CHANGES IN PARENTAL SELF-EFFICACY FOLLOWING "AUTISM SPECTRUM DISORDER AND LANGUAGE DELAY INCREDIBLE YEARS" PARENTING PROGRAMME

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Dedication

I dedicate this research study to my two joyful children Molly and Oliver who have brought incredible happiness to my life. You have taught me the importance of being a parent who accepts her faults, acknowledges both her weaknesses and strengths and is constantly willing to learn new ways of becoming a better person. My dear children, I hope that this family compromise that both your father and I have made for the past few years serves as an example to you both of how commitment and determination leads to achieving your dreams.

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CONTENTS

Abstract

Background: Early interventions have positive outcomes for parents of children with neurodevelopmental disorders. The Incredible Years® Autism and Language Delay (IY® ASLD) programme aims to promote parenting competence and child development by offering strategies to address social skills, communication and language, emotion regulation, and school readiness in children. Parental self-efficacy has been used as an outcome measure in some empirical studies of intervention programmes. Still today, neither in the IY® ASLD pilot studies nor in the feasibility studies specific measures to identify changes in parenting self-efficacy have been used.

Study aim: To ascertain if the IY® ASLD training programme improves parental self-efficacy.

Methods: A repeated measure design was used. Participants completed a TOPSE scale Pre and Post parenting programme. Qualitative information about the participant's feedback of the intervention was obtained from the TOPSE scale comments section, Pre and Post IY® ASLD parenting programme.

Results: Significant improvements were identified in overall total for parental self-efficacy (p = .012) Post IY® ASLD parenting programme. Results showed significant improvement in the play and enjoyment (p=.003) and learning and knowledge (p=.012) domain. Feedback after the course was entirely positive, and indicative of the benefits of the IY® ASLD programme for improving parenting skills. A limitation of the study is that it was interrupted due to the Covid-19 Pandemic.

Conclusion: The IY® ASLD is a cost-effective programme that can be implemented to support families with children with social communication difficulties and/or language delay. Parents with children with neurodevelopmental disorders benefitted from being part of a group and sharing their experiences together.

Relevance to clinical practice: Delivering the IY® ASLD programme to families whose children have been diagnosed with a neurodevelopmental disorder or are still waiting to be assessed will be of benefit to clinical practice at Children Centres or at other early intervention services.

Key words: Autism, language delay, child development, early years intervention, TOPSE scale, cost effective programme.

Declaration

I certify that this work contains no material which has been accepted for any other degree or diploma in my name in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name for any other degree or diploma in any university or other tertiary institution without the prior approval of Middlesex University. I also declare that I have no conflict of interest with the Programme since as I have not been employed or involved in the programme.

1.   Introduction

In children's lives, parents are their most important people. From an early age children depend on the caring role of their parents, as well as other caregivers to protect them, to nurture, and provide them with food so they can grow. In general, parents try to anticipate their children's unfolding personalities, but many may lack the knowledge of how best to provide for them so their children can achieve their full potential. The parent child-relationship is one that nurtures the child's emotional, social and physical development. Becoming a parent is an exciting life experience for many, but for others the additional stress and financial pressures of bringing a child into the world can be overwhelming. Some are faced with the uncertainty of how best to provide for their child's physical, emotional and economic wellbeing (N.A.S.E.M, 2016).

The role of parents is central to the health, wellbeing and development of their children until they reach adulthood, and it is recognised that this role can often be challenging (McGuire, S., 2015). At the most basic level, children must receive the care, as reflected in a number of emotional and physiological protections, necessary to meet normative standards for growth and physical development (McGuire, S., 2015). Children need care that promotes positive emotional health and well-being and that supports their overall mental health, including a positive sense of self, as well as the ability to cope with stressful situations, temper emotional arousal, overcome fears, and accept disappointments and frustrations. To be able to respond to children's needs, parents have to develop a deep knowledge of their developmental milestones as well as norms to keep children safe and healthy. In that sense, parenting is considered to be multidimensional: an understanding is needed of the roles of different professionals that would also take part in the child's life such as health care providers, educators, social workers and also the social systems around the child (Winter et al., 2012). Adverse parenting is a risk factor for the development of health problems both in childhood and adulthood (World Health Organization, 2020). Parenthood and its demands increase when parents do not have access to extended family support networks or close trusted friends who can provide them with advice (Sanders, 1999).

1.1   Early Years development

At the foundation of children's well-being and healthy development lays the parent-child dyad and their family environment. During the early years of a child's life when a child's brain is rapidly developing and when nearly all of his/her experiences are created and shaped by his/her parents and the family environment, the impact of parents in child development is at its greatest. Feelings of happiness, fulfilment, anger among others are experienced by those who become parents for the first time. Parenting can enrich someone's life as well as bring several other stressors (NASEM, 2016).

According to the 2020 World Health Organisation (WHO) guideline, the early years in a child's development are crucial. During this period the brain develops most rapidly and has enormous capacity for change. The early years lay the foundations for health and wellbeing throughout life. Responsive caregiving, early learning, nurturing care, supporting maternal mental health and nutrition interventions will set the basis for optimal child development. The pre-school years are crucial for mental health and physical development, interventions during this period are important to enhance those. Study results suggest that brain growth during infancy and early childhood is more important than growth during foetal life in determining cognitive function (Gale, 2004).

Studies have identified adverse childhood experiences, such as abuse and neglect, as having a detrimental effect in many outcomes of a child's development. Among those are higher levels of violence, antisocial behaviour, school attainment and poor physical health (Hunt, 2016; Walker et al., 2007; Day et al., 2012). These adverse childhood experiences are also associated with poorer health and behavioural outcomes. Others such as domestic violence can also have an impact on the environment around the child (Bellis et al., 2014).

In 2011, an independent report was written in the UK addressing the Next Steps in Early Interventions, which mentioned that parents and carers are the agents that make a healthy child. The article emphasises the importance of creating policies for those early intervention stages (0-18 years old) that support families so they can feel

confident raising their children in a loving environment (Allen, 2011). Some of the statements mentioned in that article states that all children should have regular assessments of their development from birth up to the age of five. The assessment should include aspects of social and emotional development. Key professionals need to be aware of supporting and promoting good parenting by building on the social and emotional capabilities of babies and children. Preschool provision has now been extended to two years old, so it is important to raise the standards of those working with young children so their understanding of normal child development is up to date (Allen, 2011)

Pregnancy and the postnatal period are key stages for early interventions. The article also states it is when expectant mothers are motivated to learn and want to do the best for their children. Children Centres should be offering evidence-based programmes (for example, Triple P – Positive Parenting Programme and the Webster-Stratton Incredible Years® programmes) as part of their services. Another important aspect of the early intervention article is to promote social and emotional development in order to improve mental and physical health, educational attainment and employment opportunities. Early Intervention can also help to prevent criminal behaviour (especially violent behaviour), drug and alcohol misuse and teenage pregnancy. It also emphasises the importance of targeting children who show early signs of impairments in their health and development, including mental health disorders. Some of those children may show early signs of conduct disorder, significant emotional problems or hyperactivity (Allen, 2011).

1.1.1   Attachment Theory

According to Bowlby (1969) attachment is defined as an emotional bond with another person. He sustained that early bonds between children and their caregivers have an important impact that continues throughout life. Attachment helps to keep mother and child close to one another improving the chances of child's survival. Later, during 1970's Ainsworth described three different attachment styles: secure attachment, ambivalent-insecure and avoidant-insecure attachment (Ainsworth & Bell, 1970).

When a baby is born the infant is equipped with a repertoire of behaviours that promote proximity to caregivers. At first, mother and baby are one, but soon a second phase begins in which the baby can discriminate between mother and other people and direct his/her attachment behaviours differently (Ainsworth, 1985). Secure-attached infants build up a working model of their mothers as responsive and accessible. Infants can then use her as a secure base from which to explore the unfamiliar environment. A secure base attachment style gives the baby better chances to learn about themselves, about others and about the world around them in a positive way. They are also more likely to replicate these positive experiences with their own children if they become parents themselves (Silver, 2013). Children who develop a secure attachment are more likely to develop superior mentalising abilities, to be independent explorers, be more flexible in peer interactions at pre-school and achieve better academic outcomes (Meins, 1998; Pearson et al., 2011).

1.1.2   Neurodevelopmental Disorders

Neurodevelopmental disorders are impairments of the development and growth of the brain. The disorders manifest early in development and are characterised by impairments of social, academic, personal and/or occupational functioning (DSM 5, 2013).

Most neurodevelopmental disorders have complex and multiple contributors rather than one clear cause. These disorders likely result from a combination of genetic, biological, psychosocial and environmental risk factors. A range of environmental risk factors may affect neurodevelopment, including (but not limited to) maternal use of alcohol, tobacco, or illicit drugs during pregnancy, lower socioeconomic status, preterm birth, low birth weight, the physical environment, and prenatal or childhood exposure to certain environmental contaminants (ACE, 2015).

Intellectual developmental disorder (intellectual disability) is defined by deficits in general mental abilities. These deficits result in impairment of adaptive functioning. Global developmental delay is diagnosed when a person does not meet developmental milestones in several areas of intellectual functioning (DSM 5, 2013). The communication disorders have an onset in the early developmental period, and

as such, the outcome may be lifelong functional impairments. Communication disorders include: language disorder, speech sound disorder, social (pragmatic) communication disorder and childhood-onset fluency disorder (stuttering). Stuttering is characterised by frequent and significant problems with normal fluency and flow of speech. Language disorder, speech sound disorder and social (pragmatic) communication disorder can be defined as deficits in the development and use of language, speech and social communication (DSM 5, 2013). Many neurodevelopmental disorders can present similarities, co-occur or overlap (Kirby et al., 2013).

Autism is a neurodevelopmental disorder that is characterised by persistent deficits in social communication, social interaction in multiple contexts as well as restrictive, repetitive patterns of behaviour or activities (DSM 5, 2013). Children with autism may present as very shy or overly friendly with unfamiliar adults. They may present with abnormal social approach, which can include a reduction in the sharing of interests, emotions and affect. Those with autism may not share enjoyment and may not be able to hold a back and forth conversation. Deficits are also present in the non-verbal communication area; as such gestures and facial expressions are limited. The ability to develop and maintain relationships is also impaired. Children with autism may show unusual interest in objects, may play with the same toys repeatedly in a mechanical and repetitive way. They may also have difficulties dealing with change and transitions. They may have repetitive motor movements or speech, such as motor stereotypies, echolalia and idiosyncratic language (National Autistic Society, 2020).

It is important to address the emotional and behavioural problems that prevail in young children with autism. Some research has shown that behavioural and emotional problems persist into adolescence and young adulthood; understanding these issues in very young children and their parents have important implications for intervention and long-term outcomes (Herring, et al., 2006). Parents of children with autism report greater stress than those raising children without autism. Distinctly, mothers of children with autism reported lower parenting competency than mothers of children without it (Baker-Ericzen et al., 2005).

Poor maternal sleep quality, high levels of fatigue, poor quality of physical activity have been identified in mothers of children with autism spectrum disorder (ASD) (Giallo, et al., 2013). Findings in other studies reported that mothers not only report higher stress levels but also lower parenting self-efficacy. Care taking responsibilities are generally being carried out by mothers who also may suffer on reduced incomes for being less at work (Rodrigue et al., 1990; Baker-Ericzen et al., 2005). Fathers of children with ASD have also reported elevated levels of stress as well as child and parent related stress. Parenting a child with ASD and other related neurodevelopmental disorders such as Attention Deficit Hyperactivity Disorder, also possess extra challenges, as those children are generally non-compliant and harder to manage (Rimestad et al., 2017).

1.2   Parental Self-efficacy

According to Bandura (1989) the definition of self-efficacy is people's belief about their capability to produce desired levels of performance that influence important events in their lives. It is a core construct that mediates between acquired knowledge and behaviour. According to Coleman and Karraker (1998), beliefs in personal efficacy have an impact on life choices, people's motivation levels, and their resilience to adversity, and enhance a good level of vulnerability to stress and depression. There are four main sources that influence people's efficacy beliefs: observing others managing demanding tasks successfully, mastering experiences, being socially persuaded that one has all the skills and capabilities to succeed and interpreting emotional and somatic states as indicative of strengths and weaknesses.

The term 'parental self-efficacy' describes the parent's belief in performing their role successfully. The successful interpretations that parents' have about their own performance are more likely to raise parental self-efficacy (Bandura 1997, 2006). Parental self-efficacy can be subdivided from general self-efficacy that describes the ability of the parent to perform their role effectively. Those parents who have a stronger sense of efficacy are able to set themselves challenging goals and commit to them. They can also sustain their efforts even when difficulties and failures may arise. Their overall feeling of accomplishment and personal wellbeing is enhanced by the strong sense of efficacy. High parental self-efficacy is linked to positive parenting

strategies and behaviours (Coleman and Karraker, 1998). When parents feel competent in their ability to parent, they are likely to use more effective parenting practices, which foster positive developmental outcomes (Kendall and Bloomfield, 2005). Low self-efficacy can hinder the acquisition of new skills or even suppress existing skills. In parenting interventions, it is key that when faced with difficult tasks or obstacles in their role, parents feel well equipped to deal with such tasks. If they view themselves as not able to recover following a setback they can easily become stressed or depressed (Bandura, 1982).

1.3   Parenting interventions for Autism Spectrum Disorder

Parents have the experience of being parented themselves but receive little preparation for it. Such a demanding task is generally learnt on the job through trial and error as a popular approach. Parents are the ones that have a significant influence on a child's development; however, it is rare that any formal training is ever given. Parenting is not limited to biological parents but extends to guardians or caregivers providing consistent care for the child (Richardson et al., 2002). To support parents in their role different types of parenting programmes have been created in the world. Particularly in the UK, parenting programmes are proposed based on skill acquisition, strengthening relationships, behaviour management and parent education and support. Generally, the aims of such programmes are to empower parents in their role and to help them understand the impact their behaviour has on their children. Parenting programmes provide support for parents and enable children to reach their full potential (Mille and Sambell, 2003).

Parenting Training programmes aim at providing parents with strategies that will address behaviour management and also enhancing parenting skills. The main goal is to reduce children's disruptive behaviour, such as uncooperative and defiant conduct. Children with disruptive behaviour can respond to authority figures with indifference or hostility. The most common types are oppositional defiant disorder (ODD), conduct disorder (CD) or disruptive behaviour disorder not otherwise specified (DBD NOS). Parenting training programmes delivered in a structured manner over several weeks are the most widely researched psychological interventions in child and adolescent mental health. They have been shown to be the most effective treatment

strategy for children with conduct disorders less than ten years of age (Richardson and Joughin, 2002).

According to 2017 National Institute for Health and Care Excellence (NICE) guidelines, parenting programmes are the best-established implementation of multi systemic approaches and early intervention programmes. Harsh and inconsistent parenting styles, parental mental health, environmental factors such as poverty, being a *looked after child* and the presence of other mental health problems are factors that may be associated with a higher risk of developing conduct disorders. Hence, group parenting programmes are recommended for those parents of children and young people between the ages of three and eleven who have been identified as being at risk of developing oppositional defiant disorder or conduct disorder (Gardner et al., 2017).

In this context, several studies have investigated the efficacy and/or effectiveness of different parenting programmes for children with autism as summarised below:

Stepping Stones Triple P

One parenting programme based on social learning principles is *Stepping Stones Triple P* (SSTP). The Triple P programme was created for parents of children with disabilities. Subsequently, a branch of the same programme was created to be used with families with children with ASD**.** Results from a pilot study and one randomised control treatment showed that the programme is a promising intervention for parents of children with ASD. Increased levels of parental satisfaction and attribution of the child's behaviour to uncontrollable factors was found to predict higher ratings of usability (Whittingham et al., 2005; Whittingham et al., 2009). The aim of the programme is to (1) improve parents' ability to manage troublesome behaviour, (2) reduce negative parenting practices, (3) increase parental wellbeing through improved coping and reduced mental strain, (4) improve parents' relationship around parenting issues and roles, and (5) developing problem solving skills in parents (Sanders et al., 2000).

Early Bird

Early Bird intervention was developed by The National Autistic Society (NAS) as a psychoeducational programme for parents of children with autism in 1997. The aim of the programme is to provide psychoeducation about autism, communication development, play techniques, using visual supports and structures, developing routines, techniques to understand behaviour, and strategies for dealing with a range of behaviours, such as repetitive behaviours, temper tantrums and aggression, fears and phobias, and eating, sleeping and toileting problems. The programme also was designed to provide parents with support between the period of receiving the autism spectrum disorder diagnosis and finding the right school placement for their child. The approaches used are techniques from the Treatment and Education of Autistic and Communication related handicapped Children approach (TEACCH), Picture Exchange Communication System (PECS) and the National Autistic Society SPELL framework. Early Bird is a three-month programme that aims to reduce parental stress, built on parental confidence by educating them on autism so they can adapt their parenting style to the needs of their child. Parents learn with and from other parents of children with ASD. Parents are encouraged to solve problems together as a group and to not rely on professional presenters to do so. Videos of previous group sessions are shown to prompt discussions. A study has shown that parents remain less stressed, they modify their language to interact with their children and that the children make progress with communication, daily living and socialisation (Shields et al., 2004).

Despite its extensive use, the efficacy of the programme has yet to be tested using rigorous randomised controlled trial (RCT) designs (Palmer et al., 2020). One literature review conducted in 2018 revealed that the *Early Bird* programme was broadly accepted by parents, but data showed low level evidence of efficacy. The programme was recommended for broader feasibility evaluation including accessibility, cultural appropriateness and scalability (Dawson-Squibb, et al., 2018).

ASCEND

The Autism Spectrum Conditions-Enhancing Nurture and Development (ASCEND) is another group-based parent psychoeducation programme specifically developed for

parents of school age children (4-18 years old). The programme provides information about ASD and how it affects a developing child with its implications for parenting. It provides behaviour management skills that can be used in different situations particularly in understanding ASD. Parents also share their experiences and expertise with each other.

Outcomes of this programme regarding parental self-efficacy exceed the 2-5 year old age range that the current IY® ASLD programme is designed for. It is important to highlight the limitations of the results. However, it was discussed that it did improve parental confidence and that parental perceptions improved parental confidence. Furthermore, parental impressions of the improvement in their own understanding were mirrored in their understanding of their child's behaviour (Pillay et al., 2011).

This initial assessment indicates that the course delivers positive results in terms of parental achievement, parental understanding and observed changes in child behaviour, although further independent analysis is necessary in the form of a randomised controlled trial.

VIPP-AUTI

Video Feedback intervention to Promote Positive Parenting Adapted to Autism (VIPP-AUTI) is a brief attachment–based intervention programme. The programme is an adaptation of the generic VIPP. The programme's practitioner work with parents on 5 home visits using video feedback and help them understand and adapt to their child's individual communication style. The focus of the programme is on improving parent-child interaction to promote social and communication development. It is also aimed at reducing the child's symptomatology by enhancing parental sensitivity to the autistic traits of the child. The VIPP-AUTI protocol consists of five sessions, four of which are devoted to the VIPP themes ("Attachment and Exploration", "Speaking for the child", "Sensitivity chain", and "Sharing emotions") with an additional autism-related component for each session. The fifth session is a booster session (Poslawsky et al., 2015). The additional themes for autism are (1) mastery motivation and play, (2) joint attention, (3) daily problems and routine, including VIPP-SD themes (positive reinforcement and, if applicable, "sensitive time-out"), and (4) emotions and

(stereotypical) behaviour. All these extra themes that form part of the VIPP-AUTI are essential so parents can discuss those on specific video fragments and learn about their child's strengths and weaknesses as well as to have a different look into their child's signals. The programme allows professionals from various disciplines to act as interveners. Those who are experienced in children with ASD can learn to apply VIPP-AUTI effectively.

Parents receiving the VIPP-AUTI programme demonstrated increased self-efficacy and lower levels of parental intrusiveness. The programme also acknowledges factors such as autism related traits of the parent, cultural background and co-morbidities present in the child, all of those may partly explain its feasibility (Poslawsky et al., 2015). The RCT study demonstrated to be partly effective for families of children with ASD; parents demonstrated increased parental self-efficacy and lower levels of parental intrusiveness (Poslawsky et al., 2014).

1.3.1   *Incredible Years® Programme*

The Incredible Years® programme is recommended by the NICE guidelines in the UK. They are evidence-based programmes that were created by Carolyn Webster Stratton to strengthen parenting competencies. The programmes offer a range of interventions which are developmentally appropriate for parents of babies, toddlers, pre-schoolers, school age (6-12 years old) children and Advanced Parent Programme (4-12 years old). There are also other programmes for teachers of children between the ages of three to eight called *Child Dinosaur Classroom Prevention Programme*, *Incredible Beginnings Teacher/Child Care Provider Programme and Classroom Management Programme*. They are all designed to reduce challenging behaviours in children and increase their social emotional learning and self-control skills (Webster-Stratton 2015). The parenting programmes are run weekly and sessions are two to two and a half hours long. They are run by two programme facilitators and groups can be between ten and fourteen participants. The parenting programmes span the age range of zero to twelve years. The child and teacher programmes span the age range of 3 to 8 years old.

Webster-Stratton's programmes have been extensively researched over the past thirty years in a series of randomised studies and independent replications of the programmes have been conducted in England, Wales, Norway and Holland (Webster-Stratton, fact sheet from IY® website). The IY® programme present with significant positive changes in parenting practices (Webster-Stratton, 1998). The four current IY® parenting programmes (baby, toddler, pre-schoolers, and school age) are known for successfully reducing behavioural problems and increasing positive parenting practices for families with children at risk of developing conduct disorder in several countries (Azevedo et al., 2013; Bywater et al., 2009; Borden et al., 2010). Although they are based on Bandura's Social Cognitive Theory, self-efficacy as a variable has still not been measured separately on the IY® programme, with some findings showing a significant increase in parent's self-efficacy (Webster-Stratton, 2003), and others reporting no significant difference (Letarte et al., 2010).

1.3.2   *Evidence about Parenting Interventions and Self-efficacy.*

According to some British studies, parental self–efficacy improves after attending community-based parenting programmes. There is also recognition that to improve the health and wellbeing of children, it is important to support parents (Bloomfield et. al. 2007, 2010). There are four primary methods in which parental self-efficacy can be modified (Bandura, 1986). The first one is through personal experience, personal accomplishments in situations that the person may have found challenging. The second one is by observing other parents completing tasks by competent models. It is part of most evidence-based parenting programmes to watch and evaluate videos or by engaging in group discussions to enhance parental self-efficacy. The third mechanism is by providing verbal feedback of the abilities or capabilities performed by the parent. Therefore, feedback given to parents from the people delivering the parenting programmes is essential, as it acts as source of encouragement and can boost the parents' self-efficacy. The fourth method is through reducing negative emotional arousal. By modifying emotional and physiological arousal, increasing the knowledge in certain skills or offering parents support, can improve perceived self-efficacy (Bandura, 1986).

Parental self-efficacy has been used as an outcome measure in some empirical studies; however, evidence of the impact of parent training programmes on parenting self-efficacy beliefs is still lacking (Hohlfeld, 2018). There is increasing empirical evidence that suggests that early interventions have positive outcomes for parents of children with neurodevelopmental disorders (Guralnick, 2017). It was also highlighted that those parenting programmes may also promote positive child outcomes particularly those programmes that increase parental self-efficacy (Hohlfeld, 2018). *Day by Day*, is a parenting programme established at the University of Concepción in Chile, which aims to strengthen positive parenting practices, specifically concentrating on early intervention and the prevention of problematic conduct in pre-schoolers. It was created based on a review of current parenting programmes across the globe which had shown the most favourable outcomes (Kaminski et al., 2002; Gardner et al., 2009). Also, another six systematic reviews have shown that behavioural and cognitive-behavioural group-based parenting interventions are both efficient and cost-effective methods of correcting child behavioural issues, parental mental wellbeing and parenting skills in the short term (Furlong et al., 2012). One study discovered that parents whose child received a diagnosis of ASD and soon after received a brief parent-focused intervention, it was effective to reduce parental stress and increase parental self-efficacy (Keen et al., 2010). However, in general, the number of studies evaluating self-efficacy in parenting programmes, and particularly for children with ASD, are still very limited (Webster-Stratton, 2015).

1.3.3   *Evidence Incredible Years® Autism and Language Delay (IY® ASLD) programme*

The basic IY® programme was adapted in 2015 to be used with parents of children on the Autism Spectrum and for those who had language delay difficulties. The adaptations that were added into the programme included extra time for emotional coaching, self-regulation skills, discussion of video materials of children with autism or language delay, the unique play of children with ASD and how to get into your child's spotlight. (Dababnah et al., 2019). Other adaptations included an introductory meeting with parents and visual materials. The aim of the programme is to promote parenting competence and child development by offering strategies to address social

skills, communication and language, emotion regulation, and school readiness in children.

The programme is designed for parents of children between the ages of 3 and 6. The programme is divided into 8 topics: (1) child directed narrated play; (2) pre academic and persistent coaching; (3) social coaching; (4) emotional coaching; (5) developing imagination through pretend play; (6) children self-regulation skills; (7) using praise and rewards to motivate children; and (8) effective limit setting and behaviour management (Hutchings et al., 2016). The programme uses a collaborative approach, encouraging parents to learn from each other. The intervention is delivered by a trained practitioner who also receives supervision from an accredited supervisor in IY®ASLD (Evans, 2017).

The IY® ASLD programme is the new addition to the licensed and evidence-based series of the Incredible Years Programme® which has over 30 years of evidence generated by Webster Stratton (2015) and other researchers. The IY® programmes have been used in the USA as well as in other countries (Webster-Stratton, 2015). Differences between the Basic IY® and the IY® ASLD are that it does not present the time out as a primary discipline strategy. It does focus on selective ignoring inappropriate behaviour and reengaging programme when the child is calm. Another difference is the functional approach to behaviour change. Parents learn the "ABC": they identify the antecedent, the behaviour and the consequence. Then they learn antecedent accommodations and reinforcing consequences to promote appropriate behaviour as well as strategies to decrease inappropriate ones are discussed (Webster-Stratton, 2015).

One study supported the effectiveness of the IY® Parent Training Programme in treating children with developmental disabilities (McIntyre, 2008). Two pilot studies that were developed in the USA have tried to explore how IY® ASLD programmes, would work in the UK since there is a different school and healthcare system (Hutchings et al., 2016; Evans et al., 2017). However, no research has been done specifically to measure parents' self-efficacy based on the IY® ASLD programme so far. The first pilot trial of the IY® ASLD programme took place at the Centre for

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Evidence Based Early Intervention at Bangor University (Evans, 2015). The results from this trial showed that attendance to the IY® ASLD programme improves parental health and wellbeing. It also indicated that it can reduce the amount of behaviour parents find problematic and the frequency of those problematic behaviours. The pilot showed good results in terms of feedback from parents and group leaders as well as outcomes for parental reports (Evans, 2015). The second Pilot study for IY® ASLD was conducted between September 2015 and June 2017. The findings showed good acceptance among parents of children with autism. Caregivers/parents identified group discussion and video vignettes as the most helpful. There were also significant improvements in pro-social and peer problems which showed a small positive effect on children's behaviour. However, the study had some limitations such as having a small sample of only nine participants. The other one was that some participants were already receiving support for their children and some had already attended previous parenting programmes for children with ASD (Hutchings, 2016).

Until now, only two small feasibility studies of the IY® ASLD this programme have been published. The first study consisted of a randomised control trial of the IY® ASLD parenting programme in which sixty-five families were identified to receive the intervention with fifty-eight randomised to receive the intervention immediately (Williams et al., 2020). This feasibility trial was conducted in four specialist's children services in Wales. The measures that were used in this trial included demographics, feasibility outcomes, child social communication skills questionnaire and parenting stress index short form. As the first Randomised control trial of the IY® ASLD programme, the feasibility outcomes showed that the program was well accepted by parents and facilitators. It indicated that the programme can be delivered within local services with existing staff. However, further research will be needed to examine cost effectiveness and parent-child outcomes (Williams et al., 2020).

Conducted by Dababnah (2018), there is also a feasibility study for the preschool children on the autism spectrum that took place in two different United States sites. One site was a community-based agency that serves families with children with and without special needs. The other site consisted of a hospital-based outpatient neurodevelopmental clinic. Pre and post design was used to assess the research aims.

Participants were not randomised into groups; and a one-group approach was used. Fifty participants were enrolled across the two sites and measurements for this trial included demographics and ASD related information as part of the background survey, parenting stress index, program satisfaction questionnaire (developed by Webster–Stratton), ways of coping questionnaire and aberrant behaviour checklist. This study reported high acceptability of IY® ASLD for parents/caregivers of children ages 2-6 with ASD. Group discussions and role-plays were identified as useful strategies by nearly all the caregivers/parents that participated in the programme. Study results showed initial evidence that the interventions were feasible and acceptable with further benefits such as reduced parental stress. However, no significant changes in child challenging behaviours were reported. The outcomes were consistent between the two sites, despite program delivery, geographic and demographic differences. It was also emphasised the need for a larger trial to be conducted in the future, that could also test long term follow up after the intervention had finished to assess effectiveness (Dababnah et al., 2018).

1.3.4   *Incredible Years® Autism and Language Delay and Self-efficacy*

A systematic review concluded that parent-training programmes are effective in increasing parental self-efficacy in parents of children with neurodevelopmental disabilities (Hohlfeld et al., 2018). Parents of children with ASD were also identified as suffering from elevated levels of anxiety and depression, leading to a lower quality of life (Padden and James, 2017) and decreased parental self-efficacy (Giallo et al., 2013). Reduced parental self-efficacy and increased mental health problems can impact on parenting behaviour. According to the National Autism Plan (2003) in the UK, early identification and assessment of autism is desirable and if diagnosis is given this should be followed by intervention. Preferably the intervention should include training for parents and caregivers.

Neither of the IY® ASLD pilot studies nor the feasibility studies used specific measures to identify changes in parenting self-efficacy. Since the IY® ASLD programme there are minimal research studies that have been completed thus far, and the findings about self-efficacy are mixed. It would be highly beneficial to test the impact on specific variable pre and post parenting interventions. A study on the generic IY® in a

child protection service, concluded as part of their outcomes that there were no resultant effects found in parental self-efficacy. This was probably due to the short time implemented/duration of the programme (Letarte et al., 2010). In contrast, another IY® study showed a decrease in self-reported negative parenting and an increase in maternal self-efficacy. These changes in parental self-efficacy affected changes in parental practices, promoting then changes in children's behaviour (Seabra-Santos, et Al. 2016). Other studies have suggested that the changes in parenting practices is mediated by the change in their sense of parenting self-efficacy, which may be promoted by collaborative, non-judgmental and parent empowering processes, characteristic of the Incredible Years® Parenting Programme (Dekovic et al., 2010; Roskam et al., 2012).

Previous studies have shown that the generic IY® programme is just as likely to be beneficial for those families from either ethnic minorities or socially disadvantaged backgrounds. Moreover, the same programme was found to be more effective for the most distressed families, including children with marked behaviour problems and depressed parents, than for families without those added systemic difficulties (Webster-Stratton, 2003).

1.4   Search for the Parental Self-Efficacy Scale

In a systematic review conducted in the UK, self-report measures of Parental Self-efficacy were analysed. Different scales were developed for different age ranges and for different purposes. A good predictor of parenting functioning has been demonstrated to be Parental Self-Efficacy (Wittkowski, 2017). All the mentioned scales in that systematic review were looked at and four were identified as possible scales to be used for this current study. The following were taken into consideration when selecting the most appropriate scale: validity, internal consistency, how easy it was to score, time to administer, readability and comprehension.

The scale 'Being a Mother' (BaM-13) is a self-report questionnaire of 13 items that was created to assess experience of motherhood from the postnatal weeks up to pre-school age (3–4 years postpartum). It is useful as both a clinical and research tool, and complements other scales that focus just on women's confidence or mood in the

postpartum period. This self-report experience of motherhood questionnaire also denotes a good clinical discrimination between women with different experiences. A limitation of this scale is that it has only been validated for English-speaking mothers (Matthey, 2011).

Most of what is known about parental self-efficacy is, overall, maternal self-efficacy. In an initial effort to understand fathers' parenting beliefs, Sevigny and Loutzenhiser (2010) have developed a self-report scale that assesses parental self-efficacy of fathers with pre-school aged children. These authors developed the 'Fathering self-efficacy Scale' applicable for pre-school children. The scale contains 20-items with a 3-factor structure (Likert 1-9). The 3-factor structure represents Positive Engagement, Direct Care, and Financial Responsibility. In a more recent study, Sevigny et al. (2016) have shown initial evidence of the reliability and the construct validity of the 'Fathering self-efficacy Scale'.

The aforementioned scales were considered not suitable for the present study, as both the 'Being a Mother' and the 'Fathering self-efficacy' scales are exclusive (i.e. they are either focused on the mothers' or the fathers' self-efficacy). Therefore, they were excluded as a possible measure from the current study as mothers and fathers were valid respondents.

'Parenting Self-Efficacy Scale' (PSES) is for children between the ages of 0-6. It was developed to assess parenting self-efficacy in times of child's illness. It comprises 18 items arranged in four sections: namely, (1) getting information when well; (2) general care during periods of ill health; (3) use of, and the responsiveness of health services during a specified period of ill health; and (4) demographic questions. Most of its items contain a 4-point Likert scale as a possible answer, others present the question in the form of a dichotomous response (yes/no) (Pursell and White, 2013). The 'Parenting Self-Efficacy Scale' was also excluded as a possible measure from the present study. The current study aim is to measure parental self-efficacy in children between the ages of 2 and 5 during illness-free periods. The PSES only measures children with no illnesses on the first section of the scale. Thus, it was deemed as unsuitable.

In UK, Kendall and Bloomfield (2005) have developed a sensitive Tool to Measure Parenting Self-Efficacy (TOPSE), which considers the different perspectives and experiences of specialist public health practitioners and parents from a diverse range of cultural, educational and social backgrounds. TOPSE was developed through focus group work with parents and parenting programme facilitators to explore the range of challenges and difficulties faced by parents of children under the age of six years and parents' perceived ability to manage their children, based on their own views and experiences (Kendall and Bloomfield, 2005). This tool was tested for validity through consultation with a panel of experts in the fields of self-efficacy and parenting and estimates of reliability were obtained through pilot testing (Kendall and Bloomfield, 2005). TOPSE is currently being used to evaluate parenting programmes in several regions of the UK and also is being used as a research tool in a wide number of academic institutions internationally (Bloomfield and Kendall, 2007).

The TOPSE Scale is based on Bandura's social learning theory. The key concepts are that people learn by observing other's behaviour and attitudes. Most behaviour is learnt through modelling; however, the person's mental state and motivation also play an important role in learning. There is a continuous reciprocal interaction between cognitive, behavioural and environmental influences (Bandura, 1971). The theoretical underpinning of the TOPSE scale is self-efficacy. According to Bandura's social learning theory, from which the concept of self- efficacy is derived, the acquisition and retention of behaviour is affected by the person's expectations that the action will result in anticipated benefits (Bandura, 1986). A strong sense of efficacy enhances human behaviour and personal well-being. Those who have high assurance of their capabilities approach difficult tasks as challenges rather than as threats to be avoided (Bandura, 1994).

Previous studies have provided support for the reliability and validity of TOPSE (Kendall and Bloomfield 2005). Internal consistency reliability for each scale was estimated at baseline for the current sample through the use of Cronbach's alpha coefficients: Cronbach's alpha < .5 is unacceptable, .5 < α < .6 is poor, .6 < α < .7 is questionable, .7 < α < .8 is acceptable, .8 < α < .9 is good and α > .9 is excellent.

(Cronbach, 1951). Internal reliability coefficients for the subscales ranged from $\alpha =$ .80 to .89, and the overall scale reliability was $\alpha = .94$. External reliability coefficients ranged from $\alpha = .58$ (n = 19, P < 0.01) to $\alpha = .88$ (n = 19, P < 0.01).

It is known that high levels of parental self-efficacy will contribute to parents displaying positive parenting behaviours that will build a nurturing environment for the child (Wittkowski et al., 2019). Parenting programmes are generally underpinned by self-efficacy theory (Bloomfield and Kendall, 2007). Despite TOPSE scale being widely used on several parenting programmes, still today few parenting intervention studies have measured parental self-efficacy using the TOPSE scale in the UK (Enebrink et al., 2015; Kendall, et al 2013). In this context, the aim of this study is to ascertain if the IY® ASLD training program improves parent's self-efficacy evaluated by using the TOPSE scale at two moments; Pre and Post IY® ASLD parenting programme.

2.   Methodology

2.1   Study design

A repeated measures design was used to assess research aims. There were two data collection points, Pre and Post IY® ASLD parenting programme delivery. This study was part of a natural experiment in one group of participants of the programme and utilised data from Pre and Post TOPSE questionnaire completion. Statistical differences between Pre and Post the IY® ASLD parenting programme and for each domain were analysed using a paired-samples t test ($α = .05$) using the Jamovi software (Version 1.2).

Complementary to the surveys, participants were encouraged to write their own comments on their experience Pre or Post the IY® ASLD programme. Themes were defined by using a thematic analysis method, which is a valuable tool for identifying, analysing and reporting patterns (themes) within data. It minimally organises and describes a data set in detail (Braun and Clarke, 2006). Thematic analysis method can be used to identify patterns within and across data in relation to participants' lived experience, views and perspectives, and behaviour and practices; 'experiential' research which seeks to understand what participants' think, feel, and do (Braun and Clarke, 2017).

Seven themes were identified by grouping the main key words that were identified from the participant's comments at the end of the programme. The frequency of each theme was expressed in percentage and calculated from the ratio of the number of participants commenting on each theme and the number of participants that completed the comments section at the end of the course.

2.2   Participants

Participants were recruited from a Children Centre in London where the intervention was being delivered by trained staff who had previous experience in delivering other Incredible Years® programmes. Programme facilitators for the current study were two well-experienced IY® leaders who were also trained on ASLD programme. They had run the current programme a few times before this study was conducted.

In order to be eligible for the study, participants had to be parents, or primary caregivers, of a child between 2 to 5 years of age. Participant's children were identified as having social communication difficulties, related neurodevelopmental disorders, a language delay or being on the waiting list to be assessed for autism. The child was not required to have a diagnosis of Autism Spectrum Disorder or receiving a speech and language therapy intervention. Participants were identified either by their *General Practitioner, Health Visitor, Family Support Worker, Children and Adolescent Mental Health Services, Social Services* or the child's nursery as in need of a parenting intervention to improve their child's behaviour and social skills. Parents and primary caregivers were then referred to the Children Centre for further assessment and support. Hence those families were given the opportunity to participate in a parenting programme.

Participants attended an introduction session at the Children's Centre where the study was advertised. During that introduction session, parents or caregivers were approached, invited to participate, and written consent was gained from those who were interested in participating in the study. The parents or caregivers with more than one child identified with ASD or language delay were advised to choose the target child within the intervention age range for reporting purposes (ages 2–5 years old).

Eleven families took part in the study. Out of the 11 participants, 5 were White British, 3 Indian, 1 Pakistani, 1 Black African and 1 white other. Maternal age range was from 29 to 42 years old (M=35.5, SD=3.64) and paternal age range from 35 to 48 years old (M=38.6, SD= 4.65). All the participants had completed *GCSEs*; 4 out of the 11 participants also completed *A-levels*, the other 4 had a Bachelor degree and only 1 had reached a higher educational degree.

The ages of the children whose parents received the intervention ranged from 2.5 to 4 years of age (M= 3.35, SD= 0.58). Nine families had only one child identified as having special needs and the remaining two had two children with additional needs.

Participants had indicated being competent in English in order to complete the self-efficacy TOPSE scale.

2.2.1   Exclusion Criteria

Initially, the exclusion criterion was set for participants attending less than 10 out of the 12 sessions of the IY® ASLD Programme (Appendix section A1.1). However, on 19 March 2020, the World Health Organization declared the Covid-19 Pandemic (WHO, 2020) which resulted in the parenting programme ending earlier than expected. Participants missed learning sessions 10 and 11, and session 12 which was intended to be a celebration session for facilitators and families (Appendix section A1.1). The exclusion criterion that was finally implemented was for those participants not attending a minimum of 9 out of the 12 sessions of the course.

Participants who reported not being competent in expressing themselves in English were also excluded. If parents or caregivers were also attending another parenting programme elsewhere, were excluded. If the family was in crisis, such as the child being at risk of residential placement; or if the child was in foster care without a long-term plan in that placement, or if a child was on the child protection register, were excluded from the current study.

2.3   Measures

2.3.1   Background survey

The background survey collected family demographic information prior to the commencement of the course. Variables of interest were maternal and paternal age, ethnic/racial background, education level of parents, employment, child's age, and quantity of children with additional needs in the family. This information was used as a 'guide' to understand family background as well as sociological, biological and environmental factors that could possibly affect parenting, but these factors were not considered in the analysis. It enabled a comparison of parents who completed both sets of questionnaires with those who dropped out of the study.

2.3.2   Self-efficacy scale

Tool to measure Parenting Self-Efficacy (TOPSE)

The TOPSE scale (Kendall and Bloomfield, 2005) is based on Bandura's theory of self-efficacy. This measure is a 48-item tool with 8 scales. Each scale has 6 statements and represents a different dimension of parenting such as, emotion and affection, play and enjoyment, empathy and understanding, control, discipline and boundaries, pressures, self-acceptance, learning and knowledge. Each item uses a 10-point Likert scale, where 0 represents completely disagree and 10 represents completely agree. The tool contains items which are worded positively and negatively. The responses are added up to create a total score, the higher the score the higher the level of parental self-efficacy. The scores are calculated using a spreadsheet which is also available with the tool. The reverse scoring needed for several negatively phrased statements has already been included in the TOPSE template and the totals section takes this into account (TOPSE, 2020).

Several studies have found the TOPSE scale to be a valid and reliable tool to measure self-efficacy in different types of parenting programmes and also it can be used in research (Kendall et al., 2004; Bloomfield et al., 2007). A simplified version of the TOPSE was also developed to make it accessible to parents with learning disabilities. Adaptations were made such as including pictures of faces on the Likert scale and statements were rephrased for clarity (Bloomfield et.al, 2010). The results showed that it is also a reliable and validated tool. Cronbach's alphas ranged from .69 to .85 for each of the subscales. TOPSE has high internal consistency on each of the eight scales (αs = .80 to .89) and for the 48 items (α = .94) (Bloomfield et al., 2010).

2.4   Procedure

Participants attended the Children's Centre Sure Start setting once a week for 2 hours. The IY® ASLD programme was delivered by two family support workers who have been formally trained in the model. The IY® ASLD programme is offered to parents of young children between the ages of 2 and 5 years that are either on the autism spectrum or are identified as having a language delay. The aim of the programme is to promote children's emotional regulation, expand their language skills, social skills and competence, school readiness as well as promoting and expanding their

relationships with others. Video vignettes were used to show parents different skills and role plays were encouraged to practice those learnt skills during the course as well as home tasks or homework was given to parents at the end of each session.

The programme uses a collaborative approach between the group leaders and parents, and among parents themselves. The programme uses pretend play to promote empathy and social skills. It focuses on language development, sensory routines, self-care and self-regulation. Group leaders are knowledgeable in ASD and in the use of visual support as well as puppets. They tailor the sessions to the children's group communication stage and motivate participants to create a support network (Webster-Stratton, 2015).

Parents and caregivers were given the TOPSE booklet (see Appendix) as well as the demographic survey to be completed in the first session of a parenting programme and again in the final session to determine any change in self-efficacy scores. It is important that the programme facilitators took the time to reassure each participant that there were no right or wrong answers. They also explained that parents were not being compared with one another.

Due to the Covid-19 pandemic (WHO, 2020) the children centre had to close its doors following government advice so the IY® ASLD programme had its last session in week 9. It was stated that since 75% of the programme was completed, participants were asked to complete the TOPSE scale as agreed. However, the post-parenting programme questionnaire was not completed in person but instead administered over the phone by the programme facilitator.

2.6   Ethics

Permission from the Children Centre's manager was obtained in order to approach families that were attending the IY® ASLD programme. Participants were taking part on the parenting programme and agreed on contributing to the current study. Written consent was gained, and participants were given anonymous identifiers, which were used for all research related documents. This ensured anonymity and confidentiality

within the confines of the law due to safeguarding. Participants were offered to keep a copy of their completed questionnaires for their own personal records.

The Ethical Board from New School of Psychotherapy and Counselling granted ethical approval for the study. A thorough form was completed in which risk was also discussed. Some of the questions on the TOPSE scale that participants were required to answer were similar to those included in the standard IY® ASLD *End of Programme questionnaire* (there are a number of questions about self-efficacy). As such, it was anticipated that completing a 48-item scale on parental self-efficacy after completing the standard IY® questionnaire may cause distress to some participants. Taking this into account, extra time was allocated following first questionnaires, to allow participants to process the information and reduce any distress that it may have caused them. As the post parenting intervention questionnaires were completed over the phone (due to COVID-19), parents were asked if they wanted to add extra comments, which were subsequently recorded by the programme facilitators making the calls.

3. Results

3.1 Exploratory analysis (descriptive statistics)

The descriptive statistics (e.g. mean, median, skewness) for all domains at the Pre and Post IY® ASLD parenting programme are summarised in Tables 1 and A1. The assumptions for paired-sample t-tests were tested (i.e. normal distribution of the dependent variables) and the dependent variable was measured on the same continuous scale of measurement. Some data presented violations of the normality distribution assumption. A Shapiro-Wilk test showed a significant departure from normality in the following domains; Pre-test Emotion and Affection $W(8) = .84$, $p = .04$; Play and enjoyment; and Pre-test Self-acceptance $W(8) = .84$, $p = .006$ (Table A1). The remaining variables were normally distributed in the population ($p > .05$).

Participant 8 reported having a change in their personal circumstances due to COVID-19, which resulted in their parenting style and parental self-efficacy being affected. The data points from participant 8 lay outside and represented a significant outlier. Their observations were therefore excluded from the analysis.

Data was also examined for outliers and patterns of missing values (Table A1). It was found one outlier no missing values.

Table 1. Descriptive statistics for all domains at Pre and Post IY® ASLD parenting programme. Min= Minimum, Max= Maximum, (SD) =standard deviation, SE=standard error.

Domain	Time	Min	Max	Mean (SD)	Median	SE
Emotion and Affection	Pre	25	55	45.4 (9.19)	48	3.06
	Post	33	58	47.7 (7.48)	48	2.49
Play and Enjoyment	Pre	33	55	39.0 (9.14)	37	3.05
	Post	25	52	46.2 (6.38)	46	2.13
Empathy and Understanding	Pre	30	49	39.6 (7.80)	42	2.60
	Post	32	51	44.0 (5.96)	46	1.99
Control	Pre	22	52	34.8 (9.12)	34	3.04
	Post	33	47	40.9 (4.86)	41	1.62
Discipline and Boundaries	Pre	22	55	39.8 (11.20)	39	3.73
	Post	31	52	44.1 (6.21)	45	2.07
Pressures	Pre	27	38	31.8 (3.99)	30	1.33
	Post	26	45	36.7 (6.95)	37	2.32
Self-acceptance	Pre	33	56	44.9 (4.87)	46	2.37
	Post	43	54	49.3 (7.11)	52	1.62
Learning and Knowledge	Pre	35	59	45.8 (9.72)	49	3.24
	Post	29	58	51.3 (7.09)	51	2.36
Total TOPSE scores	Pre	232	380	321.0 (51.07)	331	17.02
	Post	266	411	360.2 (42.98)	367	14.33

3.2 The IY® ASLD programme and Parental Self-efficacy

The Pre (M = 315.9, SD= 44.9) and Post TOPSE Scale completion (M=345.9, SD= 57.65) showed that the overall total for parental self-efficacy had improved after the IY® ASLD programme $t(8)$ = 3.22, p = .012, d = 1.073, 95% CI[11.11, 67.33] (Figs. 1 and 2). These domains showed significant improvements; Play and Enjoyment $t(8)$=4.15, p=.003, d=1.38, 95% CI [3.21,11.23]; and Learning and Knowledge, $t(8)$= 3.24, p=.012, d=1.079, 95% CI[1.59,9.51]. The other domains did not show significant changes (p > .05) and the following values were found as shown in Table 2.

Table 2. Paired samples t-test for the domains with no significant differences at $p <$ .05 between 'Post' *vs.* 'Pre' IY® ASLD parenting programme.

Domain	Student t	df	p	95% Confidence Interval		Cohen's d
				Lower	Upper	
Emotion and Affection	1.68	8	0.131	-0.823	5.27	0.561
Empathy and Understanding	2.00	8	0.081	-0.685	9.57	0.666
Control	2.17	8	0.062	-0.382	12.6	0.723
Discipline and Boundaries	1.31	8	0.227	-3.295	11.96	0.437
Pressures	1.65	8	0.137	-1.926	11.7	0.551
Self-acceptance	2.15	8	0.064	-0.327	9.22	0.716
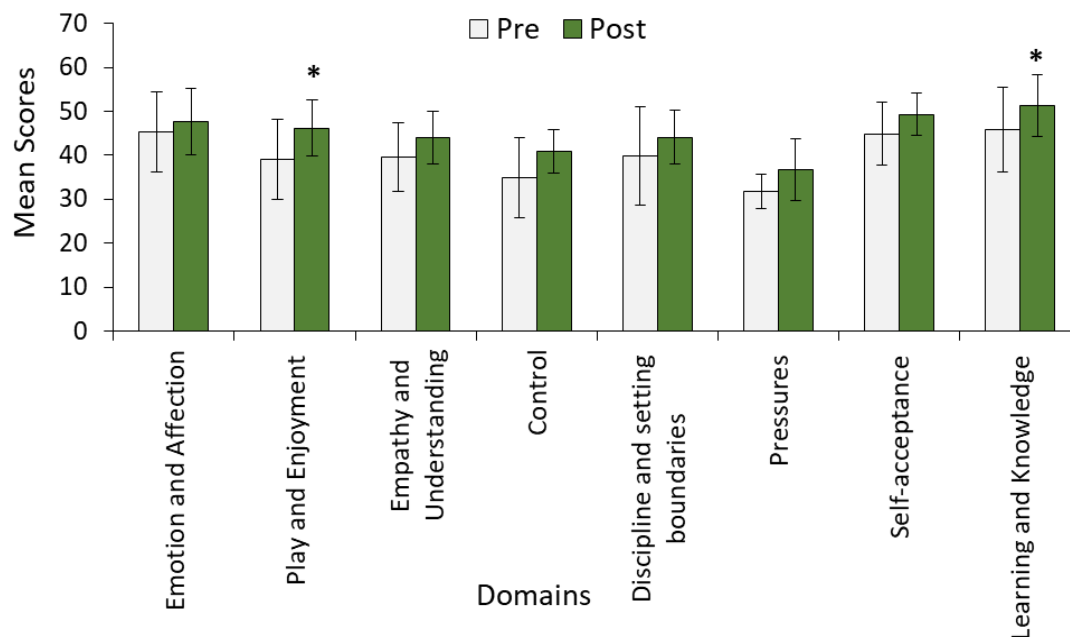
Figure 1. Mean scores for all domains at Pre (white bars) and Post (green bars) IY® ASLD parenting programme. Columns indicate mean values and vertical bars indicate standard error of the mean. *= indicate significant differences between 'pre' and 'post' parental self-efficacy programme within each domain's mean scoring value (paired-sample t test $p < .05$).
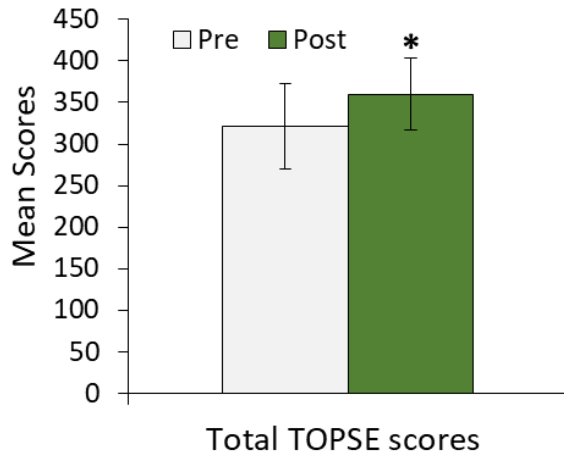
Figure 2. Mean scores for the total TOPSE scores at Pre (white bars) and Post (green bars) IY® ASLD parental programme. Columns indicate the mean values and vertical bars indicate standard error of the mean for each domain. *= indicate significant differences between 'pre' and 'post' parental self-efficacy programme within each domain's mean scoring value (paired-sample t test $p < .05$).

3.3 Qualitative results from the IY® ASLD parenting programme

At the end of the TOPSE scale booklet there was a comment section that participants could voluntarily complete. Five participants completed the comments section prior to the IY® ASLD reporting their expectations for the course, whereas ten out of eleven participants provided feedback after taking part in the study (Tables 3 and 4). Feedback after the course was entirely positive, and indicative of the benefits of the IY® program on enhancing parenting skills. A common aspect amongst participants was the opportunity to interact with other individuals/ parents under similar circumstances, allowing them to build a supportive network. It is important to highlight that one of the aims of the IY® ASLD program is to develop networking skills and / or broaden the networking community (Appendix section A1.1).

3.3.1 *Complementary comments Pre IY® ASLD parenting programme*

Before the start of the programme parents completed the TOPSE scale and five out of the ten participants added comments that were identified as two themes. Parents reported having positive expectations about the outcome of the programme as well

as the social aspect of participating on a programme. Those two themes are summarised in Table 3.

Table 3. Summary of the participant's feedback as 'themes' at Pre IY®ASLD programme.

	Theme	Comment	Reference
1	Expectations about the programme	"It will allow me to develop my parenting strategies"	Participant 3
		"Very hopeful to learn new ideas to help my son"	Participant 5
		"I look forward to learning new strategies to help my child"	Participant 9
		"It will help me to help my child"	Participant 11
2	Expectations about the social aspect of the programme	"Hopefully make some friends with people who have children with similar conditions"	Participant 3
		"I am really looking forward to this course and to meet new families with children with similar problems"	Participant 4

3.3.2 *Complementary comments Post IY® ASLD parenting programme*

Six themes were defined by grouping the main key words that were identified from the participant's comments at the end of the programme (Table 4). The frequency of each theme was expressed in percentage and calculated from the ratio of the number of participants commenting on each theme and the number of participants that completed the comments section at the end of the course. The six themes and their frequency (%) were identified and summarised in Table 4. The six themes from Table 4 were then integrated in a thematic map as shown in Figure 3 for a visualisation of the identified associations across themes.

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Theme 1: Building confidence as a parent

This theme was found to be the most frequent theme amongst the participants' comments, as 90% agreed that the course was very helpful to build more confidence as a parent of a child with ASD (Table 4). Other participants' have denoted "reassurance" and "feeling much safer" in their relationship with their child. The confidence theme appeared to be the most frequent aspect that has been associated with the majority of the other themes. For instance, a sense of confidence resulted from networking (Theme 3), that can be inferred from comments like "sharing ideas with the parents..." (Participant 1) or "listening to other parents made me feel confident" (Participant 2). Confidence in self-parenting can be found as a result of the ability to develop new strategies (Theme 2); and/or having tools to calm/regulate the child (Theme 5); and/or being involved in a contention group providing support (Theme 4). Participant 2 commented that the course provided "all helpful reminders of strategies" and made them feel "reassured as a parent" (Fig. 3).

Theme 2: New learnt strategies

Participants reported learning different ways of playing and communicating with [their] child in 90 % of the cases (Table 4). Some participants have tried "new activities" and/or have benefited from developing "new strategies" and different ways of approaching their children (e.g. Participant 3). Participant 1 has found that the course was helpful for the "strategies and ideas on how to build a positive relationship with [their] child, particularly getting into their attention spot, to support their academic learning and to help to learn new skills". In a similar way, participant 2 has declared that the strategies such as "the self-regulation thermometer, the visual cue and the focus on meeting [their] child's sensory needs" were of vital importance. In addition, the course has been found to be useful in promoting "new activities and ways of playing and communicating with [their] child" (Participant 5) and "learning about play into the child's way of play" (Participant 9). Consequently, participants have learnt more on "building up language and managing [their] child's meltdowns in a more positive way" (Participant 4).

Theme 3: Built parents' network

A high proportion of parents (80%) have identified networking as a key aspect of the intervention programme. This theme was mostly connected to both the feeling of "confidence" (Theme 1) and "support" (Theme 4) as shown in Fig. 3. Participants found it very helpful and supportive to meet other parents who also have children with ASD and learning others' ways of managing them, feeling more confident and "not so alone". The group is connected through a popular cross-platform messaging social media, a clear example of the network they have developed, which means they "can continue to keep supporting each other as parents of children with ASD" (Participant 2).

Theme 4: A supportive group

Half of the participants have commented on the course's benefit of being supportive. This theme was generally linked to the confidence (Theme 1) and networking aspect (Theme 3) as represented in Fig. 3; Participant 5 felt "supported through other parents who have a child with ASD". Participant 11 indicated that "meeting other parents gave [them] a good network of support and more confidence as a parent" within a "community that understands and supports with the challenges". In other words, Participant 7 enjoyed sharing "with each other good and bad days" and expressed feeling "not alone".

Theme 5: Self-regulating and calming down strategies.

A less frequent, but nonetheless important outcome from the course was related to developing tools/skills to calm their child as 40% of the parents commented on this theme. As an example of this, Participant 2 expressed that [their] child is now asking for sensory stimulation to help regulate them: like "squeezing their shoulder or pushing hands". Others have referred as to "being able to remain calm", and alleviating "meltdowns" (Participant 4), and also to a sense of having "better understanding of the child's necessities" (Participant 3).

Theme 6: Acceptance journey

Only one participant (10 %, Table 4) mentioned how valuable the programme experience has been in the acceptance of their child diagnosis, "it has been very

helpful since attending the course. It has been quite a journey and coming to terms with my child's diagnosis of ASD has been very challenging" (Participant 6). Participant 6 stated that "[their] child's behaviour is not just bad behaviour but just trying to communicate". This participant also acknowledged [their] child's condition through learning new strategies (Theme 2) by "beginning to understand some of their needs" within a supportive environment (Theme 4) building up "confidence'' (Theme 1) in the parent-child relationship (Fig. 3).

Table 4. Summary of the participant's feedback 'as themes' at Post IY® ASLD parenting programme

	Theme	%
1	Built confidence as a parent	90
2	New learnt strategies	90
3	Built parents' network	80
4	A supportive group	50
5	Self-regulating and calming down strategies	40
6	Acceptance journey	10
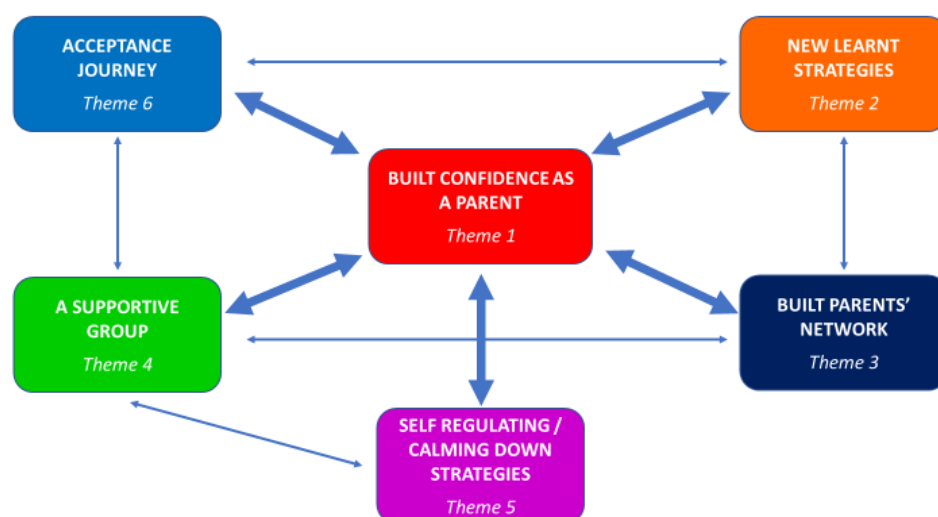
Figure 3. Thematic map, showing six main themes identified from participant's feedback at Post IY® ASLD parenting programme.

4.   Discussion

4.1   Improvements in Parental Self-efficacy with the IY® ASLD programme.

The results from the present study that included children between the ages of 2 and 5, showed an overall improvement in parent's self-efficacy. The current study also showed significant improvements in the play and enjoyment domain as well as on the learning and knowledge domain.

Improvements in Self-efficacy

A recent study conducted by Hohlfeld (2018) showed a statistically significant increase in parental self-efficacy levels in parents of children with disabilities younger than 5 years. It is believed that since the skills of the parenting programmes for children under 5 are based on developmental principals they may have a better impact on parental self-efficacy (Holhfed et al., 2018). Parents of school-aged children who participated in a randomised control trial have shown that parenting group interventions are effective in improving children's mental health, reducing their behavioural problems, decreased in physical punishment (Rincon et al., 2018).

Data collected in a review study confirmed that those licensed parenting interventions have greater benefits on parental self-efficacy than non-licensed ones, since licensed programmes with copyrights generally have a long research history, they have been developed over many years, and have evidence of their efficacy through publications (Holhfeld et al., 2018). Despite IY® ASLD being a new programme and requiring more evidence to be collected, the fact that it is part of a series of a licensed interventions it can be considered as having strong outcomes in parental self-efficacy.

Improvements in play and enjoyment

The parenting programme teaches the parents how to play with the children by following the child's lead in a child directed way (Webster-Stratton, 2015). Results from the current study have shown a significant improvement in the play and enjoyment domain. For children with ASD, pretend play and sharing enjoyment with others does not come naturally. In this IY® ASLD programme parents are being taught

and shown on video vignettes different ways of playing with their child by using puppets, dolls or other figures to encourage children's imaginary play.

The programme is also designed for those with limited language (Webster-Stratton, 2015). Parents of children with language delay can model the desired language by using short simple sentences or by using a puppet or soft toy that can model the words involved in the social interaction. Moreover, echolalic language receives attention, rephrasing and praise as parents learn the importance of reinforcing successive approximation to desired behaviour (Webster-Stratton, 2015). The foundation of all IY® programmes is child-directed play. Children with ASD show repetitive, stereotyped and non-functional play (DSM 5, 2013). It is important that parents are given strategies to engage their children in play.

As stated by Webster-Stratton (2015) the IY® ASLD programme key concepts are: narrating and imitating play, encouraging non-verbal communication, modelling and prompting play behaviours and language as well as being mindful of the parent and child positioning for face to face interaction. The programme also highlights the importance of children's enjoyment as well as shared enjoyment, by encouraging parents to use sensory activities such as dancing, bouncing on a trampoline, swinging, spinning, tickling their children, riding on a parent's leg or chasing. Significant improvement in play and enjoyment domains on the TOPSE of the present study scale can be attributed to the fact that parents have found new ways of playing and enjoying their time with their children. Furthermore, the study has highlighted that the programme has taught new and innovative ways of playing with a child and aiming to increase eye contact, which in turn has shown an upturn in the learning domain.

Improvements in learning and knowledge
The current study also showed significant improvements in the learning and knowledge domain. The IY® ASLD programme teaches parents how to get into the "child attention spotlight". This strategy generally reduces the frustration that some parents feel for not getting a response from their children with ASD. Children with ASD may not respond to their name and have difficulties engaging in activities, which are not part of their area of interest (Hohlfed et al., 2018). The programme teaches

parents different strategies to stay connected with their child and to develop their social and emotional skills. The programme's content includes pre-academic and persistence coaching to promote language development and school readiness. Programme facilitators show parents how to use books and tailor-made images that describe actions, objects or a child's favourite toys to encourage and develop expressive and receptive language. For social development, it is important for children to learn to share, ask for help and to initiate social interactions. Children with ASD have difficulties performing those tasks. The programme teaches parents to use gestures, promoting face to face interactions, modelling to encourage turn taking and introducing parents the "ABC" (*Antecedent, Behaviour, Consequence*) function of a behaviour (Webster-Stratton, 2015). Parents are also taught how to give praise and use rewards to motivate positive behaviour. Parents are shown methods to enhance praise by using specific language, gestures and a warm tone of voice (Webster-Stratton, 2015). All of these new and unique strategies taught during the programme have benefited parents and may have contributed to an increase in their learning and knowledge.

Domains that showed no significant improvement

Due to the COVID-19 pandemic, the programme ended two weeks before its projected conclusion. The last two learning sessions (10 and 11) were missed, their content included 'Limit setting and behaviour management'. A detailed description was added on (Appendix section A.1.1). The programme teaches parents strategies to develop children's social and emotional regulation skills; how to use positive discipline by implementing selective ignoring; how to set limits and handle misbehaviour (Webster-Stratton, 2015). It could be inferred that some of the domains that were not significant (in terms of improvement) after the intervention programme such as 'Control, and Discipline and Boundaries', were associated to the topics of the sessions 10 and 11 that were missed. These two sessions include learning how to give children clear, brief and positive instructions. The use of visuals is crucial when working with children with ASD as they facilitate another medium for communication. The programme encourages parents to use it. Also establishing household rules by selecting those behaviours that can be selectively ignored. These

two sessions stress the importance of giving children transition times and reminders (Webster-Stratton, 2015).

The IY® programme recommends that those programme facilitators delivering the ASD intervention have either a degree in psychology or education, or are employed in social work. They must also possess a good understanding of ASD as well as experience working with ASD children and their families (Webster Stratton, 2015). However, parent training programmes were shown to be effective irrespective of whether they were administered by psychologists or other healthcare professionals (Hohlfed et al., 2018). The same outcome is found in the current study where programme facilitators have the experience and the knowledge of working with ASD children and families, but do not hold those core qualifications that IY® recommends. In different research studies significant evidence was found to suggest that alternative care professionals are also able to deliver effective parent training programmes (Fisher et al., 2013; Rahman et al., 2008; Reichow et al., 2012).

It is also relevant to highlight that it is typical for some families who begin treatment withdraw before its completion. This is evident in several studies, and a possible reason is that these studies have high - risk sample as participants. For instance: single parents in receipt of social security benefits, mothers reporting depression or parents who were in contact with child protection services (Richardson and Joughin, 2002). It could be argued that this study did not include such a high-risk population in its sample. However, this is not known as a fact as that data was not part of the demographics questionnaire.

On the other hand, it is important that programme facilitators are respected, trusted and liked by the parents. Further to this, it has also emerged from research that similarity of demographic and life experiences between the facilitator and the parent group can have great relevance and could be a factor for a parent completing the programme or treatment (Richardson and Joughin, 2002). It was hypothesised in 1999 Orrell-Valente et al study that the quality of the relationship between programme facilitators / therapists and parents could be a primary influence on attendance. Since attendance to the programme was high, it could be inferred that it

was due to some of the aforementioned factors.

4.2   Integrating qualitative aspects from the participants' feedback at Post IY® ASLD parenting programme

The programme is based on 11 principles: (1) Collaborative model; (2) Start with parents assessing their child' stage of communication, setting goals, and self-monitoring progress; (3) Building parent's confidence and self-efficacy; (4) Address parent's cognitions, emotions and behaviours; (5) Video modelling, mediation of vignettes and self-reflection; (6) Experiential learning methods; (7) Buddy buzzers and brainstorms; (8) Weekly home activity assignment and self-monitoring checklists; (9) Reviewing weekly evaluations and making calls; (10) Building parents' support team; (11) Using supplemental program options.

The thematic analysis method (Braun and Clarke, 2006) allowed for identification of six themes that were extracted from the participant's comments at the end of the IY® ASLD parental programme (Table 4). A theme is defined as an important 'character' about the data relative to the research question, representing some level of patterned response or mean within a data set (Braun and Clarke, 2006).

Theme 1: Built confidence as a parent

The results from this study are in line with one of the principles of the IY® ASLD programme, which is to build parents' confidence and self-efficacy. Bandura's social learning theory, on which this programme is based on, emphasises the link between knowledge, efficacy and behaviour in order to increase parental self-efficacy (Bandura, 1971). The present study highlights that during the programme parents learn how to formulate positive statements about themselves and of each other. In the present study this was partly supported by programme facilitators whose role is to encourage parents to set up tangible rewards for their achieved weekly goals. This approach promotes a sense of parenting competence. Parents are encouraged to develop a positive self-talk which will have an impact on their parental self-efficacy (Webster-Stratton, 2015). This could explain why building confidence as a parent of a child with ASD was the most frequent theme among all participants.

Theme 2: New learnt strategies

Parenting programmes are effective in improving behaviour and emotional adjustment of children. These programmes use a range of techniques including discussion, role-play, watching video vignettes, and homework. However, further research is needed to ensure that these results are maintained (Barlow, 2017). In the present study there is strong evidence that the intervention programme was successful in helping parents to learn new strategies. In brief, the course assisted most of the parents with a better understanding of their child's needs, which is aligned within the IY® ASLD programme's aims (Webster-Stratton, 2015) and content, especially those listed in Part two (Appendix A.1.1).

Theme 3: Built parents' network

Among the important aspects of the IY® ASLD parental programme is the encouragement of parents in creating a network of support, being that parents of children with ASD tend to feel more isolated and have difficulties taking their children out into the community (Webster-Stratton, 2015). This explains why in our study, networking was found to be amongst the most relevant themes that were derived from participants' feedback, with 80% identifying networking as a key aspect of the intervention programme.

Theme 4: A supportive group

Interventions to support parents are an important contribution to combatting social inequalities in health, and the quality of parent–child relationships predict physical as well as mental health outcomes in adulthood (Stewart-Brown 2004). Parenting a child with ASD is associated with elevated levels of depression, anxiety and parental stress. Parents often feel they cannot share their burden with others (Bloomfield and Kendall, 2012). The IY® ASLD programme operates by using a "buddy" system in which parents are encouraged to support each other outside of the weekly sessions. Parents keep in touch with their pair buddy and share their struggles as well as their achievements. Parents' buddies are changed at least once during the programme so they can benefit from the insight of others and also create a closer bond with more than 1 parent (Webster-Stratton, 2015). Programme facilitators also encourage parents to build a stronger relationship and a support network with extended family

members and friends. Additionally, programme facilitators, by following principle 9 of the programme, review each session by asking parents to complete an evaluation form. Moreover, they call or meet with parents individually to address any issues and to provide them with individualised support. This helps the programme facilitator identify those families who may benefit from further support after the intervention has finished.

Theme 5: Self-regulating and calming down strategies

The theme of developing self-regulating and calming down strategies was connected (Fig. 3) to the feeling of support (Theme 4), being that strategies for supporting parents through education, health and social services are known to be the most effective way to facilitate improved outcomes for children (Department of Health 2003). In session 8 parents are introduced to calming down strategies to be used with children with ASD, such as the calm down thermometer. Parents are encouraged to use puppets as part of the pretend play to do self-regulation teaching and practice with their child. Also, when a child is too deregulated, parents are shown on video vignettes the importance of the ignoring technique. All of these experiential methods are part of principle 6 of the programme. The course manual recommends certain role plays so parents can practice specific skills during session, but they also encourage programme facilitator to do spontaneous practices.

In a previous study assessing ADHD, ODD, depression, and anxiety in a community sample of 4-year-olds, Lavigne et al. (2009) indicated that noncompliance, aggression and hyperactivity are all behaviours frequently displayed by pre-schoolers and these can be considered normal for the child developmental age. Some children are referred to specialist provision and the parents of others may be persuaded to attend a parenting programme that could potentially improve not only the child's behaviour, but also the parents' skills in addressing it. This could explain why 40% of parents' during this study have benefitted from this approach.

Theme 6: Acceptance journey

The acceptance journey was the least frequent theme among participants. However, this theme is key for developing a first attempt to recognise some of the ASD

behavioural patterns and encourage healthier communication. A clear example of such recognition was detected from the participant's comment that had identified child's behaviour as a way to communicate. Different challenges are set for those parents of children with ASD, that impact on their psychological adjustment. After a child is diagnosed with ASD parents tend to experience a range of difficult feelings (Wachtel, 2008). During one study it was found that most parents come to terms with the ASD diagnosis soon after this is given, however, those parents of children with more severe ASD symptoms tend to show significant struggles (Poslawsky et al, 2014).

5.   Conclusions

The present study has demonstrated that the IY® ASLD parenting programme for children between the ages of 2 and 5 improves the overall parental self-efficacy. This study also showed significant improvements in the play and enjoyment domain as well as the learning and knowledge domain. This can be explained by the fact that parents felt better equipped to deal with the challenges of bringing up and supporting their children with ASD and/or with language delay. Only a few studies have actually measured the improvements of early intervention programmes on self-efficacy, and with the results from the present study, it was possible to provide both quantitative and qualitative results that showed improvements in parental self-efficacy after taking part in the new IY® programme.

Despite the strong evidence that early intervention has positive outcomes in the relationship between parent and child with ASD, limited support is provided in the UK to parents of children with neurodevelopmental disorders, particularly those with autism. In this context, making use of cost-effective parenting programmes like the IY® ASLD becomes vital to bridge that gap.

Participating in this IY® ASLD group intervention programme has proven to benefit parents as they reported they felt listened and confident to share their achievements as well as their struggles. Throughout the programme, parents were guided by an experienced IY® trained programme facilitator to make use of the taught strategies on a weekly basis. Parents practised new skills such as: social coaching, regulating their child's emotions and encouraging language development through role-plays during sessions. In the present study, all these new strategies may have contributed to the overall increase in parental self-efficacy.

Awareness and recognition of neurodevelopmental disorders in children under the age of 5 is limited. Therefore, children with autism and their families can find it difficult to get help and support from health, social care, education and employment services. All coping strategies and skills learnt at a young age have an important impact on a lifetime. It can also make a difference to the person's ability in their adult life, particularly for those with autism and/or other related neurodevelopmental

disorders. By increasing the knowledge in certain skills, this study has proven that learning new strategies or offering parents support can improve parental self-efficacy.

Children's Centre programme facilitators with plenty of experience in delivering other IY® programmes as well as being formally trained in the new ASLD, have proven to be effective. Not only have they been able to deliver a thorough intervention, but they have also contributed in creating a good relationship with parents, which could partly explain the high programme adherence. In this study, participants have reported feeling supported during the programme by other parents as well as by the programme facilitators. They have also emphasised the importance of sharing their "ups and downs" with other parents in the IY® ASLD group.

In brief, IY® ASLD programme was well received, retaining all parents who participated and was reported as helpful for most parents. The programme is an effective means to support parents of children with autism and/or language delay. There has also been an overall increase in parental self-efficacy as well as in other two domains (play and enjoyment & learning and knowledge) which proves how beneficial attending this specific parenting programme can be.

Limitations of the study

For the present study, we were able to recruit eleven families that met the requirements for the programme, and that were able to provide full-commitment / participation in the intervention. Due to COVID-19 pandemic, the IY® ASLD parenting programme was interrupted and finalised after completion of week 9 out of 12. Participants missed out on 2 learning sessions as well as on the final one called "celebration". As such, Participants failed to benefit from learning about limit setting and behaviour management, which could have further impacted on how parents rated their parental self-efficacy in other domains.

Results from this research are limited to parents who are competent in English and have children between the ages of 2 and 5, so the outcomes might be interpreted with caution. Generalisations to the same population should also be treated with caution

due to the small sample size that was available and accessible for this intervention study.

6.   Future Research Directions

Further research on the outcomes of parenting children with ASD and/or language delay programmes, in early years settings or as part of local authority initiatives, such as the IY® ASLD, are vital for a better understanding of the impact of governmental strategies to support parents in the UK.

Future studies involving a larger sample of participants from a more diverse population would contribute to a better understanding of the benefits and further adjustments needed in the current intervention programmes. As noted on the other IY® ASLD programme studies, parents reported that they would like the sessions to be longer in order to address in more detail the homework and discuss the video vignettes.

It would also be beneficial if further studies assessed parental stress levels pre and post intervention. This would improve our knowledge of how accessing parental support impacts on parental stress. Including a post intervention follow up could also be useful to understand efficacy and maintenance of learnt strategies.

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Appendix

1. Supplementary material for the methodology section

A1.1 Content and Objectives of 'The Incredible Years® Autism Spectrum & Language Delays Programme'. Sessions that were missed due to the COVID-19 pandemic are highlighted in grey.

Sessions 1 & 2: Child-Directed Narrated Play Promotes Positive Relationships.

Session 3: Pre-Academic and Persistence Coaching Promotes Language Development and School Readiness.

Session 4 & 5: Social Coaching Promotes Friendship Skills.

Session 6: Emotion Coaching Promotes Emotional Literacy.

Session 7: Pretend Play Promotes Empathy and Social Skills.

Session 8: Promoting Children's Self-Regulation Skills.

Session 9: Using Praise and Rewards to Motivate Children.

Session 10 & 11: Limit Setting and Behaviour Management.

Session 12: Celebration.

Part One: Child-Directed Narrated Play Promotes Positive Relationships.

1. Value of parents giving focused child-directed attention during play as a way of promoting positive relationships.
2. Understanding how to get in a child's attention spotlight and not letting the child exclude you.
3. Understanding how to narrate child-directed play to build language development.
4. Learning how to transition to new play learning opportunities.
5. Appreciate the importance of parental gesturing, imitation, modelling, face to face interactions, and visual prompts.
6. Value of using picture choice cards.
7. Choose games that address your child's sensory needs but avoid overstimulation.
8. Understanding times *not* to follow your child's lead.

Part Two: Pre-Academic and Persistence Coaching Promotes Language Development and School Readiness.

1. Determining appropriate developmental goals for children on the autism spectrum.
2. Tailor pace, amount, and complexity of language modelled according to child's communication stage.
3. Understanding the value of persistence coaching for promoting children's attention span and managing their frustration.
4. The modelling principle—and importance of positive affect and exaggerated facial responses.
5. Staying in child's attention spotlight by being responsive.
6. Understanding the value of prompting and pre-academic coaching for building children's language skills and school readiness.
7. Learning to coach pre-reading readiness.
8. Adjusting verbal and non-verbal language and visual prompts according to children's communication stage.
9. Responding to child's language as meaningful even if not understandable or conventional.
10. Using visual supports such as gestures, pictures, and concrete objects to help child understand what others are saying.

Part Three: Social Coaching Promotes Friendship Skills.

1. Social coaching and one-on-one child-directed play promotes a child's social skills.
2. Understanding how to model, prompt, and coach a child's social skills.
3. Respond enthusiastically and with praise whenever child shares or helps you (exaggerate responses).
4. Understanding how to: Use songs, physical games, and sensory routines to optimize a child's social learning opportunities and draw attention to parent's face.
5. Encourage back and forth communication by pausing to wait for child's response or signal before giving child what he/she wants.
6. Use puppets and pretend play to encourage social communication.

7. Use social coaching at dinner, bedtime, and dressing time.

Part Four: Emotion Coaching Promotes Emotional Literacy

1. Emotion coaching promotes children's emotion language skills and empathy.
2. Emotion language is a precursor to self-regulation.
3. The "attention rule"—the principle of paying attention to more positive than negative emotions and modelling positive expression of emotions.
4. Understanding how to respond effectively to negative or uncomfortable emotions.
5. Learning how to combine emotion coaching with social and persistence coaching.
6. Using feeling picture cards to promote children's understanding of feelings words and beginning empathy.

Part Five: Pretend Play Promotes Empathy and Social Skills.

1. Understanding the value of pretend play with puppets to promote children's social skills and empathy.
2. Understanding the most effective ways to use puppets with children.
3. Developing scenarios and practicing using them to promote children's social skills, empathy, and emotion language.
4. Understanding how to use puppets and action figures along with books.

Part Six: Promoting Children's Self-Regulation Skills.

1. Determining when children are receptive to learning about calm down teaching or self-regulation prompts (e.g., positive self-talk, deep breathing, happy images).
2. Understanding how to use pretend and puppet play to do self-regulation teaching and practice.
3. Learning how to explain the calm down thermometer to children and practicing strategies.
4. Importance of using the ignore technique when child is too dysregulated.
5. Understanding concept of "selective attention."
6. Parents modelling self-control and calm-down strategies.

Part Seven: Using Praise and Rewards to Motivate Children.

1. Learning how to spotlight labelled praise for children.
2. Identifying child's "positive opposite" target behaviour to praise and reward.
3. Understanding how to set up a developmentally appropriate plan of child social behaviours.
4. Recognizing the value of sensory activities and rewards for children.
5. Learning how to praise and reward oneself and others for parenting efforts.
6. Importance of developing a parent support network.

Part Eight: Effective Limit Setting and Behaviour Management.

1. Understanding how to give clear, brief, positive instructions.
2. Using parent visual command cards as needed to make command understandable.
3. Reduce number of commands to only necessary commands/instructions.
4. Learning about the importance of giving children transition time and reminders.
5. Understanding when to use redirections and physical prompts (guiding hands).
6. Establishing clear and consistent household rules.
7. Learning how to re-engage children in new learning opportunity when misbehaviour subsides.
8. Identify behaviours that can be ignored.

A1.2 Comments from the participants prior to the IY® ASLD Programme

Participant 1) no comments.

Participant 2) no comments.

Participant 3) I feel grateful that this programme has been created. It will allow me to develop my parenting strategies and hopefully make some friends with people who have children with similar conditions. I am especially happy that my child can be in a *creche* developing social skills with carers that understand her needs.

Participant 4) I am really looking forward to this course and to meet new families with children with similar problems.

Participant 5) Excited to join the programme and very hopeful to learn new ideas to help my son to have a better life.

Participant 6) no comments.

Participant 7) no comments.

Participant 9) I look forward to learning new strategies to help my child.

Participant 10) no comments.

Participant 11) I am happy to come to this programme. It will help me to help my child

A1.3   Comments from all participants at the end of the IY® ASLD Programme

Participant 1) speaking to others and sharing ideas with the parents who are attending the ASD programme has been very valuable, particularly sharing good and bad days. I have gained a better understanding from other parents who have children who are very similar to mine. It has also been helpful having strategies and ideas on how to build a positive relationship with my child particularly getting into their attention spot, to support their academic learning and to help to learn new skills. I also feel more confident and positive about being a parent of a child who is on the spectrum.

Participant 2) All helpful reminders of strategies. I feel reassured as a parent. Visual cues, countdown, time out, self-regulation more nonverbal asking for sensory. The programme has been very good and given me reminders of strategies that I can use with my child. The self-regulation thermometer and the visual cues are very good tools to have. I also find the focus on meeting my child's sensory needs very important and my child is now asking for sensory stimulation to help my child regulate themself: like squeezing their shoulder or pushing against my hands. Listening to other parents has reassured me and made me feel confident that I am doing quite a good job as a parent.

Participant 3) the course was very helpful. I have built a parent network, and learnt new strategies. I understand my child better and I can cater for their needs. This has helped us both to be calmer.

Participant 4) since starting the ASD programme, I've noticed a big difference in my child's confidence. I am also feeling much more confident as a mum and we both are feeling much safer. I am able to remain calm and l have noticed that my child is calmer, and not having as many meltdowns as before. Having the opportunity to talk to other parents in the group has been really helpful. I've also found it particularly challenging with the Covid-19 pandemic, I know this has made a very anxious parent and my child is picking up on this.

Participant 5) since starting the ASD programme I have gained reassurance and felt very supported through other parents who have a child with ASD. This has given me confidence to try to new activities and ways of playing and communicating with my child. Even though, I have read books, watched DVD this has not been the same as the training received through attending the programme. Talking to others has given me greater confidence as a parent and I have tried new ways of play with my child.

Participant 6) it has been very helpful since attending the course. It has been quite a journey and coming to terms with my child's diagnosis of ASD has been very challenging. I have found ways of managing my own feelings and emotions. Meeting other parents who also have children with ASD and learning on how they are managing has been a great support, and also the programme facilitators were very supportive. I now feel much more confident and I feel not so alone. I am able to talk to others about my child. Although this is a long journey, I am beginning to understand some of their needs and that their behaviour is not just bad behaviour but just trying to communicate to me.

Participant 7) I enjoyed the fact that we can share with each other good and bad days. It helps me feel I am not alone.

Participant 9) learning about play into the child's way of play has been helpful to a better understanding. Getting their attention has been the foundation of understanding their needs. Building up language and managing their meltdowns in a more positive way.

Participant 10) the coaching on the parenting programme has helped me to understand my child. My child is more independent. It has helped me as a parent to learn about the importance of social and emotional coaching. Meeting other parents gave us a good network of support, I feel more confident as a parent and I feel part of a community that understands me and supports me with the challenges my child may have.

Participant 11) I have learnt how to help my child by using emotional coaching. I have also used social coaching to help my child. The course has helped me to feel calmer and not to panic or get upset when my child is behaving in a difficult way. Through meeting other parents, I feel stronger as I have ideas of how to support my child. I also have hope for the future as I heard about improvements other children have made. The best part of the course is that I feel more confident as a parent.

Table A1. Descriptive statistics for all domains at Pre and Post IY® ASLD parenting programme. N=sample size, SE=standard error.

| Time	Emotion and Affection		Play and Enjoyment		Empathy and Understanding		Control		Discipline and setting Boundaries	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
N	10	9	10	9	10	9	10	9	10	9
Missing	623	624	624	623	623	624	623	624	623	624
Mean	46.2	47.7	46.2	40.2	40.5	44	34.2	40.9	40.1	44.1
Median	48	48	46	41	42.5	46	33.5	41	41	45
Standard Deviation	8.99	7.48	6.38	9.41	7.93	5.96	8.79	4.86	10.6	6.21
Minimum	25	33	33	25	30	32	22	33	22	31
Maximum	55	58	55	52	49	51	52	47	55	52
Skewness	-1.63	-0.52	-0.74	-0.24	-0.27	-1.04	0.68	-0.19	-0.21	-1.11
SE skewness	0.69	0.72	0.72	0.69	0.69	0.72	0.69	0.72	0.69	0.72
Kurtosis	2.96	1.05	1.94	-1.39	-1.98	0.728	0.788	-1.07	-0.591	1.66
SE kurtosis	1.33	1.4	1.4	1.33	1.33	1.4	1.33	1.4	1.33	1.4
Shapiro-Wilk W	0.84	0.94	0.89	0.93	0.84	0.91	0.95	0.94	0.96	0.93
Shapiro-Wilk p	0.04	0.59	0.19	0.48	0.052	0.34	0.75	0.63	0.84	0.48

Table A1. *Continued.* Descriptive statistics for all domains at Pre- and Post- IY®
ASLD parenting programme. N=sample size, SE=standard error.

Time	Pressures		Self-acceptance		Learning and Knowledge		Total TOPSE scores	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
N	10	9	10	9	10	9	10	9
Missing	623	624	623	624	624	624	623	624
Mean	32	36.7	44.3	49.3	51.3	45.8	319	360
Median	31	37	44	52	51	49	315	367
Standard deviation	3.83	6.95	6.96	4.87	7.09	9.72	48.7	43
Minimum	27	26	33	43	35	29	232	266
Maximum	38	45	56	54	59	58	380	411
Skewness	0.36	-0.21	0.09	-0.68	-1.59	-0.49	-0.38	-1.36
SE skewness	0.69	0.72	0.69	0.72	0.72	0.72	0.69	0.72
Kurtosis	-1.28	-1.27	-0.56	-1.77	3.61	-0.93	-0.87	2.34
SE kurtosis	1.33	1.4	1.33	1.4	1.4	1.4	1.33	1.4
Shapiro-Wilk W	0.929	0.985	0.756	0.845	0.937	0.936	0.902	0.929
Shapiro-Wilk p	0.53	0.47	0.99	0.006	0.065	0.553	0.505	0.266

2. **Tool to measure Parenting Self-Efficacy (TOPSE)**
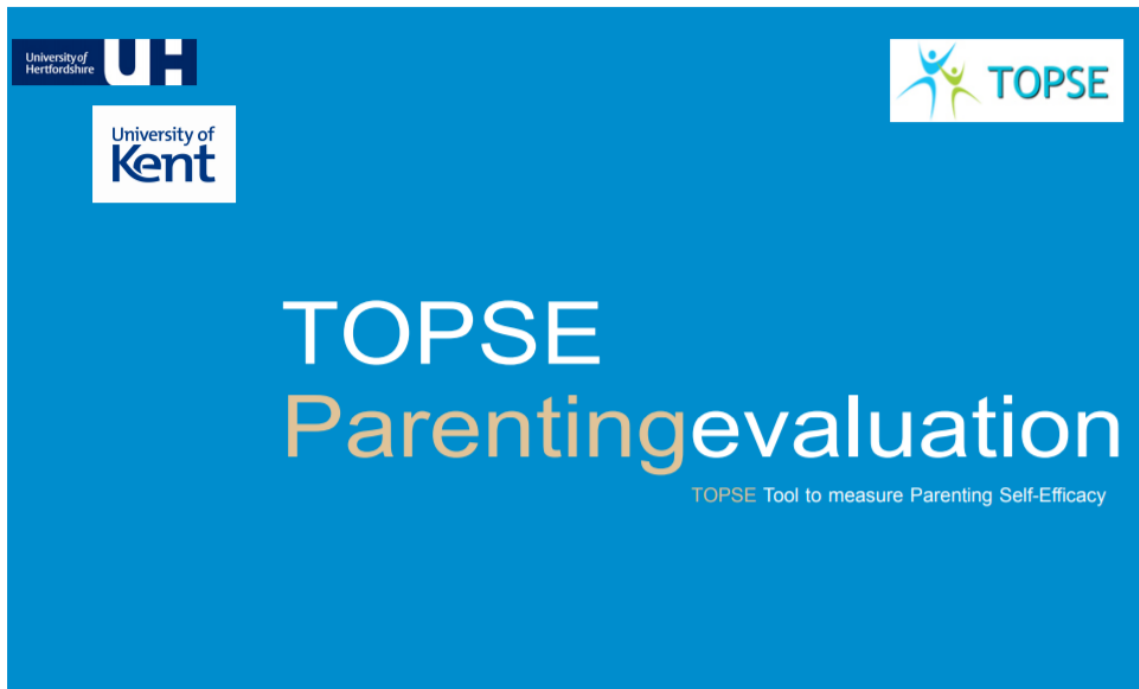
Name:.. Date:...................................

By completing this booklet, you will help us to evaluate our parenting programmes and enable us to make improvements.

There are no right or wrong answers. Your booklet will not be compared with other parents' and will remain confidential.

The following section is about emotion and affection.
Using the scale below, please enter in the boxes how much you agree with each statement.
The scale ranges from 0 (completely disagree) to 10 (completely agree).
You may use any number between 0 and 10. Please answer all statements.

0	1	2	3	4	5	6	7	8	9	10
Completely disagree					Moderately agree				Completely agree	

- I am able to show affection towards my child.
- I can recognise when my child is happy or sad.
- I am confident my child can come to me if they're unhappy.
- When my child is sad I understand why.
- I have a good relationship with my child.
- I find it hard to cuddle my child.

XI

The following section is about play and enjoyment.
Using the scale below, please enter in the boxes how much you agree with each statement.
The scale ranges from 0 (completely disagree) to 10 (completely agree).
You may use any number between 0 and 10. Please answer all statements.

0	1	2	3	4	5	6	7	8	9	10
Completely disagree					Moderately agree					Completely agree

● I am able to have fun with my child.

● I am able to enjoy each stage of my child's development.

● I am able to have nice days with my child.

● I can plan activities that my child will enjoy.

● Playing with my child comes easily to me.

● I am able to help my child reach their full potential.

The following section is about empathy and understanding.
Using the scale below, please enter in the boxes how much you agree with each statement.
The scale ranges from 0 (completely disagree) to 10 (completely agree).
You may use any number between 0 and 10. Please answer all statements.

0	1	2	3	4	5	6	7	8	9	10
Completely disagree					Moderately agree					Completely agree

● I am able to explain things patiently to my child.

● I can get my child to listen to me.

● I am able to comfort my child.

● I am able to listen to my child.

● I am able to put myself in my child's shoes.

● I understand my child's needs.

XII

The following section is about control.
Using the scale below, please enter in the boxes how much you agree with each statement.
The scale ranges from 0 (completely disagree) to 10 (completely agree).
You may use any number between 0 and 10. Please answer all statements.

0	1	2	3	4	5	6	7	8	9	10
Completely disagree					Moderately agree					Completely agree

- As a parent I feel I am in control. ☐
- My child will respond to the boundaries I put in place. ☐
- I can get my child to behave well without a battle. ☐
- I can remain calm when facing difficulties. ☐
- I can't stop my child behaving badly. ☐
- I am able to stay calm when my child is behaving badly. ☐

The following section is about discipline and setting boundaries.
Using the scale below, please enter in the boxes how much you agree with each statement.
The scale ranges from 0 (completely disagree) to 10 (completely agree).
You may use any number between 0 and 10. Please answer all statements.

0	1	2	3	4	5	6	7	8	9	10
Completely disagree					Moderately agree					Completely agree

- Setting limits and boundaries is easy for me. ☐
- I am able to stick to the rules I set for my child. ☐
- I am able to reason with my child. ☐
- I can find ways to avoid conflict. ☐
- I am consistent in the way I use discipline. ☐
- I am able to discipline my child without feeling guilty. ☐

XIII

The following section is about pressures.
Using the scale below, please enter in the boxes how much you agree with each statement.
The scale ranges from 0 (completely disagree) to 10 (completely agree).
You may use any number between 0 and 10. Please answer all statements.

0	1	2	3	4	5	6	7	8	9	10
Completely disagree					Moderately agree					Completely agree

- It is difficult to cope with other people's expectations of me as a parent.
- I am not able to assert myself when other people tell me what to do with my child.
- Listening to other people's advice makes it hard for me to decide what to do.
- I can say 'no' to other people if I don't agree with them.
- I can ignore pressure from other people to do things their way.
- I do not feel a need to compare myself to other parents.

The following section is about self-acceptance.
Using the scale below, please enter in the boxes how much you agree with each statement.
The scale ranges from 0 (completely disagree) to 10 (completely agree).
You may use any number between 0 and 10. Please answer all statements.

0	1	2	3	4	5	6	7	8	9	10
Completely disagree					Moderately agree					Completely agree

- I know I am a good enough parent.
- I manage the pressures of parenting as well as other parents do.
- I am not doing that well as a parent.
- As a parent I can take most things in my stride.
- I can be strong for my child.
- My child feels safe around me.

The following section is about learning and knowledge.
Using the scale below, please enter in the boxes how much you agree with each statement.
The scale ranges from 0 (completely disagree) to 10 (completely agree).
You may use any number between 0 and 10. Please answer all statements.

0	1	2	3	4	5	6	7	8	9	10
Completely disagree				Moderately agree					Completely agree	

- I am able to recognise developmental changes in my child.

- I can share ideas with other parents.

- I am able to learn and use new ways of dealing with my child.

- I am able to make the changes needed to improve my child's behaviour.

- I can overcome most problems with a bit of advice.

- Knowing that other people have similar difficulties with their children makes it easier for me.

Thank you for taking the time to complete this booklet.

We would be grateful for any comments about the parenting programme.

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For more information contact:

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