sheets

Information Sheet

Dear Parent,

If you are a male parent/guardian of an autistic child who is aged from 2-6 years, then I would like to invite you to participate in a research project that I am currently undertaking. Before you decide to participate or not, it is important that you understand what the research is about. Please take time to read through the information and what participation involves. Feel free to ask questions if anything is not clear or if you need more information.

1. **Title of the Study:** Parent Coaching with Fathers of Autistic Children.

2. **Who am I?**

My name is Ciara Donohue and I am a second year Doctoral student in Mary Immaculate College (MIC), Limerick. I am currently training to become an Educational and Child Psychologist. Before doing this course, I worked in the area of early intervention for autistic children for many years. Through this I gained great experience and a passion for working with young children and their families. As part of my doctoral training I must complete a research dissertation, which is why I am contacting you.

3. **What is the research about?**

I would like to explore the use of Parent Coaching with fathers of autistic children. Coaching involves providing direct support to parents, through strategies such as modelling, practice and feedback. These strategies have been shown to be effective in supporting parents in implementing goals relevant to their child in the home setting. Most of the research on parent coaching has been conducted with mothers or female guardians and I would like to explore the unique experiences of male parents/guardians.

4. **What will taking part involve?**

- Completing a pre-intervention questionnaire, to identify your child's strengths, current strategies used and design goals.
- Participating in parent coaching sessions involving you and your child.
- Completing a post-intervention questionnaire.

The first questionnaire will be completed before the parent coaching intervention with the researcher. It is designed to gather background information and to get to know you and your child.

The parent coaching intervention will be delivered over 6 weeks. Each session will be 1-hour. It will be completed weekly in your home setting. Goals will be designed collaboratively with you and your family. The coaching sessions will consist of me providing some background information on the goal, modelling how to implement it with your child, providing opportunities for you to practice the goal with your child, and providing feedback. It's envisaged that any goals selected will be able to be practiced naturally throughout your daily interactions with your child.

Once the coaching sessions are complete, I will ask you to complete a post-intervention questionnaire with you to explore your experiences of the intervention and any feedback you can provide.

5. How will collection of personal information and data be managed?

Identifiable personal information will be collected as part of the informed consent forms. Procedures are in place for the protection of this information. All physical data will be stored and locked in a secure filing cabinet for the duration of the project. Once consent is provided, you and your child will be provided with a unique identifiable code/pseudonym which will be used on any further data sheets used as part of the research. If at any stage you wish to access this information you can contact me at the contact details provided at the end.

6. Right to Anonymity and Confidentiality.

Your anonymity and confidentiality will be protected throughout the duration of this project. A pseudonym will be assigned to you and your child for all records relating to the project. At no point will your or your child's real name be referred when writing up this research. No other identifiable information that could be traced back to you will be used as part of the write up. All information disclosed during the interviews or throughout the coaching sessions will

remain confidential. The only exception to this is if there is a child safety or welfare concern which I am legally obliged to report to my Designated Liaison Person (DLP).

7. Right to Withdraw.

You and your child have the right to withdraw your consent at any time throughout this project without any consequences. You can withdraw your participation at any stage by contacting the researcher via the details provided at the end of this letter.

8. Possible benefits of taking part.

By taking part in this research you will be ensuring that the male parent/guardian is represented in the current research. You will give a unique insight into fathers' experiences with parent coaching interventions and contribute to the development of future parent training programs.

In addition, you will be provided with weekly coaching sessions by a trainee educational and child psychologist. This will provide you with the opportunity to gain more confidence in implementing goals that will support your child. Your child may also benefit from the intervention and meet goals set out prior to intervention.

9. What happens next?

If you choose to participate, please complete the informed consent form attached by the _____. These forms will be collected from your service/school and I will contact you in due course.

If you choose not to participate, you do not have to do anything. Thank you for reading about this research.

10. Contact Details

Should you have any further questions about the research project or need more information you can contact me or my research supervisor via the below details:

Primary Researcher: Ciara Donohue

[redacted]

Research Supervisor: Dr. Fionnuala Tynan

Email: Fionnuala.Tynan@mic.ul.ie

This research study has received Ethics approval from the Mary Immaculate College Research Ethics Committee (MIREC) reference no. A24-008.
If you have any concerns about this study and wish to contact an independent authority, you may contact: Mary Collins, MIREC Administrator, Mary Immaculate College, Limerick. Telephone: 061-204980 E-mail: mirec@mic.ul.ie

Appendix 7: Parental Consent Form

Parental Consent Form

Title of project: Parent Coaching with Fathers of Autistic Children.

Please tick the box on the right if you agree and understand the statement.

- I have read and understand the Participant Information Sheet. ☐
- I understand what the research is about. ☐
- I know that my participation is voluntary and that I can withdraw from the project at any stage without giving any reason and without consequence. ☐
- I am aware that my results will be kept confidential. ☐
- I am fully aware of the procedures involving myself & my child, and of the risks and benefits of the study. ☐
- I give parental consent for my child to participate in this research project. ☐

- I have read this form completely and am happy to take part in this study. ☐

Contact Details:

Primary Researcher: Ciara Donohue

[redacted]

Research Supervisor: Dr. Fionnuala Tynan

Email: Fionnuala.Tynan@mic.ul.ie

Signature of parent/(s) _____ Date: _____

Signature of researcher: _____ Date: _____

Appendix 8: Child Assent Form

I would like Ciara to play with me and my Daddy.

I would like Ciara to show Daddy new ways of playing with me.

Child name: _____

Researcher signature: _____ Date:_____

Appendix 9: Demographic & Background Questionnaire

1. Child Initials:

2. Child Date of Birth:

3. Child gender:

4. Does your child have any identified co-occurring diagnoses?

5. Educational Setting?

6. Access to other services/therapies?

7. Who lives at home?

8. Parent occupations (are you working at the moment):

9. Number of siblings and ages:

10. Do any siblings/family members have additional needs or identify as autistic?

Appendix 10: Worksheet for Determining Communication Stage (WDS)

SCERTS in Action — **Determining Communication Stage Worksheet**

Name: **Date:**
Completed by:

Please complete this form to determine which set of materials to use when implementing SCERTS.

Social Partner Stage	I am using body language, gestures, and facial expressions to communicate.

1. Does the child use ALL of the following?	✓
a) Does the child use at least 3 different words or phrases (spoken, signed, pictures, written words, gestalt phrases, or other symbolic system) referentially (i.e., to refer to specific objects, people, or activities)?	
b) Does the child use at least 3 words or phrases with communicative intent (i.e., by spontaneously coordinating with proximity, gestures or gaze for a communicative purpose)?	
c) Does the child use at least 3 words or gestalt phrases regularly (i.e., often and not rare occasions)?	

No:	Use the SCERTS in Action: Social Partner Materials
Yes:	Use the SCERTS in Action: Language Partner Materials

Language Partner Stage	I am using single words, brief phrases, and/or gestalt phrases to communicate with speech, signs, pictures, or AAC.

2. Does the child use ALL of the following?	✓
a) Does the child use at least 100 different words or phrases (spoken, signed, pictures, written words, gestalt phrases, or another symbolic system) referentially (i.e., to refer to specific things / people).	
b) Does the child use at least 100 words or phrases with communicative intent (i.e., by spontaneously coordinating the words or phrases with proximity, gestures or gaze for a communicative purpose)?	
c) Does the child use at least 100 words or phrases regularly (i.e., often and not rare occasions)?	
d) Does the child use at least 20 different combinations of words, sentences, and/or mitigated gestalt phrases with a person's name and verbs that are creative (i.e., not just exact imitations of phrases?)	

No:	Use the SCERTS in Action: Language Partner Materials
Yes:	Use the SCERTS in Action: Conversational Partner Materials

Conversational Partner Stage	I am using creative language to communicate and I am learning how to meet my needs in a range of social settings.

Form adapted for Prizant et al. (2006). THE SCERTS Model: Volume I: Assessment & Volume II: Program planning and intervention. Baltimore, MD. Brookes Publishing

Appendix 11: Autism Specific Parenting Self-Efficacy Scale (PSEaS)

Autism-Specific Parenting Self-Efficacy Scale

From the following questions, we would like to understand your feelings of confidence in advocating for your Autistic child, navigating services with your child, and participating in intervention with your child. You will be presented with seventeen statements and asked to rate your level of agreement with each of these statements (1= "Strongly disagree", 2 = "Disagree", 3 = "Neutral", 4 = "Agree", 5 = "Strongly agree").

	1 (Strongly Disagree)	*2 (Disagree)*	*3 (Neutral)*	*4 (Agree)*	*5 (Strongly Agree)*
1. I feel confident that I understand the elements of an Autism diagnosis and how that diagnosis relates to my child.					
2. I feel I am able to actively participate in my child's support program. (*for example: open to trying new things, willing to jump in when asked by professionals, comfortable participating in activities and modelling for child)*					
3. I feel confident that I can seek additional resources beyond what is provided to me. *(for example: interventions beyond what the pre-school provides, additional sources of information or support)*					
4. I feel confident that I understand the goals and process of my child's intervention(s). (*for example: understanding and prioritizing goals, recognizing my child's strengths and*					

weaknesses, assessing when progress has been achieved)					
5. I feel confident that I can incorporate aspects of my child's intervention(s) at home. *(for example: make accommodations in my home, adapt my lifestyle, complete program "homework")*					
6. I am confident that I can put things into a realistic perspective as I raise my Autistic child. *(for example: recognize my own strengths and limitations as a parent, understand that bad days don't imply bad parenting, know that I will learn from experience, know when I need more information or help)*					
7. I feel confident that I can accept both my child's strengths and weaknesses as they pertain to his/her Autism diagnosis.					
8. I am confident that I can advocate for my priorities when speaking with professionals. *(for example: ask questions, voice my opinion, advocate or contribute at IEP meetings)*					
9. I am confident that I can make realistic assessments of what will benefit my child most. *(for example: prioritize resources, prioritize time, prioritize my child's needs within the context of the entire family)*					

10. I feel confident that I can evaluate information I receive and interventions my child is offered. (*for example: determine if I can trust the sources I get information from, evaluate the quality of practitioners based on their credentials and experience, determine if intervention approaches are effective and fit with my family's priorities and beliefs)*					
11. I feel that I can advocate for my child and my family in social spaces. *(for example: educate other people about autism and my child, manage other people's comments or assumptions)*					
12. I feel confident that I can seek sources of support in my community if/when I need them. *(for example: accessing respite care, accessing other caregivers who have similar experiences to my own, locating and accessing services from support organizations, willingness to talk about my experiences raising my child)*					
13. I feel confident that I can navigate communication with my child's intervention team. (*for example: effectively communicate with a variety of different professionals, manage communication between my child's home, pre-school, and*					

independent interventionists)					
14. I feel confident that I can handle difficult moments with my child. *(for example: support my child when the predictable routine changes, make things fun even when they are unexpected, navigate major transitions in interventions or pre-school)*					
15. I feel confident that I can seek additional information about my child's diagnosis and potential intervention options. (*for example: I know where to look or who to ask for information, I can understand the information I find)*					
16. I feel confident that I can help my child develop the skills they need to live an independent life (*for example: teach my child safety rules, teach my child self-care skills, help my child develop attainable vocational goals).*					
17. I feel confident that I have skills or qualities necessary to connect with my Autistic child.					

Appendix 12 : Sample Data Collection Sheet

Goal: Uses Augmentative Communication support to enhance the child's communication & expressive language (LS2.1)

Criteria: An interval was coded as correct if the parent:

a. models relevant requests or comments relevant to the routine or activity by pressing target icons on the AAC device.

b. completed the corresponding action (if appropriate) e.g. pumped up the balloon after selecting the icon "pump it up within 5 seconds.

c. provided opportunities for the child to independently use the AAC device by pausing up to 5 seconds before modelling.

*30-second intervals across a 10-minute period.

Date:	**Interval**										**Phrases Used**
Activity:	A B C	A B C	A B C	A B C	A B C	A B C	A B C	A B C	A B C	A B C	
	A B C	A B C	A B C	A B C	A B C	A B C	A B C	A B C	A B C	A B C	

Appendix 13 : Sample Parent Handout

Goal 1:

I can enhance my social communication by…	When my Communication Partners…
Using Symbols to Communicate (e.g. words, gestalt phrases, AAC).	provide visual supports to foster expressive communication (e.g., AAC systems, including pictures/symbols to represent people's names, verbs, and nouns).

Rationale: Visual supports and AAC systems have been shown to support children to develop both receptive and expressive language while their language is developing. It can foster confidence in communicating with their communication partners.

Date Introduced: 05/07/24

General Guidelines:

1.	The AAC device (Tobi-Dynavox) should be available and accessible to Ben at all times. It acts a second voice to Ben at present, so the environment should be set up to support this.
2.	In order to build Ben's confidence with using the AAC device/vocal language, he needs to be provided with loads of opportunities to practice throughout his day. We will complete a daily planning grid to support this to identify what parts of his day it can be implemented in.
3.	When practicing always place the AAC device between you and Ben.
4.	Select the correct tab depending on the activity e.g. meal times, bubbles, balloons. Alternatively the core word page or quick fire page can be used and common phrases Ben uses can be added here.
5.	Follow Ben's lead in the relevant activity. Press the corresponding icon on the screen. For example if Ben is indicating that he wants you to pump up the balloon by handing it to you, press the "pump it up" icon on the screen.

6.	After the voice output, complete the corresponding action relevant to the activity e.g. pump up the balloon. Try and do this within 5 seconds.
7.	Repeat the modelling process, each time Ben initiates communication with you.
8.	Provide opportunities for Ben to use the AAC device independently by pausing for 5 seconds when he initiates communication with you.
9.	Honour all vocalisations and don't try and redirect him to use the AAC device if he has already communicated vocally with you (this is what we want to encourage).
10.	Honour all requests or reinforce all comments made using the AAC device and non-verbally.

Appendix 14: Post-Intervention Questionnaire

1. Did you think the goals we worked on were reflective of your child's needs?

2. If you were setting goals for your child now, what do you think they would be?

3. Did you find the strategies easy to learn?

4. What part of the coaching intervention did you find most beneficial?

- Me providing background information about the goal.
- Me modelling strategies with your child.
- Me giving you feedback implementing the goal.
- Providing ideas on how the goal could be implemented during the week.

5. Would you say there are any differences in the way you play and interact with your child since completing this project?

- Describe your play and interactions with your child now.

6. Have you noticed any changes in your child's social communication since completing this project?

- Are they making more requests?
- Communicating in different ways? Like gestures, sounds, comments, emotions.
- Are they copying you more?
- Are they initiating more interactions with you?
- Are they emitting more vocalisations during play?
- Are they seeking you out more in play?
- Differences in joint attention? Do they look at direct your attention at more items or what they are doing.
- Has anyone else noticed this or commented on this.

7. Did you use any of the strategies outside of the sessions with the researcher?

- If yes, which one?
- If no, why not?

8. Do you think you will continue to use these strategies now the sessions are finished?

- If yes why not?
- If not, why not?
- Is there anything else you could I have done to support this?

9. Did you like being involved in your child's intervention program?

- Was there any differences in this program and other interventions you have received?

10. How confident do you think you are now interacting/playing with your child? On a scale of 1-5. Where 5 is very confident, and 1 = not confident at all.

11. Is there anything you would change about the way the intervention was delivered?

12. Do you have any other feedback about the intervention?

13. What advice would you give me to improve my approach to this intervention for other parents?

Appendix 15: Procedural Integrity Checklist

Date:

	Step	Complete
1.	Introduce the target goal. Review handouts & steps. Review progress during week if relevant.	
2.	Model the target goal with the child. Allow the father to ask questions.	
4.	Allow the father to practice, while talking him through it and providing feedback.	
5.	Conduct 10-min observation (30 sec intervals) of father practicing target goal. Do not provide feedback.	
6.	Make a plan for the week using the planning grid.	

Appendix 16: Ethics Approval Letter

MARY IMMACULATE COLLEGE
COLÁISTE MHUIRE GAN SMÁL

MIREC-5

Research Ethics Committee

MIREC Final Decision Form

APPLICATION NUMBER:	A24-008

1. PROJECT TITLE

Parent Coaching with Fathers of Autistic Children.

2. APPLICANT

Name:	Ciara Donohue
Department / Centre / Other:	EPISE
Position:	Postgraduate Researcher

3. DECISION OF MIREC CHAIR (✓)

☐	Ethical clearance through MIREC is not required and therefore the applicant need take no further action in this regard.
✓	Ethical clearance is required and is hereby granted by the Chair without need for referral to the MIREC committee.
☐	Ethical clearance for a funding application or a similar purpose is granted by the Chair ***pro tem*** without need for referral to the MIREC committee. However, the applicant must subsequently seek ethical clearance from MIREC prior to embarking on any related project work involving human participants or their data.
☐	Ethical clearance is granted following review of the application by the MIREC committee.
☐	Ethical clearance is not granted following review of the application by the MIREC committee.

4. REASON(S) FOR DECISION

I have reviewed this proposal and I am satisfied it meets MIREC requirements. Safeguarding statement and risk assessment are fit-for-purpose. The application is, therefore, approved.

5. SIGNATURE OF MIREC CHAIR

Name (Print):	Dr Marie Griffin
Signature:	
Date:	15th March 2024