Adapting and Implementing the Sunny Start DANCE Programme in New Zealand: A Pilot Study

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Abstract

This study aimed to evaluate the implementation of the Sunny Starts DANCE parent training programme in the New Zealand context. Sunny Start's primary focus is to enhance the quality of social interactions between parents and their toddlers with Autism Spectrum Disorder (ASD). Parent training involved teaching parents basic interaction methods to increase their child's skills through play-based interactions in face-to-face sessions and during the child's bedtime and morning routines. This training aimed to provide the child with learning opportunities, increase their access to reinforcement, and, in turn, enhance the quality of parent-child interactions. Participants included one parent-child dyad, wherein the child, while not formally diagnosed with ASD, displayed some skill deficits consistent with this disorder. Multiple probe designs across parent and child behaviours and settings were used to evaluate parent and child responses, harmonious engagement, and indices of happiness. Results indicate that some measures increased during face-to-face sessions, whilst little to no improvement occurred during routine sessions. Strengths, limitations, social validity, the validity of findings, generalisation, research implications, clinical implications and future directions are discussed.

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Introduction

The development of appropriate play and social skills during early childhood is important in fostering healthy child development. Such skills afford children a wealth of learning opportunities and experiences within the contexts of play and social interactions (Charlop et al., 2018; Nijhof et al., 2018; Rosales-Ruiz & Baer, 1997; Weininger, 2017). While these skills are typically acquired during early childhood, children diagnosed with Autism Spectrum Disorder (ASD) or at risk of ASD, and children who may have social, communication or play skill deficits, often face challenges within social, communication, and play domains (Charlop et al., 2018). Consequently, such children frequently miss learning opportunities to develop skills within these domains, resulting in interactions with others often lacking ease and spontaneity, including interactions with their parents.

Sunny Starts is an Applied Behaviour Analysis (ABA) based parent training programme currently offered in Texas, USA, created to enhance parent-child harmony between parents and their child with ASD (Ala'i-Rosales et al., 2013). Parents are taught skills, how to provide learning opportunities, and how to be responsive to their children through play-based interactions to teach their children agreed-upon meaningful behaviours. While ABA services like Sunny Starts are widely recognised as evidence-based and effective approaches for supporting children with ASD and similar skill deficits (Anderson & Carr, 2021; Eldevik et al., 2009; Makrygianni et al., 2018), there are currently no easily accessible or funded ABA services like Sunny Starts in New Zealand (MoDP & MoE, 2022). Additionally, many of the available parent training programmes in New Zealand appear to lack individualisation and cultural sensitivity and primarily focus on delivering informational content rather than offering comprehensive training or coaching (Birkin et al., 2008; Wallace-Watkin et al., 2020).

Given the challenges children with ASD or skill deficits experience during the early childhood period, it seems imperative to provide such children in New Zealand with the opportunity to acquire necessary social and play skills through ABA-based early intervention. Acquiring such skills can be facilitated through simple yet impactful interactions, beginning between a parent and their child, mirroring the successful implementation of Sunny Starts.

Literature Review

Early Child Development

Children experience a significant number of changes during their early years of life, driven by the interplay of two fundamental processes: maturation and learning (Shaffer, 1999). Maturation encompasses the ongoing biological and physical development that begins following conception, influenced by biological factors and our specific genetic makeup. This process includes developing the ability to utter our first meaningful words by the age of one, reaching sexual maturity between 11 and 15, and eventually passing away, all events following somewhat similar timelines (Shaffer & Kipp, 2013). The second process is learning, whereby our experiences, including interactions with and observations of our parents, teachers, and others, lead to permanent adjustments in our behaviours, feelings, and thoughts (Shaffer, 1999; Shaffer & Kipp, 2013). Through learning, we adapt based on our environment, primarily in response to the reactions and actions of those around us.

These two processes of maturation and learning give rise to the nature/nurture debate, which is centred around whether human development is the result of nature (our biology) or nurture (our environment) (Shaffer, 1999). By exploring the changes we experience within the various domains of development, we can recognise that development is an interaction between nature and nurture. However, we will focus on nurture throughout this thesis, as, unlike an individual's nature, their nurture is accessible to intervention. It is within the context of nurturing that we can explore how Applied Behaviour Analysis (ABA) explains the learning processes that occur during early childhood.

Early Learning from an Applied Behaviour Analysis Perspective

Applied Behaviour Analysis (ABA) is a science dedicated to understanding and improving human behaviour by studying environmental variables that influence socially significant behaviour (Cooper et al., 2020). Skinner contributed to ABA in several ways, one

being through his persistent exploration of environmental factors as determinants of behaviour that had no evident antecedent causes. He introduced the three-term contingency – antecedent, behaviour, and consequence – to study what he called operant behaviour, behaviour that has been selected and maintained by its history of consequences (Cooper et al., 2020; Skinner, 1953). Skinner referred to the process and selective effects that consequences have on behaviour as operant conditioning (Cooper et al., 2020).

Operant conditioning is a form of learning in which the future frequency of a behaviour is controlled by its consequences (Skinner, 1953). Within this framework, any behavioural consequence that strengthens a response (behaviour) by increasing the likelihood that it will occur in the future is known as a reinforcer. In contrast, any behavioural consequence that weakens a response by decreasing the likelihood that it will occur in the future is known as a punisher (Cooper et al., 2020; Shaffer, 1999). From a behavioural analysis perspective, this portrays how we primarily learn through reinforcement and punishment as we interact and engage with our environment (Cooper et al., 2020; Skinner, 1953).

It is through this lens that we can gain insight into the learning process of children in their early years. For example, when a child's behaviour produces a desirable or positive response, such as receiving praise from their mother because they shared toys with their sibling, it is likely that this behaviour will occur more in the future (process of reinforcement). In contrast, when a child's behaviour produces an undesirable or negative response, such as being told off by their mother after stealing their sibling's toy, it is less likely that this behaviour will occur in the future (process of punishment).

Skinnerian View of Early Communication

Skinner's (1957) re-framing of communication as verbal behaviour is grounded in the same theoretical foundations of operant conditioning and behaviourism and provides a

distinct perspective on how language develops and operates. Skinner defined verbal behaviour as "behavio[u]r reinforced through the mediation of other persons" (p. 2), typically defined as the listener, who "must be responding in ways which have been conditioned precisely in order to reinforce the behaviour of the speaker" (Skinner, 1957, p. 225). The roles played by a speaker and listener can be explained through what Skinner termed a verbal episode. A verbal episode involves a speaker emitting a verbal response, encompassing spoken words, sign language, utterances, or body language. At the same time, the listener serves as the audience for the speaker, providing reinforcement by responding in a certain way to the verbal behaviour of the speaker (Cooper et al., 2020). It is important to note that verbal behaviour is not restricted to spoken words (vocalisations) as demonstrated in the definition of a verbal episode and, therefore, should not be confused with vocal behaviour.

Children must learn the roles of a speaker and a listener to communicate effectively. As infants who cannot yet emit spoken words, we typically learn to cry as a means of communication because we are cold, uncomfortable, or hungry (Casey & Bicard, 2009). This crying behaviour tends to result in attention from our parents, creating a foundation for learning through the principles of operant conditioning. While an infant's first cry is spontaneous, it results in a meaningful learning experience where the need that is being requested is delivered. This early learning experience is crucial for infants because it allows them to request reinforcement and helps establish the roles of a speaker and a listener, which are essential for their ongoing language development.

Skinner (1957) termed this requesting behaviour as manding, one of the four fundamental components or verbal operants of a speaker's verbal repertoire. Each verbal operant is defined by its function; a mand involves a speaker asking, stating, demanding or implying what they want or need under the functional control of a deprivation or aversive state (McLaughlin, 2010). For example, a thirsty child may learn to say 'water' in the

presence of their mother, where in this situation, they are the speaker asking for what they want (manding), and their mother is the listener. In this case, saying 'water' is controlled by water deprivation. Obtaining water from their mother will serve as a powerful reinforcer, where manding is likely to occur in the future as it fulfils this child's needs (Cooper et al., 2020; Johnson et al., 2016). Children typically progress along this trajectory of making requests and deriving learning from the connection between manding and the subsequent delivery of reinforcement. Consequently, they start acquiring the necessary speaker skills to replace early vocal responses like crying and tantrum behaviour to have their needs met.

From a young age, it is also necessary for children to learn how to listen and then respond to their parents, peers, and teachers once such individuals have finished talking to maintain conversations (Lee & Staggs, 2021). They need to learn how to respond appropriately to what an individual has said and provide reinforcement through verbal or non-verbal behaviour. The following example helps portray how dyads strengthen each other's listener and speaker behaviour in conversations and interactions. If a speaker asks, "Can you please clean up your toys?" The listener says "Yes" and cleans up their toys; the speaker could then say, "Thank you for cleaning up your toys", where their verbal behaviour could serve as reinforcement for the listener's behaviour, increasing the likelihood of the listener cleaning up their toys in the future. This type of reinforcement plays a pivotal role in strengthening listening skills, facilitating improved communication, and interpreting, understanding and processing information through the role of a listener (Casey & Bicard, 2009).

ABA Methods and Strategies Commonly Used During Early Learning

There are several ways that ABA methods and strategies are used to facilitate learning and teach new behaviours and skills, one of these being through behaviour shaping. Skinner (1951) coined the term behaviour shaping as a means to teach novel behavioural topographies

(Cooper et al., 2020). Shaping is the "differential reinforcement of successive approximations towards a terminal behaviour" (Cooper et al., 2020, p. 586). Differential reinforcement involves delivering reinforcement to desired behaviours and withholding reinforcement for undesired behaviour to strengthen desired behaviours, while successive approximations refer to the progressive and gradual change in criteria for the delivery of reinforcement of a behaviour closer to the target behaviour than the behaviour it substitutes (Cooper et al., 2020). Therefore, shaping involves providing reinforcement in a way that enables a learner to progress closer towards the target behaviour with each of their attempts.

Shaping is often observed in early learning, with a typical example involving a parent teaching their child how to brush their teeth. Initially, reinforcement should be provided through praise when a child holds a toothbrush, as this marks the first step of brushing their teeth. The child moving the toothbrush towards their mouth should then be reinforced, and now reinforcement should be withheld when the child just holds the toothbrush and does not move it towards their mouth. The next step may involve reinforcing the child's behaviour of holding the toothbrush in their mouth, where reinforcement should be continually applied to each behaviour closer to the target behaviour of brushing their teeth.

Modelling is another way in which we can teach novel behavioural topographies. Modelling occurs through imitating a demonstration of a behaviour or skill, either from individuals (live models) or symbolic models (such as through a picture, audio recording, or video) (Cooper et al., 2020). The model demonstrates exactly how the learner should perform the behaviour. An example of a live model may involve a mother showing her daughter how to brush her hair by holding and moving a hairbrush through her own hair, which could then be followed by the child imitating this behaviour and moving the hairbrush through their hair. This example portrays how children can learn new behaviours by watching others engage in behaviour and then imitate it (Charlop et al., 2018).

Direct instruction (DI) is a teaching method frequently employed in educational settings when teaching basic skills and knowledge. However, it can be adapted and applied in various environments, including a learner's home. This method, geared towards maximising learning efficiency (Kim & Axelrod, 2005), involves the direct and clear delivery of instructional content. Scripted lessons are often used to minimise ambiguity, ensuring learners receive well-defined instructions. DI places a strong emphasis on immediate feedback, which involves the prompt delivery of reinforcement for correct responses and providing corrective feedback for incorrect responses. Moreover, DI follows a carefully sequenced progression of skills, systematically building upon previously acquired knowledge. This structured approach promotes cumulative learning, laying a foundation for skill development.

Behaviour Cusps; Important Early Learning Skills

A critical idea regarding early learning in behaviour analysis is the behaviour cusp. A behaviour cusp is a behaviour that opens the door to a whole new avenue of learning that could lead to even further behaviour change, including more cusps and generative change (Rosales-Ruiz & Baer, 1997). Rosales-Ruiz and Baer (1997) defined a cusp as a "behavio[u]r change that has consequences for the organism beyond the change itself, some of which may be considered important" (p. 534). To be considered a cusp, a behaviour change must expose an individual's repertoire to new reinforcers and punishers, environments, responses, and contingencies that would otherwise not be available if this change had not occurred (Cooper et al., 2020; Rosales-Ruiz & Baer, 1997). A child learning how to crawl is an example of a cusp, as this exposes them to new environments and contingencies which could result in the development of new behaviours, potentially leading them to the development of walking and socialising (Cooper et al., 2020; Dunst et al., 2000; Rosales-Ruiz & Baer, 1997). Other behaviour cusps include early learning skills such as play and social skills.

Play is universally recognised as a pleasurable, stress-free activity essential for healthy child development (Charlop et al., 2018; Nijhof et al., 2018; Rosales-Ruiz & Baer, 1997; Weininger, 2017). From a behaviour analysis perspective, play is viewed as a complex set of interactions and behaviours that provide powerful and natural reinforcing contexts for continual development and learning throughout childhood (Charlop et al., 2018). Play allows children to learn about themselves and their capabilities as they seek opportunities by exploring and observing their environment and encountering new people and environments (Weininger, 2017). Additionally, play allows children to experiment with their behavioural repertoire, develop their motor skills, and learn about the consequences of their behaviour, either through reinforcement or punishment (Charlop et al., 2018; Nijhof et al., 2018). Exposure to and engagement in play can foster collaborative and inclusive environments as children learn from one another through their interactions (Milligan et al., 2017). Children who behave more rigidly during play and are inflexible in adhering to the concept of fairness and game rules may benefit from playing with peers who exhibit flexibility. Such children may acquire these play skills through observation and incorporate related behaviours in their play interactions, adding socially appropriate and adaptable responses to their repertoire.

Equally as important as play skills, acquiring social skills is crucial in promoting healthy child development and laying the groundwork for future learning (Charlop et al., 2018). Despite variations in the definitions of social skills across sources, Little et al. (2017) found that the most common emerging themes included interactions with others and communication. More specifically, the literature suggests that social skills encompass a wide range of socially mediated, context-dependent behaviours performed during social interactions (Cook et al., 2008; Little et al., 2017). These social interactions offer children a wealth of learning opportunities; experiences afforded as part of their daily lives that will help them build a rich social repertoire during early development (Dunst et al., 2000). For

instance, children could engage in conversations or watch the behaviour of others and copy it, both of which could provide them with opportunities to acquire new skills and refine those currently in their repertoire. Additionally, children can learn how to share with their peers, which may depend on the cost involved in their sharing behaviour and who the other individual involved is in relation to them (Essler et al., 2020). These learning opportunities allow children to continue to learn how their behaviour influences others and how certain behaviours and individuals are associated with specific social consequences (Charlop et al., 2018; Dunst et al., 2000).

Parental Role in Early Learning

Considering that parents are typically the first social partners in a child's life and usually their first teachers (Beurkens et al., 2013), it is essential to consider their role in their child's early learning journey. Parents play a crucial role in providing their children with a framework for understanding and interacting with the world, primarily through early parent-child interactions (Edwards et al., 2010; Sanders & Turner, 2018). Through these interactions, parents can teach their children various skills, such as appropriate mealtime behaviours, self-care skills like washing hands and brushing teeth, when to say 'please' and 'thank you', and how to take turns. They can also teach their children how to manage and express their behaviours and emotions, control impulsive behaviour, withhold inappropriate behaviour, respond to others during conversations, and behave appropriately in various social situations.

Through their parent-child interactions, it is evident that parents can provide numerous opportunities for their child to learn new behaviours and skills, all of which can be taught through methods such as shaping, modelling and direct instruction. Not only will these parent-child interactions promote child learning, but they will also shape their child's perceptions, behaviours, and future interactions (Edwards et al., 2010; Sanders & Turner,

2018). The early behaviour analytic work of Hart and Risley (1992) supports and describes these processes, highlighting the importance of early parent-child interactions.

Hart and Risley (1992/1995) observed and videotaped social interactions between 42 children and their parents over the course of two and a half years to evaluate the effects of parenting on language learning in children. One of their most critical findings was that the quantity and quality of parenting was associated with child vocabulary development and their later IQ score. More specifically, their findings revealed that parents who engaged in frequent, language-rich interactions with their children, used diverse words, positively reinforced their child's behaviours, dedicated time and attention to their child, and used fewer prohibitions when speaking to their child contributed to this enhanced language development. These results portray the significant impact that rich parent-child interactions can have on child development. However, some parents may provide a stimulating environment to their child full of rich interactions, yet their child may experience different outcomes, as discovered in Hart and Risley's (1995) study. Such a situation could apply to a child with ASD or skill deficits.

Autism Spectrum Disorder (ASD) and Typically Developing Children with Skill Deficits

Autism Spectrum Disorder (ASD) is a lifelong developmental disorder which significantly impacts an individual's communicative, interactive, and social behaviours (Barak & Feng, 2016; Centers for Disease Control and Prevention [CDC], n.d.-b; Corsello, 2005; Healy & Lydon, 2013; Will et al., 2018). Some common characteristics of ASD include repetitive and restricted behaviours and routines, struggles with transitions and change, and difficulty with the following: making and maintaining eye contact with other individuals, understanding social cues, and issues regarding sensory experiences (Alamdari et al., 2022; CDC, n.d.-b; McCreadie & Milton, 2020). The Diagnostic and Statistical Manual of Mental Disorders states that a diagnosis of ASD requires individuals to experience deficits in

the following areas: (a) social-emotional reciprocity (e.g., inability to participate in alternating conversations), (b) non-verbal communication in social interactions (e.g., irregular eye contact), and (c) understanding, developing, and maintaining relationships (e.g., trouble making friends) (5th ed.; DSM-5; American Psychiatric Association, 2013). These deficits must be present during early development and cause clinically significant impairments in occupational, social, or other important areas of functioning as specified in the DSM-5.

The inclusion of the term 'spectrum' in the disorder's name reflects that the characteristics of ASD vary in severity across a continuum that extends into the typically developing population (Baron-Cohen, 1995). This implies that typically developing individuals may exhibit deficits in only one or two of the diagnostic areas, indicating skill deficits rather than a diagnosis of ASD. The crucial distinction is that only those individuals who exhibit all of the diagnostic criteria for an official diagnosis are classified as having ASD. Whilst the remainder of this section will primarily focus on skill deficits commonly experienced by children with ASD, it is essential to note that these deficits are not solely unique to this population, as typically developing children can also exhibit deficits in similar areas.

Children diagnosed with ASD often lack play, social and communication skills; the important learning to learn skills typically acquired during early childhood (Charlop et al., 2018). Typically developing children may also lack such skills, where a lack of these skills in children with and without ASD can be attributed to limited engagement and interactions with the social environment, depriving them of opportunities required to develop these skills. Children may be further deprived of social opportunities for reinforcement that could occur within the natural contexts of social interactions and play, two contexts in which they may not often engage.

Limited communication skills mean that children with ASD or communicative deficits often experience difficulties in social initiation (Dijkxhoorn et al., 1996; Koegel, 2000; Siller & Sigman, 2002; Wojciechowski & Al-Musawi, 2017). Additionally, such children may lack verbal behaviour skills, that is, using communicative responses for a purpose. For example, while typically developing children often acquire the ability to connect requesting (manding) and receiving reinforcement with minimal teaching, children with ASD may not. Consequently, children with ASD, or those who lack verbal behaviour skills, may resort to engaging in problem behaviours such as tantrums or crying behaviours as a means of requesting or gaining attention (Casey & Bicard, 2009). This can be particularly problematic from a young age to when a child specifically with ASD begins school, as they may struggle to initiate social interactions with their parents, peers and teachers to express their needs verbally.

In terms of play behaviours, children with ASD *can* engage in play, but their lack of communication, social, and interaction skills may hinder their participation (Charlop et al., 2018). The same goes for children who lack play skills that are typically acquired during early development, where their type of play, but more so specific to children with ASD, is often more isolated and involves less social initiation (Sigman et al., 1999). These children may spend more time in solitary activities and less time in parallel and cooperative play (Charlop et al., 2018; Parten, 1932; Sigman et al., 1999). Children specifically with ASD may also be adamant about playing a game the same way every time or on their terms, which could limit the variability in their play experiences, hinder the introduction of novel experiences and steer away other children they could play with (Charlop et al., 2018).

Parent-child Relationships; Children With ASD or Skill Deficits

Given that children with ASD or those who experience deficits in similar areas generally lack the skills required to interact with their social environment effectively, how

might this impact their parent-child relationship? The bidirectional view of parent-child relationships argues that parent and child behaviours and characteristics influence one another (Beurkens et al., 2013). In behavioural terms, if the listener does not reinforce the speaker's behaviour, the speaker will eventually stop speaking to and engaging with that listener. Children with ASD, or those who lack social and communication skills, may not respond to their parents' attempts to engage with them socially and vice versa. This lack of responsiveness could result from such children lacking the necessary skills to respond to their parents or because social interactions may not be reinforcing for them (Charlop et al., 2018). As a result, parents of such children may be less inclined to engage in social interactions with their children in the future since they do not receive any reinforcement from their children. Furthermore, parents who have a child with ASD or related skill deficits can experience tension and even a sense of estrangement from their child, as may parents with typically developing children (Zaidman-Zait et al., 2014). This, alongside the lack of engagement between a parent and their child, increases the likelihood of fewer positive social parent-child interactions.

According to Kasari et al. (1988), parents who have a child with ASD tend to spend less time engaging with their child through interactions or play and more time keeping them confined and focused on tasks. In contrast, parents of typically developing children who are more verbally and cognitively adept tend to engage more frequently in positive feedback and play. Dawson et al. (1990) examined the differences in eye gaze interactions and social behaviour between children with ASD and their mothers and typically developing children and their mothers. They discovered that mothers who had a child with ASD did not respond to their child's smile as frequently as mothers of typically developing children. Dawson et al. (1990) explained that the lack of clarity in the signaling behaviour of children with ASD may

have led to less contingent smiling from their mothers as these children seldom smiled or gazed simultaneously at their mothers.

Therefore, if we consider the significance of early parent-child relationships for optimal child development, it is evident that the disruption of potential positive experiences may pose a serious risk to child developmental outcomes, both for a child with and without ASD (Edwards et al., 2010; Sanders & Turner, 2018). The literature has emphasised how we can promote the developmental outcomes of children with ASD or related skill deficits by teaching them crucial early learning to learn skills, which, in turn, can enhance parent-child relationships through the applications of ABA (Klintwall & Eikeseth, 2014).

Common Strategies and Methods Informed by Applied Behaviour Analysis (ABA)

Researchers and clinicians have developed a range of ABA-informed teaching strategies and methods to target and teach critical skills such as play, social and communication skills. Such methods and strategies are often applied to children with ASD and related skill deficits to address the areas in which such children commonly experience challenges, these typically being within play, social and communicative domains. The remainder of this section will explain how the application of methods and strategies that align with the intervention conducted in this study can benefit children with ASD or those with ASD-related skill deficits.

Behavioural Skills Training (BST) is a strategy used for teaching various skills to various populations. The four stages of BST include instructions, modelling, rehearsal and feedback (Creem et al., 2022; Miltenberger et al., 2017). Instructions to teach a child sharing behaviour, for example, could involve providing a description of this behaviour to the child and saying: “Today we are going to practice sharing. When a friend asks for your toy (i.e., the context), you should hand it to them (i.e., the target behavio[u]r)” (Creem et al., 2022, p. 256). The trainer can then model how to share a red crayon with a peer by allowing the child

to observe how to execute this. The rehearsal component involves the trainer providing an opportunity for the child to practice the behaviour after it has been modelled, while feedback is delivered through reinforcing the child's behaviour if performed correctly or through corrective feedback if they respond incorrectly or not at all. In the case of the latter, the following trial could include additional prompts to encourage sharing behaviour (Klintwall & Eikeseth, 2014; Miltenberger et al., 2017).

Enhanced Milieu Teaching (EMT) is a naturalistic intervention approach which uses a child's specific interests and initiations during daily social interactions to model and prompt communication and language (Charlop et al., 2018). EMT is widely applied to children with ASD (Kaiser et al., 2000) but can be applied to any child who experiences language or communication delays (Kang & Kim, 2023). The main components of EMT include 1) environmental arrangement, 2) responsive interaction, 3) language modelling, and 4) milieu teaching (Kang & Kim, 2023; Kaiser et al., 2000; Kaiser & Hampton, 2016). An interventionist can arrange the environment to increase the likelihood of promoting a child's language and communication, which can involve placing a preferred toy in front of the child. Then, the interventionist can engage in responsive imitation by responding to and modelling the child's communication and behaviours. For instance, if a child behaviourally indicates for a toy through words, gestures or vocalisations, the interventionist can imitate the child's behaviour, add words to expand this behaviour, and then provide the toy to the child. Then, the interventionist can employ language modelling to illustrate the appropriate use of language in a given context, such as verbally labelling a toy and giving it to the child after the child vocalises or points to a toy while they look at it. Lastly, milieu teaching involves using prompts to encourage verbal behaviour, such as learning to mand. For example, if a child shows interest in or reaches for a toy car, the interventionist can use a time delay by momentarily withholding the toy car, giving the child an opportunity to request for it.

Lastly, visual schedules are widely employed to facilitate independent task and routine engagement and improve transitioning (Goldman et al., 2018). Visual schedules comprise a series of photographs, texts or symbols that convey information about a sequence of events or activities (Banda et al., 2009). By presenting these visual elements in a specific order, visual schedules serve as a systematic guide, clearly representing the necessary tasks and behaviours to engage in within an event or activity. When used consistently and adequately, visual schedules aim to provide such children with the necessary information to complete a set activity or routine without external assistance or clarification from another individual.

Parent Training Programmes (PTPs)

Recognising parents as consistent figures in their children's lives, it seems essential for parents to actively participate in any teaching, training or intervention, such as those mentioned in the previous section, that foster positive outcomes for their children. Parent training programmes (PTPs) have emerged as valuable interventions for parents to improve their knowledge in the area of behaviour management while teaching them how to modify their behaviour to enhance child outcomes and the quality of their parent-child interactions (Brookman-Frazee et al., 2006; Cordisco et al., 1988; Schultz et al., 2011). PTPs can occur in a clinic, school, family home, or across several locations (Charlop et al., 2018). They can take many forms, including workshops, one-on-one sessions, group sessions, and home visits. Initially, parents may be given written materials such as a training manual or a handout with tips and reminders on implementing teaching strategies. Training sessions provide parents with a rationale and overview of the procedures they will use, followed by ongoing observations and sessions focusing on feedback. These sessions generally include role-playing, where parents would implement teaching strategies initially with the trainer, who would model to the parent how to execute these.

To address the distinctive needs of children with ASD, PTPs catered towards parents of such children, and those with skill deficits aim to teach parents how they can facilitate their child's communicative abilities, play, social, and imitation skills and how to be more responsive to their child's behaviour (Ala'i-Rosales et al., 2013; Coolican et al., 2010). Parents are taught how to create opportunities for their child to engage in targeted behaviours so they can implement these strategies and methods into daily routines and activities, such as during play and at mealtimes, to help promote generalisation (Charlop et al., 2018; Ferguson et al., 2022). Evidence highlights the importance of direct coaching with parents, which is a notable point of difference between the Sunny Starts DANCE programme and other PTPs.

Sunny Starts DANCE Programme

Typically developing children generally move in timed synchrony with their parents in a dance-like exchange, also referred to as a graceful 'social dance' (Ala'i-Rosales et al., 2013; Amos, 2013). Several interactions occur in this social dance, such as episodes of shared attention through which the child and their parent share a pleasurable experience (Siller & Sigman, 2002). For example, a child may play with a toy, rush over to their mother whilst grinning, and get a smile in return. This dance between a child and their parent encompasses speaking and listening, prolonging and enticing interactions, sharing each other's enjoyment and engaging in social interactions for mutual reinforcement. It is essential to acknowledge that this 'social dance' varies between parent-child dyads, each of whom experiences unique challenges within their interactions (Sanders & Turner, 2018). However, this 'social dance' tends to be more awkward and less free-flowing between a child with ASD or communicative and social deficits and their parents (Ala'i-Rosales et al., 2013).

Sunny Starts is a flexible, short-term, collaborative PTP created in the Department of Behaviour Analysis at the University of North Texas, used to enhance this social dance between a young child with ASD and their parents (Ala'i-Rosales et al., 2013;

Guðmundsdóttir et al., 2019). Sunny Starts is grounded in the conceptual paradigm of ABA and builds on previous work by Hart and Risley (1992/1995) that recognises the significance of early parent-child interactions on child development (Ala'i-Rosales et al., 2013). The latter was emphasised when Hart and Risley (1999) looked back at the data and recorded tapes of parent-child interactions they collected during their study, where they became interested in the social world and how children learn. They described these parent-child interactions as a dance in which both the parent and the child are the listener and speaker. More specifically, Hart and Risley (1999) used the metaphor: "social dance" (p. 1) to describe the numerous and diverse interactions between parents and their children that encompass the ongoing acquisition and development of the child's cognitive and language abilities. They viewed enticing and prolonging parent-child interactions like the tango, where both dance partners (the child and their parent) behaved in ways to keep one another engaged.

Recognising that parent-child interactions serve as the foundation for future social interactions, Sunny Starts involves teaching parents skills to target with their child to improve their parent-child social dance and eventually foster their child's subsequent relationships and social development. The collaborative nature of Sunny Starts means that participating families play an active role in deciding what skills they believe would be most important to teach their child. These decisions are made whilst accounting for the unique values, preferences and needs of each family and their child (Ala'i-Rosales et al., 2013; Alai-Rosales et al., 2022). This collaborative process also emphasises rapport building, which continues throughout the intervention. With participating parents, the interventionist spends time learning about the family and playing with their child, aiding with rapport building and allowing them to directly assess the child's current skills and repertoire that could contribute to potential intervention goals. Through these discussions, parents and the interventionists

collaboratively produce three goals they want to achieve to enhance parent-child harmony and three child behaviours as targets to achieve these goals.

Parent training in Sunny Starts begins with teaching parents a basic interaction approach to teach their child specific behaviours within a play-based activity. This involves increasing their child's responsiveness to contingencies they arrange, becoming more responsive to their child, and implementing methods to respond to and reinforce their child's behaviours (Ala'i-Rosales et al., 2013; Guðmundsdóttir et al., 2019). The interventionist uses BST to coach parents, whereby they model behaviours for parents to execute, provide parents with opportunities to practice these with their child and offer feedback throughout this training. Ala'i-Rosales et al. (2013) describe social attending as a child behaviour that parents typically learn to target during their Sunny Starts intervention as this behaviour is likely to result in positive, generative change over time, being a cusp behaviour (Ala'i-Rosales et al., 2013; Rosales-Ruiz & Baer, 1997). Social attending involves the child orienting through body movements or eye gazes at their parent (Ala'i-Rosales et al., 2013). An example of an interaction parents were taught to increase social attending involved the interventionist initially modelling how to arrange the environment so that the child would need to initiate an interaction or perform a target behaviour to get access to a preferred toy that was not within immediate reach of them (Guðmundsdóttir et al., 2019), similar to the EMT approach. More specifically, a parent could have been instructed to hold a bubble gun but not activate it until their child engaged in a target behaviour, such as attending to them.

Parents are taught the DANCE components: decide, arrange, now, contemplate and enjoy, all of which can be applied during parent-child interactions, such as in the above example (Ala'i-Rosales et al., 2013). They are taught this to remember the components that should be applied during interactions with their child. The decide component involves teaching parents how to decide on convenient teaching times for themselves and their child

(Ala'i-Rosales et al., 2013). Arrange involves teaching parents how to arrange their environment to maximise learning opportunities for their child and promote child responding, as done in EMT (Charlop et al., 2018; Kaiser et al., 2000; Kaiser & Hampton, 2016; Koegel et al., 2022). Now involves teaching parents how to respond effectively to their child's behavioural approximations of the targeted behaviour immediately and enthusiastically, reinforcing their child's behaviour. Contemplate allows us to monitor the progress of set goals and evaluate teaching procedures. The enjoy component is included in this programme to encourage parents to modify their teaching to make both themselves and their child happy and comfortable during teaching interactions. This enjoy component sets Sunny Starts apart from other behavioural interventions, as it focuses on re-teaching parents how to enjoy simple interactions with their children (Ala'i-Rosales et al., 2013), which is important since parents of children with ASD or language and communicative deficits may give up on interacting with their child if their child lacks the social repertoire required to reciprocate engagement.

Sunny Starts has effectively supported families from various cultural backgrounds and continues to be refined to meet child and family needs (Ala'i-Rosales et al., 2013; Guðmundsdóttir et al., 2019). Guðmundsdóttir et al. (2019) evaluated the effects of the Sunny Starts PTP via telecommunication (Skype) with three parents of preschool-aged children with ASD in Iceland. This was accomplished through a single-subject, multiple baseline experimental design across child behaviours replicated across these three parents. Parents who participated in this study were taught an adapted version of the Sunny Starts DANCE intervention in their native language (Guðmundsdóttir et al., 2019). The sessions took place in the living rooms of the three families participating in this study, where each session was video recorded, and data on the families' target behaviours was collected by the trainer. During telecommunication sessions, Skype was used to conduct the intervention. Parents were taught various methods to elicit initiations from their children and how to respond to

these initiations through play interactions. Parents were taught the DANCE acronym to increase their child's social-communication behaviour, which was first modelled by the trainer, who then observed the parents implementing the DANCE components with their child. They discovered positive effects on both parent and child skills and improvements in children's social attending skills, where these positive behavioural changes were maintained for one to three months after their training (Guðmundsdóttir et al., 2019).

Another example portraying the effectiveness of the DANCE was demonstrated in the study conducted by Ala'i-Rosales et al. (2013). Prior to any training, the three participating families struggled to engage with their children, all of whom experienced difficulties in communicative behaviours and were diagnosed with ASD. Parents learned how to create several learning opportunities during sessions, and with this, the number of parent-child interactions increased. The Mancini family were one of three families who participated in this study. The mother learned how to teach her son to make eye contact with her through this intervention. She mastered all components of the DANCE and focused on delivering reinforcement contingent on her son's eye contact. Consequently, eye contact became a means for her son to access enjoyable activities. However, while her son knew how to request for things through pointing, he would often isolate himself and not engage in this behaviour. Therefore, both his mother and the trainers collaboratively created enjoyable activities that involved them and encouraged interactions. As they discovered the son enjoyed 'tickle monster' games, they incorporated this into a requirement to look at his mother. The trainers and mother would move their fingers up the boy's legs with an eager expression, then say, "Here comes the tickle monster", and once he looked at them both, they would say "Ahhhhh" and tickle him. This created an enjoyable interaction for both the mother and son whilst working on increasing the son's eye contact behaviour.

Because Sunny Starts involves incorporating the values and goals of participating families, social validity is measured to evaluate the effectiveness and impact of the intervention comprehensively. Social validity refers to the extent to which interventions are deemed meaningful and acceptable by individuals receiving the intervention (Carnett et al., 2022; Wolf, 1978). It encompasses diverse assessment methods, including measures of affect, interviews, and choices in both restricted and operant situations (Alai-Rosales et al., 2022). Measuring social validity aims to evaluate and provide supplementary information on 1) the social significance of intervention goals, 2) the social appropriateness of the intervention procedures, and 3) the social importance of the intervention effects (Wolf, 1978). These elements consider the values of individuals and their families, informing and shaping the direction and implementation of future interventions.

Guðmundsdóttir et al. (2019) provided a preliminary summary of the qualitative data they collected regarding social validity after conducting the Sunny Starts programme. They discovered that the mothers who participated in the study expressed gratitude for the DANCE training and that they found it useful in helping their children. They reported stronger relationships, increased contact, and enjoyable quality time. While the Skype-based training was reported as convenient and accessible, there were technical issues and other challenges. However, the mothers emphasised the importance of integrating the DANCE approach into different home and community settings. The qualitative data collected on social validity can help to inform future Sunny Starts Programmes, where researchers should account for this feedback and adapt the programme in a way that will maximally benefit participants. For example, future studies may try using another form of telecommunication other than Skype to overcome the previously experienced issues if they plan to conduct this PTP via telecommunication.

An additional informative approach to assess social validity in an intervention involves collecting data on indices of happiness (IOH) from involved participants. Behaviours such as laughing, approaching, and smiling can serve as indicators of the enjoyment individuals experience during an intervention, which can be particularly beneficial to assess when enjoyment is a primary component of an intervention, like Sunny Starts (Carnett et al., 2022; Ramey et al., 2019). Since a person's happiness cannot be directly observed, these public behaviours, theorised as being associated with an individual's emotions, provide valuable insights into their happiness (Ramey et al., 2019) and can be operationally defined to measure an individual's happiness. For example, laughing could be an IOH, operationally defined as chuckling and giggling and making an audible noise accompanied by a smile. Measuring IOH can yield valuable insights into a participant's perception of an intervention (Carnett et al., 2022), where high levels of behaviour that indicate unhappiness should lead to the termination of the session. Some of these behaviours may include crying, screaming or tantrum behaviours.

New Zealand Context

The current literature on the prevalence of ASD for young children from New Zealand (NZ) is very scarce. Eggleston et al. (2019) explored the experience of New Zealand parents who obtained ASD diagnoses for their children. They discovered that the average age at which parents began expressing concerns about their child potentially having ASD was 3.2 years old, and the average age at which parents sought help from healthcare professionals was when their child was 3.5 years old. Additionally, the average age at which children received a formal diagnosis of ASD was 6.6 years old, indicating a significant delay in both accessing a diagnosis and early intervention. As a result of this, children with ASD and, most likely, those with skill deficits are potentially missing out on vital intervention services and support during the critical early learning period of development and delayed ASD diagnoses.

Additionally, NZ has no publicly funded ABA-based behavioural services (MoDP & MoE, 2022). Plessas et al. (2019) explained that interventions based on ABA principles are not directly funded by the Ministry of Health (MoH) or the Ministry of Education (MoE). Instead, the MoH contracts service providers to supply needs-based interventions or consultation services to address problematic behaviour, typically in crisis, rather than longer-term extensive behavioural programmes intended to develop a broad range of curriculum-based skills (Plessas et al., 2019). These contractors also provide funding for interventions like positive behaviour support, which address distinct behaviours, but not towards extensive interventions catered for individuals with ASD or skill deficits that could teach them social communicative skills to foster their development and place them on a more typical developmental trajectory (Charlop et al., 2018; Plessas et al., 2019).

The ABA-based services that are available in NZ targeting individuals with ASD are also typically run privately and are very costly (Plessas et al., 2019). There is also little literature regarding early intervention services available in NZ. In the NZ ASD guideline, the Living Guideline Group (LGG) – a small team of experts that assess the available data on guideline subjects each year – stated that there is a lack of knowledge regarding how suitable early interventions are for the diverse cultural groups in NZ (MoDP & MoE, 2022). The LGG also argued that they observed uncertainty regarding the optimal number of hours of early intervention and who benefit from these the most. Thus, interventions that have proven to be effective when applied to individuals with ASD are not common or readily accessible in NZ.

Parent Training Programmes (PTPs) in NZ

Parent involvement in supporting their children with ASD is supposedly well-recognised in NZ (MoDP & MoE, 2022). The NZ ASD Guideline emphasises the importance of parent education regarding ASD, which often offers ASD support and resources but not specifically regarding their involvement in PTPs. Of the available information, the EarlyBird

programme seems to be a prominent, funded PTP for parents who have children under five with ASD in NZ. The EarlyBird programme is parent-focused and seeks to assist parents who have a child with ASD in developing general management methods, especially regarding social communication and developing appropriate behaviours, also making it potentially applicable to children with social and communicative deficits (MoDP & MoE, 2022). More specifically, the learning outcomes of this PTP are for parents to understand their child's ASD, manage their child's behaviour and learn how to communicate and interact with their child (John, n.d.). Some other PTPs available in NZ include FANZ (Framework for Autism in New Zealand), Want to Play, Family Outreach Support, Explore and The Incredible Years Autism, most of which share similarities (John, n.d.). Most of these PTPs are funded by the MoE and MoH, allowing eligible families free access to them (John, n.d.). However, these include a workshop-like structure, are only offered in certain cities in NZ and are generally undertaken in group-based sessions (John, n.d.).

A study by Wallace-Watkin et al. (2020) looked into parental preference regarding how interventions like the EarlyBird Programme are delivered in NZ for children with ASD. They discovered that parents would rather receive ASD parent education programmes one-on-one rather than in a group setting (Wallace-Watkin et al., 2020). Most PTPs, such as the EarlyBird programme, include individual home visits. However, they also include group training sessions, the latter not being preferred (John, n.d.). An earlier study by Birkin et al. (2008) discovered that approximately 85% of families eligible for the EarlyBird programme did not participate. Several factors influenced these findings, such as parents not having heard of this programme, session times being held at the same time as personal commitments, not being offered the programme in an accessible location, and not being offered the programme when their child was at the eligible age. Although there appear to be several funded parent training programmes in NZ, including the EarlyBird Programme, adaptations may need to be

made to increase participation and better suit family needs, provide individualised programmes, and provide direct coaching.

Current Study

The existing literature supports the notion that PTPs available in NZ, such as the EarlyBird programme, primarily focus on providing informational content rather than offering comprehensive coaching or training, as observed in other PTPs like Sunny Starts. Moreover, it appears that these NZ programmes may lack cultural sensitivity and individualisation, potentially resulting in a limited ability and uptake to cater to children with ASD and their families. Given the pivotal role parents play in the early years of their child's life, their active involvement in such interventions is essential to foster positive interactions with their child and their child's development and future interactions with social partners.

In light of these factors and the limited knowledge about implementing the DANCE in the New Zealand (NZ) context, we aimed to adapt and implement the Sunny Starts DANCE PTP in NZ.

To conclude, the following research questions were examined in the current study:

1. What is the impact of the DANCE coaching model on parent skill acquisition as evaluated using researcher-developed measures?
2. What is the impact of parent implementation of the DANCE on child-based outcomes as measured using researcher-developed measures?
3. What is the social validity of the DANCE coaching model, as rated by parent participants?

Method

Ethics Approval and Consent

Ethics approval was granted by the University of Waikato Human Research Ethics Committee (HREC2022-55). Our participating family received a participant invitation form (see Appendix A) explaining our study's rationale and what we planned to do. Informed consent was obtained from the child's legal guardians for themselves and their child (see Appendix B). Parents had the opportunity to read the participant information sheet (see Appendix C) and to have any questions answered before they provided informed consent and participated in any later meetings or data collection activities.

Recruitment

We recruited our participating family by distributing flyers (see Appendix D) to early childcare and preschool centres in the Hamilton, New Zealand area. Our selection criterion was a child in their toddler or preschool years whose parents expressed concern about their child's social development or communication and would like help. A formal diagnosis of ASD was not required.

Researchers

I was the primary researcher and coach for the participating family and was directly involved in data collection and analysis. My fellow Master's student familiar with the DANCE project was present during sessions and aided with implementing the intervention.

Participants

Brian (dad; the primary parent participant in our study), Barbara (mum) and their daughter Betty (all pseudonyms) participated in this study. Brian and Barbara were of New Zealand European descent, and both worked full-time at the time of the study; Brian worked from home. Betty was four and a half years old at the time of this study. Her interests included books, drawing, cuddly toys, television, surprises, and novel items. She did not have

a diagnosis of ASD. However, Betty's preschool, which she attended five days a week, had previously shared concerns about her social development and communication, along with the concern that she may not be school-ready. Brian and Barbara expressed a concern that Betty may have ASD as she exhibited some skill deficits similar to diagnosed children and were waiting to be seen by the local Child Development Centre at the time of this study to determine whether a diagnosis could be present.

Brian mentioned that although Betty was relatively communicative, she tended to spend more time in solitary activities than playing with peers and was relatively rigid during social interactions and play. Additionally, Brian shared that Betty exhibited rigid behaviours during play at home, such as consistently designating a specific coloured gingerbread man for her parents when they played the Candy Land board game. Moreover, Betty may have cried or complained if she had not been able to sit in the chair next to her friend at preschool. Betty also tended to prolong transitions within her bedtime and morning routines, where she required attention and constant coaxing by her parents to complete tasks and chores that she did not want to do. Betty also frequently carried out routine tasks after a considerable delay once receiving instructions to perform them.

Setting

All meetings, assessments, data collection and training sessions were conducted within the family's home.

Face-to-face Session Setting

We conducted face-to-face sessions in the living room area.

Routine Session Setting

Bedtime and morning routines occurred in the living room, bathroom, and Betty's bedroom. I was not present during these more personal and private sessions.

Materials and Equipment

Audio and Video Recording Equipment

Audio recordings of our initial interview were collected using a Dictaphone (Olympus DS-55 digital voice recorder), and video assessments of parent-child interactions were collected using a Nikon D5500 camera. Video assessments of routine sessions were filmed by either Brian or Barbara using their cell phones. To ensure confidentiality, audio, videos, and data were stored on our protected computers and removed once we had viewed and analysed them.

DANCE Manual

Brian and Barbara received a copy of the DANCE Manual before beginning DANCE training during intervention sessions (see Appendix E. Removed pages of the manual in this appendix were blank pages).

Play Materials/ Toys

The primary materials and toys used were colouring in sheets and pencils, building blocks, the Candy Land board game, a memory cards game, dolls, and Betty's preschool book, including activities Betty and her peers engage in, her social progress, and what she has learned. Additionally, surprise toys included princess crowns and coloured pencils.

Visual Schedules

We created visual schedules for Betty's parents to apply during Betty's bedtime and morning routines (see Appendix F and G).

Sticker Chart

A sticker chart was implemented during both routine sessions when the first phase of DANCE training was introduced during morning routines (see Appendix H).

Data Collection Forms

Data collection forms were created to record child, parent and parent-child behaviours across face-to-face and routine sessions (See Appendix I). Each form included space for observers to record the session number, date, activity, and any additional notes. The dependent variables were pre-printed on these forms, allowing observers to record these variables according to their recording methods (described under the dependent variables section below)

Treatment Acceptability Rating Form Revised (TARF-R)

The TARF-R is a 20-item questionnaire with a 7-point Likert scale that indicates how the parent felt about treatment recommendations (see Appendix J). Each question was scored from 1 to 7; a higher score indicating higher agreement to the given question. The only exceptions were items 5, 6, 8, 10, 11, 16, 17 and 18, where reverse scoring was applied. The total score for the TARF-R was 140.

Coaching Fidelity Rubric

We used a coaching fidelity rubric as a reference during face-to-face sessions to aid with my performance and intervention implementation. This consisted of 21 steps (see Appendix K).

Caregiver Fidelity Rubric (Face-to-face Sessions)

The caregiver (parent) fidelity rubric (face-to-face sessions) consisted of 18 steps for the parent to complete during face-to-face sessions. This included steps regarding four components of the DANCE: decide, arrange, now, and contemplate (see Appendix L).

Caregiver Fidelity Rubric (Routine Sessions)

The caregiver fidelity rubric (routine sessions) consisted of 9 steps for the parent to complete during routine sessions. This included steps regarding two components of the DANCE: arrange and now (see Appendix M). The decide and contemplate components were

not included in this rubric as we could not witness when parents decided to conduct the routines and because we were not present to contemplate each session after these routines occurred.

Enjoy was not included in either rubric, as we evaluated this component by measuring indices of happiness (described under the dependent variables section below).

Online Diary

A diary was kept for incidental observations and to make note of any unanticipated occurrences of parent and child behaviour.

Measures and Operational Definitions

Independent Variables

The DANCE. This independent variable was based on the Sunny Starts DANCE programme (Ala'i-Rosales et al., 2013) and was applied as in the DANCE manual. Due to the nature of the study, the DANCE in the face-to-face sessions and routine session settings was applied in varied ways due to the absence of my immediate coaching during Betty's bedtime and morning routines. The DANCE, therefore, varied as follows.

The DANCE; Face-to-face Sessions. At the beginning of each intervention session, we collaboratively discussed how the DANCE would apply to the family's face-to-face session goals. This involved coaching Brian and Barbara on how each component of the DANCE: decide, arrange, now, contemplate and enjoy, aligned with their goals and how these would fit into social interactions with their child. The decide component involved teaching parents how to decide on convenient teaching times for both themselves and their child. Arrange involved teaching parents how to arrange their environment to maximise learning opportunities for their child - for example, placing a preferred item out of reach, prompting their child to request for it. Now involved teaching parents how to respond effectively to their child's behavioural approximations of the targeted behaviour immediately

and with enthusiasm, reinforcing their child's behaviour. An example involved providing attention contingent upon their child engaging in a target behaviour (see definition for appropriately recruiting attention below). Contemplate allowed us to monitor the progress of set goals and evaluate teaching procedures via watching video recordings of parent-child interactions and reviewing the most current data. The enjoy component was included in this programme to encourage parents to modify their teaching to make both themselves and their child happy and comfortable during teaching interactions. Enjoy also involved discussing whether both the parent and child enjoyed their interactions together and addressing how interactions could be more enjoyable when necessary.

The DANCE (Visual Schedule; VS); Routine Sessions; Delivering Attention Contingent upon Desired Behaviour (ACDB); Phase 1. Towards the end of each intervention session, we collaboratively discussed how the DANCE (ACDB) would apply to the family's routine session goal. This involved explaining and modelling how the parent could deliver attention following or during the occurrence of their child's desired behaviour. Examples included delivering attention either verbally through praise or conversation or by smiling while their child was completing a task in a response chain, such as brushing their teeth. Providing attention while their child was engaging in an activity or task in a response chain could have occurred more than once regarding the same behaviour. Parents were informed to provide Betty with an initial direct instruction before each routine and to provide prompts when necessary, such as an instruction to complete the next task or pointing to the next task on the visual schedule. Additionally, throughout routines, we informed parents to use an elevated vocal pitch when providing this instruction and these prompts, but primarily as they provided attention to Betty's desired behaviours. We explained the importance of this being to make routines more enjoyable and using the visual schedule reinforcing for Betty.

We initially introduced this variable during Betty's bedtime routines, where we taught these skills to Brian (and Barbara when she was present). However, after several routine assessments, we soon observed that Betty may have been engaging in 'desirable behaviours' but for extended periods or only after a long interval of time following an instruction. For example, Betty would sometimes brush her teeth but also sing at the same time, and Brian would provide attention to Betty because she was brushing her teeth. However, this also meant that he was providing attention to her singing behaviour. Therefore, we decided to teach Brian and Barbara to provide attention contingent upon task completion – these tasks being those involved in the visual schedule - and non-contingent attention on an interval schedule of 10 to 15 seconds.

The DANCE (Visual Schedule; VS); Routine Sessions; Non-Contingent Attention + Delivering Attention Contingent upon Task Completion (ACTC); Phase 2. This variable was implemented similarly to the above variable. However, we now discussed how the DANCE (NCA) and (ACTC) would apply to the family's routine session goal and implemented the DANCE as follows.

NCA involved explaining and modelling how the parent could deliver attention to their child on an interval schedule of 10 to 15 seconds, regardless of what their child was doing. An example included the parent saying, "Great job", or, "Keep it up", every 10 to 15 seconds. ACTC involved explaining how the parent could deliver attention immediately after the occurrence of their child completing a task in a response chain. An example included the parent saying, "Great job brushing your teeth," immediately after their child had finished brushing their teeth. Delivering attention contingent upon task completion meant providing attention once Betty completed a task but also withholding attention for other behaviours deemed to be 'off-task', like lying on the floor and singing. The potential side effect of withholding attention for certain behaviours is that this can occasion an extinction burst; a

significant increase in the behaviour due to withdrawing attention from it (Cooper et al., 2020). Therefore, non-contingent attention was implemented simultaneously to help combat this.

Dependant Variables

Opportunities for Behavioural Flexibility (OBF). OBF occurred when the parent provided an opportunity for the child to engage in behavioural flexibility. An example of this involved the parent verbally stating, "Let's do it my way this time, and we will do it your way next time. My way is to roll just one die, even though die are typically not used in this game." If this did not occasion behavioural flexibility (see definition below) but an attempt was made, this counted as an occurrence. OBF was measured using event recording, where the number of behaviours that occurred within a 5-minute video assessment were recorded and presented as a rate (per minute).

Delivering Attention Contingent upon the Child's Target Behaviour (ACTB). ACTB occurred when the parent delivered attention in the form of verbal praise or conversation after their child engaged in the target behaviour of appropriately recruiting attention (see definition below). ACTB was measured using event recording, where the number of behaviours that occurred within a 5-minute video assessment were recorded and presented as a rate (per minute). ACTB was also converted to a percentage, calculated by dividing the frequency of ACTB by the number of opportunities available (i.e., the frequency of ARA), multiplied by 100. This was done because the frequency of ACTB depended on the number of times the child engaged in ARA.

Parent Emitted Vocalisations (PEV). PEV occurred when the parent emitted words during bedtime or morning routines. This was measured using momentary time sampling with 5-second intervals, which involved recording whether this behaviour occurred at the moment each 5-second interval ended over the 5-minute video assessment. PEV was

converted into a percentage by dividing the number of intervals where the behaviour occurred at the moment each interval ended by the total number of intervals, which was then multiplied by 100, leaving us with the percentage of time a parent emitted vocalisations.

Appropriately Recruiting Attention (ARA). ARA occurred when the child exhibited unprompted and socially acceptable social initiations- for example, asking their parent a question, starting a conversation, and offering or asking for help. Any instances of whining, screaming or tantrumming were not counted as occurrences of ARA. ARA was measured using event recording, where the number of behaviours that occurred within a 5-minute video assessment were recorded and presented as a rate (per minute).

Behavioural Flexibility (BF). BF occurred when the child responded positively and appropriately to any instance of their parent making an unexpected change in games or access to preferred items after their parent verbally stated that they were going to do things their way. An example of this involved the child saying "okay" after their parent said, "Let's do it my way this time, and next time we will do it your way", and their way was to roll one die even though dice are not typically used in that game. BF was measured using event recording, where the number of behaviours that occurred within a 5-minute video assessment were recorded and presented as a rate (per minute). BF was also converted to a percentage, calculated by dividing the frequency of BF by the number of opportunities available (i.e., the frequency of OBF), multiplied by 100. This was done because the frequency of BF depended on the number of times the parent provided an OBF.

Response Latency (RL). RL was measured as the time between the parent providing an instruction or prompt to begin a task in a response chain and the child responding by beginning to engage in the task (see Appendix N for the instructions given by the parent and the tasks the child engaged in). An example of this involved measuring the time between the

parent saying “time to brush teeth” and the child then beginning to brush their teeth. RL was measured using duration recording.

Routine Duration (RD). RD was measured as the time between the parent providing the first instruction or prompt to begin the child’s routine to the time the child finished the last task of the routine. RD was measured via parent self-report.

Harmonious Engagement (HE). We adopted the definition of harmonious engagement from Cunningham (2018), Ogorman (2016), and Tavera (2019). Harmonious engagement occurred when: 1) the parent and child were both engaged in the same activity, 2) they were responsive to each other’s behaviours, and 3) they were engaged in affect and emotion appropriate to the activity. This was measured using partial interval recording with 5-second intervals, which involved recording whether these behaviours occurred at any time during each 5-second interval across a 5-minute video assessment.

Indices of Happiness (IOH). IOH were defined as any observable parent and child behaviours, such as facial expressions and vocalisations, understood to correspond with positive affect. Examples included smiling, laughing, smirking, and an elevated vocal pitch, which could be accompanied by dancing and statements of praise such as “good job.” This was measured using partial interval recording with 5-second intervals, which involved recording whether these behaviours occurred at any time during each 5-second interval across a 5-minute video assessment.

The percentages of harmonious engagement and IOH were calculated by dividing the number of intervals in which the behaviour was observed by the total number of intervals, which was then multiplied by 100.

We chose to measure IOH for both the child and parent participants as enjoyment is one of the five major components of the DANCE. In cases where the child indicated behaviourally (e.g., crying or pushing toys away) that they did not wish to engage in the face-

to-face sessions, we honoured those indications and terminated the session. IOH was measured as probe data during at least 33.33% of each phase.

Social Validity

Exit Interview Questions. Upon the study's completion, I conducted an exit interview with Brian. This consisted of questions regarding his family's experience and impressions throughout the family coaching programme (see Appendix E)

Treatment Acceptability Rating Form Revised (TARF-R). Upon the study's completion, Brian completed the TARF-R.

Caregiver Fidelity

After each session, I completed the caregiver fidelity rubrics by reviewing the video recordings of each assessment to evaluate the parent's performance during interactions with their child across both session types.

Inter Observer Agreement (IOA)

Before scoring IOA, my fellow Master's student and I reviewed two of the videos from both session types that were not intended for scoring purposes to ensure we agreed on the definitions of all behaviours. This training was considered complete once my fellow Master's student and I coded each variable with at least 80% accuracy.

We scored IOA for at least 33% of sessions across all phases (excluding the one follow-up session), where these videos were chosen at random. To calculate IOA for response latency, the smaller amount of time was divided by the larger amount of time, which was then multiplied by 100. To calculate the IOA of the remaining dependent variables, we used interval by interval IOA, where the number of intervals agreed upon was divided by the number of intervals agreed upon in addition to the number of intervals disagreed upon, then multiplied by 100.

Table 1 shows the mean IOA scores during face-to-face sessions, and Tables 2 and 3 show mean IOA scores during bedtime and morning routine sessions, respectively.

Table 1

Mean Percentage of IOA Scores during Face-to-face Sessions

Type of Behaviour	Mean % IOA Scores		
	Baseline	DANCE Training	Across Phases
Parent			
ACTB	93.3	94.7	94.5
OBF	NA	99.4	NA
IOH	100	95.9	97.2
Child			
ARA	91.7	95.7	95
BF	NA	98.9	NA
IOH	100	95	96.7
Parent-child			
HE	93.3	97.3	96.7

Table 2

Mean Percentage of IOA Scores during Bedtime Routine Sessions

Type of Behaviour	Mean % IOA Scores			
	Baseline	DANCE Training (VS) - ACDB	DANCE Training (VS) – NCA + ACTC	Across Phases
Parent				
PEV	98.3	99.6	100	99.5
IOH	98.3	82.5	88.3	87.1
Child				
LR	95.5	92	96.8	93.8
IOH	91.7	95.8	98.3	95.4

Table 3

Mean Percentage of IOA Scores during Morning Routine Sessions

Type of Behaviour	Mean % IOA Scores			
	Baseline	DANCE Training (VS) - ACDB	DANCE Training (VS) - NCA + ACTC	Across Phases
Parent				
PEV	100	100	99.4	99.8
IOH	95.1	88.3	90	92.1
Child				
LR	99	98.1	98	98.3
IOH	97.5	90	93.3	94.6

Research Design

Face-to-face Sessions

A multiple probe design across parent behaviours was used to evaluate the effects of the DANCE implementation. Additionally, a multiple probe design across child behaviours was used to evaluate the effects of parent teaching on the child's behaviour. Probe data of harmonious engagement and indices of happiness were graphed across all phases.

Routine Sessions

A multiple probe design was used to evaluate the changes in both child and parent behaviour across settings (bedtime and morning routines). Probe data of indices of happiness were graphed within these designs.

Procedure

The methods and sequence of this PTP were based on those from previous Sunny Starts studies and literature (Ala'i-Rosales et al., 2013; Guõmundsdóttir et al., 2019). To objectively assess session progress, we collected 5-minute video assessments of parent-child play-based interactions in the family's home, as well as video assessments of Betty's bedtime and morning routines filmed by Brian or Barbara. 5-minute segments of routine sessions were chosen at random during later analysis. This random selection aimed to ensure that chosen 5-minute segments were representative of each routine, avoiding potential biases in relation to choosing specific intervals. This also aimed to capture a diverse range of behaviours within each routine, covering all of the tasks involved.

Pre-baseline Assessment; Orientation and Family Relationship Development

The purpose of this meeting was to get to know the family, begin to establish a collaborative relationship with them, and briefly introduce the Sunny Starts programme. During this session, we engaged with Betty and began a collaborative discussion with her parents. We used the Sunny Starts family assessment from the DANCE manual as a guide to

ask questions regarding family life and values, family supports and challenges, and child strengths and needs (see Appendix E). This interview provided us with specific information about the family and their child and gave us an idea of what child behaviours could be targeted during intervention. During the interview, we ensured to notify the family that they may withdraw at any time during their participation. Our conversation was audio recorded using a Dictaphone.

Baseline Sessions; Child Assessments and Relationship Development

The purpose of these sessions was to conduct child assessments and develop relationships with the family. More specifically, they focused on building and maintaining a relationship with Betty to ensure she felt comfortable during the intervention process and continuing to build rapport with her parents. Each baseline session began with myself playing and interacting with Betty for 30 minutes to an hour. This type of play was semi-structured and mostly child-led free-operant play so we could incidentally observe Betty's behaviour and what items and activities were reinforcing for her. This also helped us gauge what Betty could and could not do, allowing us to evaluate her current skill set further to guide discussions with her parents.

Towards the end of each baseline session, we took a 5-minute video assessment of parent-child interactions to see how Brian typically interacted and played with Betty and to help identify potential target behaviours while keeping in mind what parents shared during our initial interview. The parents were not given any instructions or information regarding later implemented teaching procedures or any feedback. This occurred over a period of three sessions.

In regards to routine sessions, Brian recorded baseline videos of Betty completing her routines and sent them to me via email.

Goal Setting and Overview of the DANCE

The goal of this session was to set child goals with both parents and provide them with an overview of the DANCE, including an explanation of how its components can be applied to achieve these goals. While setting goals, we reconsidered both child and family assessments, developmental milestones the child has achieved, the child's communication, initiating, engaging, and adapting skills, and likely behavioural cusps. Observations of baseline videos, conversations with Brian and Barbara, and results from our preliminary interview (see Appendix O) suggested that Betty exhibited rigidity during play. When her parents did not support her preferred way of playing, Betty often complained or cried. If an unexpected change occurred in the activity, Betty often wanted to stop playing. We also observed that Betty's parents consistently provided her with attention for both positive and negative behaviours. For example, if Betty complained that she did not want to get ready for preschool, Brian would attempt to motivate her to get ready, thereby providing Betty with constant attention. Additionally, Brian would constantly prompt Betty's next steps in her routines. Lastly, Betty could recruit her parents' attention in everyday situations but sometimes did so inappropriately, such as through tantrum behaviour, crying or complaining.

Based on these results, we collaboratively decided on three child goals: 1) increase appropriate recruitment of attention, 2) increase behavioural flexibility, and 3) decrease response latency between Betty being instructed to complete a task within her bedtime and morning routines to the time she begins engaging in this task. Additionally, whilst not one of the leading child goals, we discussed that independent completion of routines could be another goal we aim to work towards. To accomplish these child goals, we collaboratively decided to teach Brian how to provide differential attention and opportunities for Betty to engage in behavioural flexibility and reduce parent emitted vocalisations during Betty's routines.

We also collaboratively decided to incorporate visual schedules during Betty's routine whilst the DANCE was also implemented. I explained that the rationale for using these schedules was to help Betty complete her routines in a more timely manner, reduce the prolonging of them, shorten the time between being given an instruction to complete a task and engaging in it, and promote independence. The aim was for Betty to refer to the tasks on these visual schedules as prompts when needed instead of relying on Brian's prompts or narrations. Additionally, Brian could be relieved from the need to be present and offer continuous prompts or narrations as Betty completes her routines.

We then filled in the child's goals in the tentative goal sheet from the DANCE manual (see Appendix E). In addition to these goals, we collaboratively decided on the parent and child measures (dependent variables).

Intervention Phase; DANCE Training

Each intervention session began with several minutes of rapport building with both parents and Betty, followed by the implementation of the DANCE. Training parents how to apply the DANCE components during intervention sessions involved myself applying a collection of behavioural intervention procedures similar to those of BST: instructions, modelling, rationales, rehearsal and feedback (Ala'i-Rosales et al., 2013). I modelled each parent behaviour, explained what I was doing along the way and why, and allowed parents to practice this in the context of their child's specific goal. We then began recording a 5-minute video assessment of parent-child play interactions, where Betty typically chose the type of play activities in these sessions. Betty either asked to engage in play activities or initiated the activity. While Brian and Betty were engaging in interactions, I commented on how Brian could arrange the environment to promote Betty's target behaviour and how to respond to Betty's behaviours, thus using a similar approach to that of EMT. I also provided Brian with feedback on his teaching tactics and actively reinforced the positive behaviours he exhibited.

Once this was completed, we filled out the home helper sheet together from the DANCE manual (Appendix E) and left this with the family to reflect on.

It is important to note that because routine sessions occurred in my absence, coaching for these sessions occurred towards the end of intervention sessions. Typically, one to two videos of each routine were reviewed and then discussed, depending on how many videos the family sent prior to each session. As part of this discussion, I randomly selected a 5-minute segment to analyse, made notes of observations, and then shared feedback with Brian and Barbara in the following intervention session, meaning this feedback was delayed.

We also decided to begin to conduct in-person feedback simultaneously when parents implemented the second phase of DANCE training (NCA + ACTC) rather than delayed feedback. This occurred during routine discussions, where I reviewed the routine videos with parents, and here, we covered the contemplate component of the DANCE. Alternatively, if the parents preferred, I provided them with detailed feedback via email for each routine session.

In the family's own time, Betty was able to place a sticker on this chart after she completed either routine under a specified amount of time Brian and Barbara collaboratively decided on. After Betty achieved this for five routines, she was given a small surprise toy. This commenced when DANCE training was implemented during morning routines.

Intervention sessions were generally held twice a week, and data collection took place over 17 weeks.

Follow-up Sessions: Transition Plan and Exit Interview

The purpose of the first follow-up session was to reflect on the intervention and progress that was made during the time with our participating family. I provided Brian with a parent report, which reiterated our initial discussions and goals we had chosen and the purpose of choosing these, the draft graphed results, and future directions (see Appendix P).

Brian and I worked through this report together, and I answered any last questions he had. I then conducted the exit interview from the DANCE manual (see Appendix E), which focused on finding out about their experience during our time together. Upon completion of this session, Brian was asked to fill out the treatment acceptability rating form-revised (TARF-R).

The second session involved conducting a one-month follow-up assessment following the previous training sessions. One face-to-face session was conducted at the family's home, while one bedtime and morning routine video was received via email from Brian, as was done with the past routine video assessments.

Data Analysis

Microsoft Excel was used to create the graphs with our collected data.

Visual Analysis

Visual analysis of each graph was used to determine trends, variability and level of our data (Cooper et al., 2020). The trend indicates the direction of the data, the variability represents how much and how often responses differ from one another, and the level represents the position of the data with respect to the Y-axis. Various factors were taken into account to inform decisions about the appropriate timing for introducing new phases and to assess potential experimental effects. These considerations, including the feasibility of implementing the intervention, time constraints inherent in the process, and family concerns, will be further explained in the discussion.

Results

Face-to-face Sessions Results

Figure 1 illustrates the rate and percentage of delivering attention contingent upon the child's (Betty's) target behaviour (ACTB) and the rate of providing opportunities for behavioural flexibility (OBF) across 5-minute video assessments. The mean rate of ACTB in the baseline phase was 0.87 (range = 0.2-2). During this phase, the data followed a variable pattern of responding and continued in a variable fashion whilst the DANCE was implemented. During this intervention phase, there was an initial increase in the rate of ACTB, followed by a variable pattern of responding for the remaining assessments. The mean rate of ACTB was 2.7 (range = 0.2-4) during the intervention phase. The rate was 2.8 during the follow-up.

During baseline, the mean percentage of ACTB was 88.9% (range = 66.7-100%). When DANCE training was implemented, the percentage of ACTB was highly variable, with no apparent trend being present. In this phase, the parent engaged in ACTB, on average, 81.9% of the time (range = 62.5-100%). In the follow-up assessment, the parent engaged in ACTB 85.7% of the time.

The rate of OBF stayed at zero levels during baseline. When DANCE Training was implemented, there was an increase in the rate of OBF, which then followed a relatively stable pattern of responding for the remaining assessments. During this intervention phase, the mean rate of OBF was 0.83 (range = 0.6-1.4). During follow-up, OBF then decreased to 0.6.

Figure 1

Percentage and Rate of Parent Target Behaviours; Delivering Attention Contingent upon the Child's Target Behaviour and Providing Opportunities for Behavioural Flexibility across 5-Minute Video Assessments

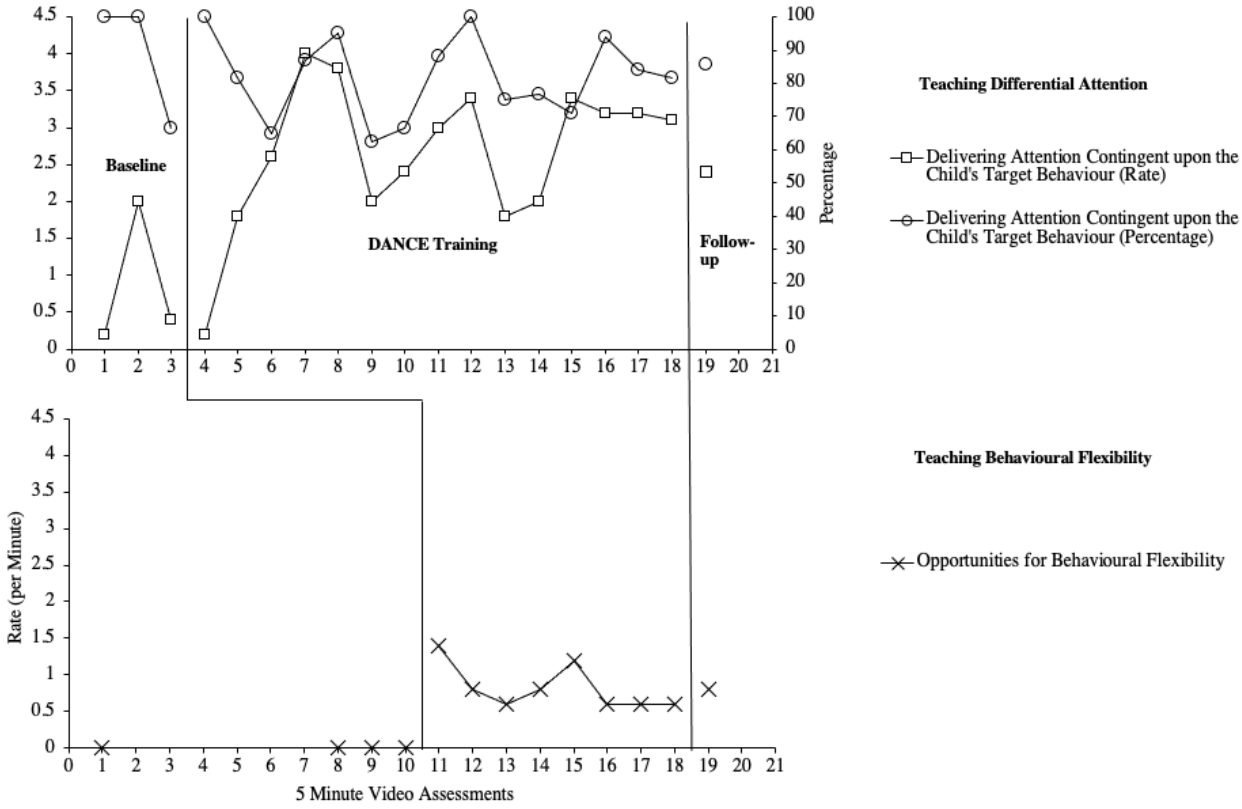


Figure 2 illustrates the rate of appropriately recruiting attention (ARA) and the rate and percentage of behavioural flexibility (BF) responses following opportunities for behavioural flexibility (OBF) across 5-minute video assessments. The rate of ARA in the baseline phase follows a variable pattern of responding, with a mean rate of 0.93 (range = 0.2-2). When Brian implemented DANCE training with Betty, there was an initial sharp increase in the rate of ARA in the first four assessments, followed by a variable pattern of responding for the remaining assessments. Within this phase, the mean rate of ARA increased to 3.3 (range = 0.2-4.8), which then decreased to a rate of 2.4 during follow-up.

The percentage of BF responses following OBF is not displayed during baseline in this figure because there were no instances of OBF. Since the denominator (OBF) in this calculation was zero, we are unable to present a percentage in this context. When DANCE training was implemented, the percentage of BF responses following OBF followed a variable, then increasing pattern of responding. During this phase, the child, on average, engaged in BF 85.3% of the time given the opportunities to do so (OBF) (range = 57.1-100%). In the follow-up assessment, the child, on average, engaged in BF 75% of the time given the opportunities to do so (OBF).

The rate of BF stayed at zero levels during baseline. When Brian implemented DANCE training with Betty, there was an initial increase in the rate of BF, followed by a variable pattern of responding for the remaining assessments. In this intervention phase, the mean rate of BF was 0.68 (range = 0.4-1) and then decreased to a rate of 0.6 during follow-up.

Figure 2

Percentage and Rate of Child Target Behaviours; Appropriately Recruiting Attention and Behavioural Flexibility Responses Following Opportunities for Behavioural Flexibility across 5-Minute Video Assessments

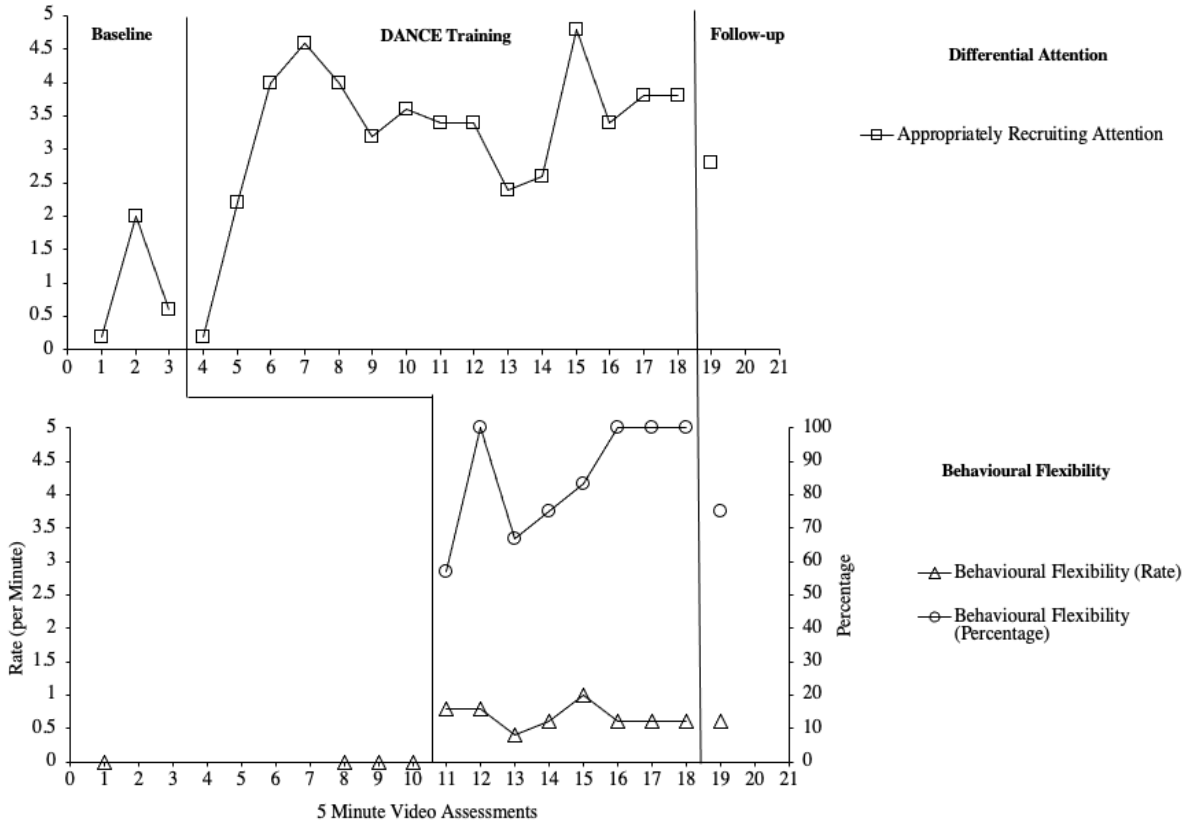


Figure 3 illustrates the percentage of harmonious engagement (HE) and indices of happiness (IOH) across 5-minute assessments. HE was variable in the baseline phase, occurring on average 18.9% of the time (range = 5-35%). When DANCE training was implemented, HE increased sharply over the first three assessments and then followed a relatively stable pattern of responding for the remainder of this phase. Within this phase, HE occurred 82.2% of the time on average (range = 13.3-100%), which then increased to 93.33% during the follow-up session.

While the probe data for IOH was variable during baseline for both Betty and Brian, there is an observable increase once DANCE training was implemented. For Betty, mean

IOH increased from 15% in baseline (range = 0-31.8%) to 71.3% during the intervention phase (range = 55-81.7%), and for Brian, from 12.2% in baseline (range = 0-25%) to 73.8% during the intervention phase (range = 65-81.7%). During follow-up, IOH increased from intervention levels to 93.33% for Betty and 86.67% for Brian.

Figure 3

Harmonious Engagement and Indices of Happiness across 5-Minute Video Assessments

Routine Session Results

The top panels in the following figures represent bedtime routines, and the bottom panels represent morning routines. Because bedtime and morning routine assessments were not consistently filmed on the same day, data for both routines were recorded in sequential order. This helped to account for the days on which each assessment took place and to maintain an accurate and clear depiction of the timing of routines.

Figure 4 illustrates the percentage of parent emitted vocalisations (PEV) and parent indices of happiness (IOH) across assessments. Regarding the bedtime routine, PEV during baseline was relatively stable, and no apparent trend was present. In this phase, the parent engaged in PEV, on average, 45.6% of the time (range = 40-48.3%). During the first phase,

when DANCE training was implemented, the percentage of PEV followed a variable pattern of responding, with no apparent trend being present. Here, the mean percentage of PEV increased to 50% (range = 33.3-70%). During the second phase of DANCE training, this then decreased and remained relatively stable, where the mean percentage of time a parent engaged in PEV decreased to 30.5% (range = 18.33-40%). During follow-up, this increased to 41.67%.

During bedtime routines, the mean IOH of parents was 19.4% during baseline (range = 6.7-36.7%), which increased when DANCE training was implemented to 31.7% (range = 15-65%) and further increased during the second phase of implementing the DANCE to 37.5% (range = 33.3-41.7%). During follow-up, parent IOH had decreased to 11.67%.

Regarding the morning routine, there was a descending trend in PEV during baseline, where the parent engaged in PEV, on average, 47.3% of the time (range = 31.7-65%). In the first phase, where DANCE training was implemented, there was an initial increase in the percentage of PEV from baseline levels, which then followed a variable pattern of responding for remaining assessments. Here, the mean percentage of PEV increased to 49.2% (range = 36.7-61.7%). During the second phase of DANCE training, there was an initial decrease in PEV, followed by a relatively stable pattern of responding for remaining assessments. The mean percentage of PEV in this phase was 23.7% (range = 15-35%). During follow-up, the parent engaged in PEV 30% of the time.

During morning routines, the mean IOH of parents was 34.3% in baseline (range = 20-53.3%), which increased when DANCE training was implemented to 45% (range = 28.3-61.7%) and decreased during the second phase of implementing the DANCE to 31.7% (range = 30-33.3%). During follow-up, parent IOH decreased to 13.33%.

Figure 4

Percentage of Parent Emitted Vocalisations and Indices of Happiness across 5-Minute Video Assessments

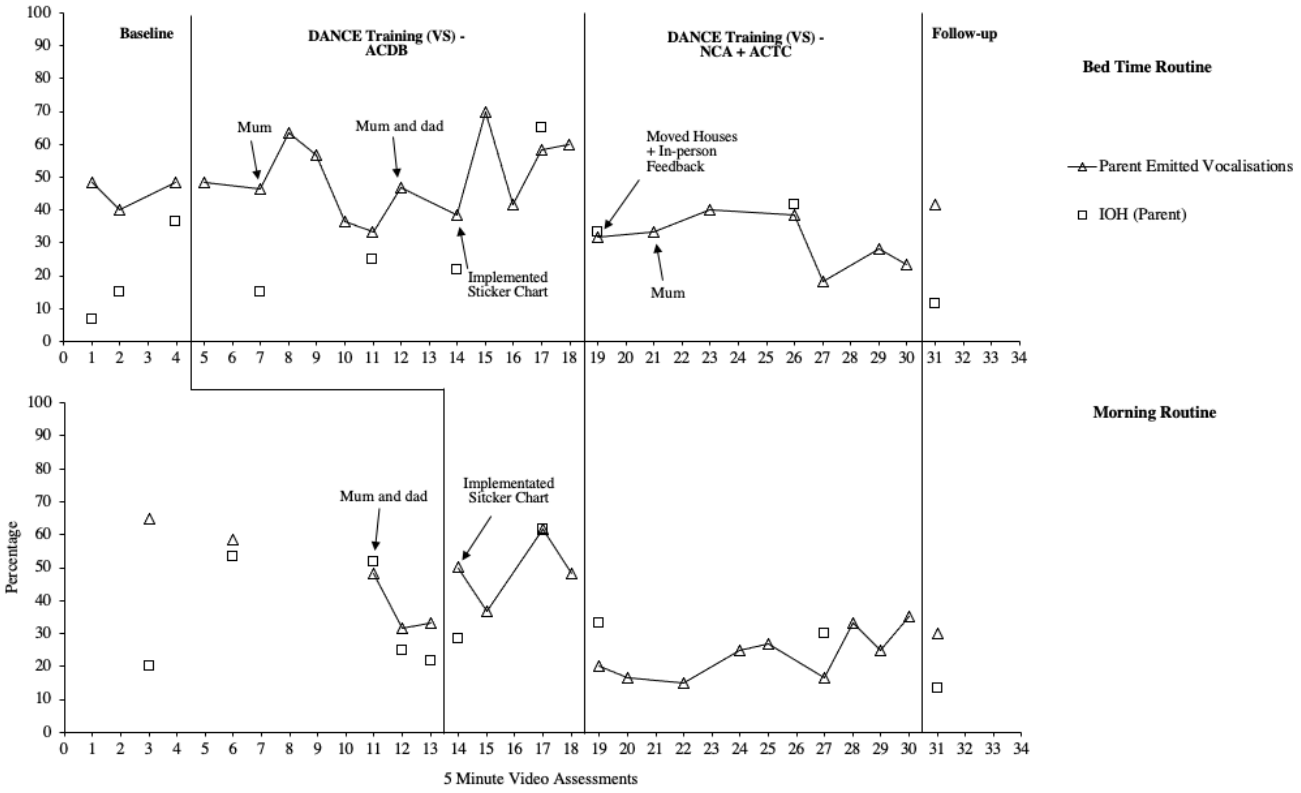


Figure 5 illustrates child response latency (RL) and indices of happiness (IOH) across assessments. In the bedtime routine, RL rapidly decreased during baseline, where the mean length of such responses was 116 seconds (range = 36-232s). When the first phase of DANCE training was implemented, RL remained highly variable, where the mean length of response latency decreased to 48.8 seconds (range = 8-161s). During the second phase of DANCE training, there was an initial increase in RL, followed by a steady descending trend, where the mean RL decreased to 42.9 seconds (range = 17-71s). During follow-up, RL increased to 62s.

During the bedtime routine, Betty's mean IOH was 42.8% in baseline (range = 16.7-85%), which increased when DANCE training was implemented to 70% (range = 58.3-85%)

and further increased to 76.6% during the second phase of implementing the DANCE (range = 70-83.3%). During follow-up, Betty's IOH decreased to 21.67%

Regarding the morning routine, RL initially decreased from the first to the third assessment, then began to increase in the remaining assessments during the baseline phase, with a mean RL of 95.2 seconds (range = 30-205s). In the first phase where DANCE training was implemented, the RL initially decreased from baseline levels and then increased gradually until the next phase. Here, the mean RL reduced to 30.8 seconds (range = 15-50s). During the second phase of DANCE training, RL followed a variable pattern of responding, where the mean RL increased to 54 seconds (range = 20-109s). During follow-up, RL decreased to 50s.

During the morning routine, Betty's mean IOH was 65.3% in baseline (range = 30-86.7%), which decreased when DANCE training was implemented to 57.5% (range = 43.3-71.7%). Betty's mean IOH then increased to 79.2% during the second phase of implementing the DANCE (range = 71.6-86.7%). During follow-up, Betty's IOH decreased to 35%.

Figure 5

Child Response Latency and Indices of Happiness across 5-Minute Video Assessments

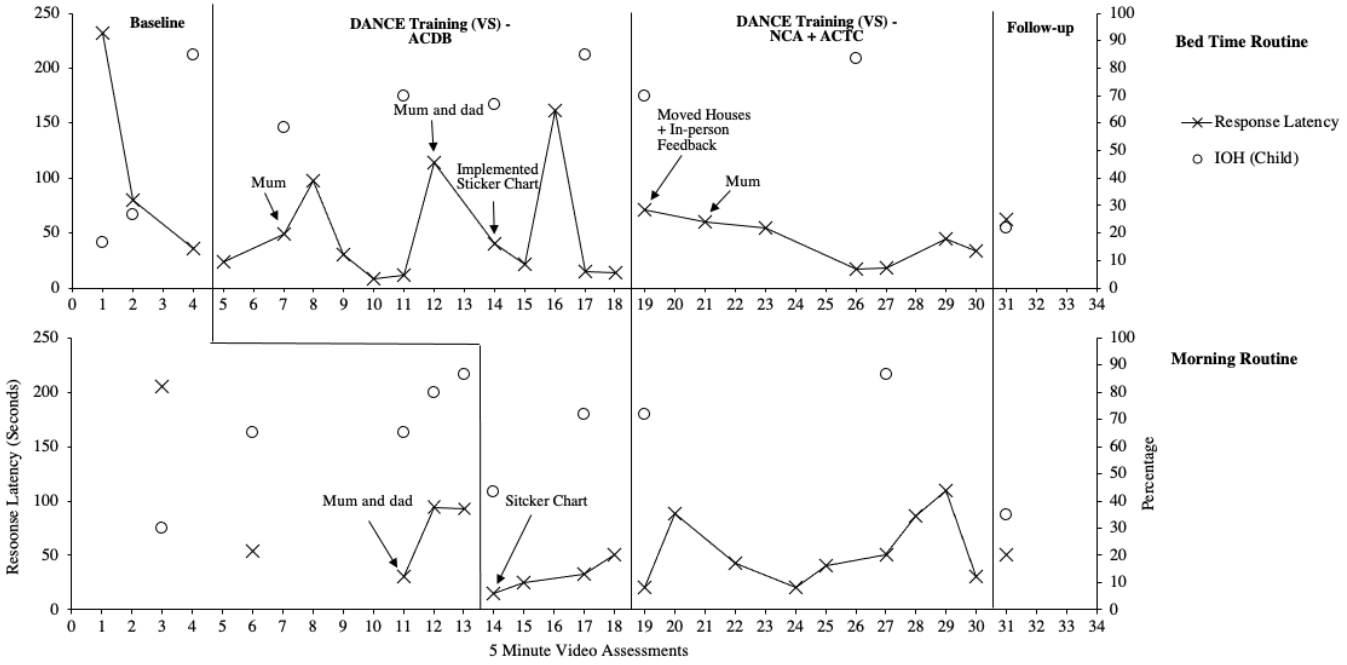


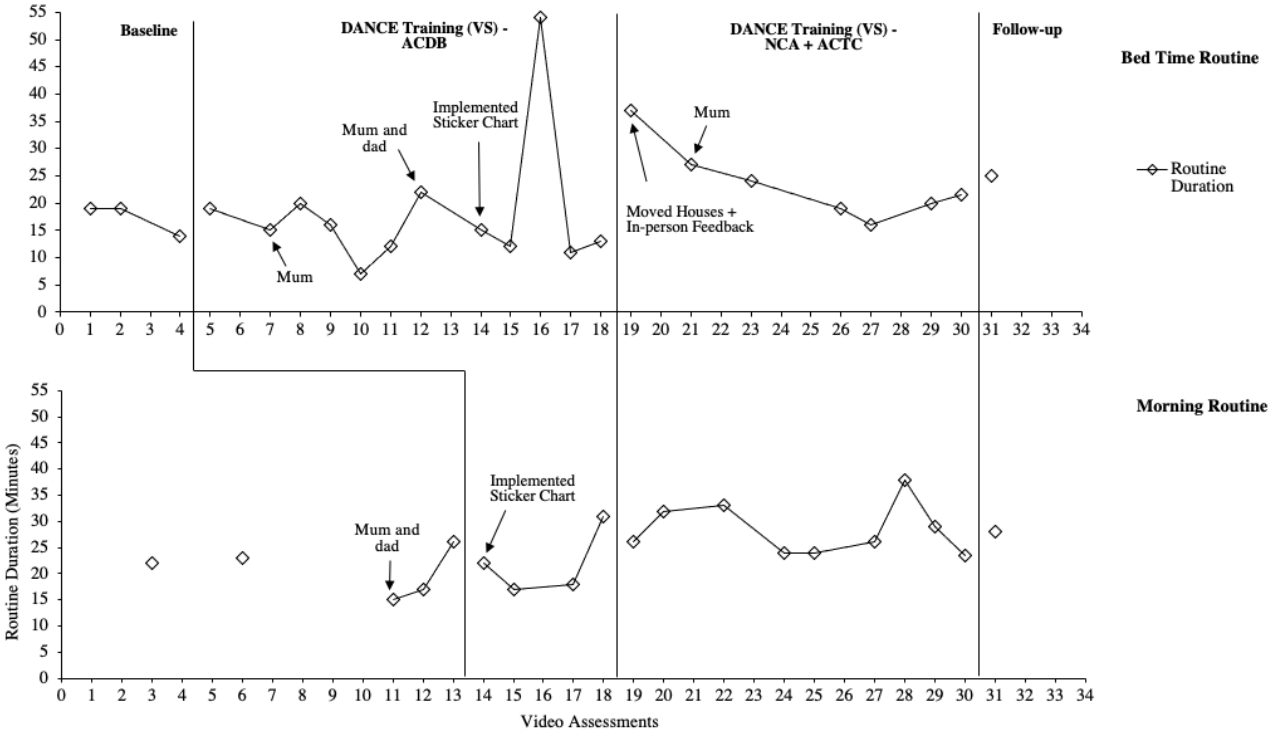
Figure 6 illustrates routine duration (RD) across assessments. Regarding the bedtime routine, RD was relatively stable during the baseline phase, with a mean length of 17.3 minutes (range = 14-19m). This then transitioned to being variable when DANCE training was implemented. During this phase, there was a significant outlier data point, where the RD of assessment 16 was 54 minutes. The mean RD during this phase increased to 18 minutes (range = 7-54m). During the second phase of DANCE training, there was an initial increase in RD, followed by a steady descending trend and a slight upward trend in the last three assessments. Here, the mean RD was 23.5 minutes (range = 16-37m). During follow-up, the RD was 25 minutes.

Regarding the morning routine, RD followed a relatively stable pattern of responding, with a mean length of 20.6 minutes (range = 15-26m). RD initially decreased when DANCE training was implemented, followed by a relatively increasing trend, where the mean RD was 22 minutes (range = 17-31m). During the second phase of DANCE training, there was an

initial decrease in RD, followed by a variable pattern of responding for the remaining assessments. Here, the mean RD increased to 28.4 minutes (range = 23.5-38m). During follow-up, the RD minimally decreased to 28 minutes.

Figure 6

Routine Duration across Entire Video Assessments



Social Validity

Responses from the exit interview (see Appendix Q) showed that Brian was grateful for the opportunity to have received DANCE training and that he found it beneficial in assisting both Betty and himself. For example, Brian described that although bedtime and morning routines were not necessarily a whole lot faster while the intervention was implemented, he believed that Betty had become more independent while completing these. Additionally, Brian added that mornings had become smoother and that our intervention added some structure to these routines. Brian explained that his relationship with Betty improved throughout the intervention and that his stress levels had lowered, improving how

he interacted with her. Brian expressed that he faced challenges during play sessions, particularly in instances where he was required to improvise during imaginative play. He conveyed that engaging in spontaneous and imaginative play did not come very naturally to him. However, he believed that this improved over time. Additionally, Brian reported that it was quite stressful on days we visited for coaching if he planned to film Betty's routines on that same day. Brian shared that once we had settled on certain days and times for coaching, this was beneficial and that they would have gladly continued this intervention if it were time-feasible. Overall, Brian expressed that his interactions with the intervention team were great, explaining how we had always been accommodating, helpful, and understanding, especially when he failed to send routine videos to us in a timely manner.

Brian scored 122 out of 140 on the TARF-R. The overall mean per item was 6.1 (range = 4 – 7). Brian only scored one item with 4, which indicated how much he liked the procedures used in the proposed treatment (see Appendix R for scored items).

Caregiver Fidelity

The mean scores for caregiver fidelity during face-to-face sessions were 91.5%, 57.3% during bedtime routines, and 65% during morning routines.

Discussion

This study aimed to implement and adapt the Sunny Starts PTP in the New Zealand context. While previous studies have implemented this PTP with parents and their toddler or child diagnosed with ASD (Ala'i-Rosales et al., 2013; Guðmundsdóttir et al., 2019), the current study adapted Sunny Starts in a case where there was an absence of ASD in the participating child. Additionally, this study adapted teaching methods to the needs, values, and situation of the participating family by targeting goals within face-to-face play-based sessions and in the child's morning and bedtime routines. Targeting goals within child routines deviated from previous studies, which primarily targeted early learning skills such as imitation and social attending within a play-based session (Ala'i-Rosales et al., 2013; Guðmundsdóttir et al., 2019), highlighting both the versatility and adaptability of Sunny Starts.

Research Questions

Question 1

What is the impact of the DANCE coaching model on parent skill acquisition as evaluated using researcher-developed measures?

There is some indication that the DANCE was effective in teaching Brian to deliver opportunities for behavioural flexibility (OBF). This is supported by Figure 1, which displays a clear separation of a data pathway when moving from baseline to when the DANCE was implemented, demonstrating an experimental effect. There is also some indication that Brian learned how to deliver attention contingent upon Betty's target behaviour of appropriately recruiting attention (ARA). If we look at the rate of delivering attention contingent upon Betty's target behaviour (ACTB) in Figure 1, it looks as if there is a strong experimental effect due to the clear separation of a data pathway when moving from baseline to when the

DANCE was implemented. However, measuring the percentage of Brian ACTB shows that the DANCE coaching model made no difference in Brian's acquisition of this skill.

These results must be interpreted in conjunction with Betty's results because ACTB rates increased as ARA rates increased. This parent behaviour involved providing Betty with attention when she engaged in the target behaviour, this being to appropriately recruit attention. This meant that Brian was provided as many opportunities for ACTB as many times as Betty engaged in ARA. Because of this, we cannot say that we demonstrated an experimental effect within this tier of our design. Moreover, as we could not display three demonstrations of experimental effects at three different time points within this research design, we could not demonstrate experimental control. This further means that we could not demonstrate that the DANCE coaching model caused the observed behaviour change of ACTB.

Regardless of these findings, the DANCE coaching model taught Brian how to play and be happier with Betty. This is supported through comparisons of incidental observations in baseline and during the intervention DANCE phase. Initially, Brian sometimes found it challenging to sit and play with Betty. He even reported in the exit interview that he found it difficult to improvise and engage in imaginative play. However, once the DANCE was implemented, interactions between himself and Betty became more harmonious, as supported in Figure 3. This suggests that Brian and Betty increasingly shared harmonious interactions throughout the DANCE, indicating strong social validity in terms of the acceptability and overall effect of the treatment. Additionally, Brian's indices of happiness (IOH) data substantially increased whilst the DANCE was implemented. These results could be attributed to Brian being taught to modify his teaching to make both himself and Betty happy and comfortable during teaching interactions through the enjoy component of the DANCE.

In regards to routine sessions, there is little indication that the DANCE was effective in reducing PEV. We aimed to reduce the frequency of PEV during routine sessions, a decision collaboratively made based on observations of Brian emitting constant narrations whilst Betty completed her routines. This attention likely reduced the reinforcing effectiveness of instances when Brian delivered attention contingent upon Betty completing a task in her routines. We, therefore, saw the opportunity to implement the visual schedules during Betty's routines alongside the implementation of the DANCE, not only to promote faster, less prolonged and more independent completion of routines but also to replace and reduce Brian's constant prompt delivery, narration, and attention.

No experimental effects were observed within either setting when moving from baseline to the first DANCE intervention phase (see Figure 4). However, the percentage of PEV decreased when the second phase of DANCE training was introduced to both settings, suggesting that the DANCE and the use of visual schedules, combined with non-contingent attention and providing attention contingent upon task completion, may have been effective. Two experimental effects were demonstrated in both settings when this second phase of DANCE training was implemented, supported by the clear separation of data pathways when moving from the first to the second phase of DANCE training. However, because this intervention was introduced at the same time in both settings, and the family moving houses coincided with this, along with the initiation of in-person feedback, we cannot exclude alternative explanations that may have caused reductions in PEV. This intervention should have been introduced in a staggered fashion and at a different time than when the family moved houses. We also should have introduced in-person feedback from the beginning of the DANCE. Therefore, like in face-to-face sessions, we were not able to demonstrate experimental control within this design.

Less happiness was also experienced in routine sessions compared to face-to-face sessions, as displayed in Figure 4. A likely explanation for this is that in routine sessions, we reduced parent-child interactions because Betty's parents wanted Betty to complete her routines in a shorter duration and more independently. Additionally, reducing PEV contributes to a reduction of parent-child interactions, as naturally, less talking may lead to fewer interactions. This is also why we decided not to measure harmonious engagement during routine sessions, as we believe that these results may not reflect the potential benefits the DANCE has on increasing parent-child harmony. We initially recognised that targeting skills within Betty's routines would divert from the DANCE's aim to increase parent-child harmony and interactions. However, if Betty had completed her routines in shorter durations and more independently, this may have had the potential to enhance overall family happiness and harmony, even if fewer parent-child interactions occurred. Nevertheless, in the immediate term, less parent IOH was observed.

Question 2

What is the impact of parent implementation of the DANCE on child-based outcomes as measured using researcher-developed measures?

There is some indication that parent implementation of the DANCE was effective in increasing Betty appropriately recruiting attention (ARA). This is supported in Figure 2, which displays a clear separation of a data pathway when moving from baseline to when Brian implemented the DANCE. However, with these results, we cannot explain how Betty increasingly learned how to ARA. To answer this question, we also need to interpret ARA results in conjunction with those in Figure 1.

While we did not graph this, incidental observations showed that Brian provided less attention to Betty inappropriately recruiting attention (i.e., whining, screaming or tantrumming) throughout the DANCE. These observations showed that Brian sometimes

withheld attention to instances of Betty inappropriately recruiting attention. Such observations can be supported by the fact that we taught Brian how to provide differential attention, which involved him providing attention to ARA and not to inappropriate recruitment of attention. This may have explained why Betty increasingly ARA, as Brian responded less or not at all to Betty inappropriately recruiting attention. However, we did not measure the rate of Brian delivering attention contingent upon Betty inappropriately recruiting attention to determine whether this decreased whilst the DANCE was implemented or the rate of Brian altogether withholding attention to inappropriate recruitment of attention to determine whether this increased during DANCE implementation.

There is some indication that Betty's rate of engaging in behavioural flexibility (BF) increased once Brian implemented the DANCE. If we look at the rate of BF in Figure 2, it looks as if there is an experimental effect due to the clear separation of a data pathway when moving from baseline to when the DANCE was implemented. However, there were no instances of BF in baseline, likely because Brian did not provide any opportunities for Betty to engage in BF. This is also why there is no baseline data regarding the percentage of BF responses following Brian's opportunities for behavioural flexibility (OBF).

Similar to question 1, where rates of ACTB increased because rates of ARA increased, rates of BF increased as rates of OBF increased. This child measure involved Betty engaging in BF only after Brian had provided OBF, meaning that Betty was provided as many opportunities to engage in BF as many times as Brian provided OBF. Because of this, we cannot say that we demonstrated an experimental effect within this tier of our design. Moreover, as we could not display three demonstrations of experimental effects at three different time points within this research design, we could not demonstrate experimental control.

Despite not being able to demonstrate experimental control, we observed that interactions between Betty and Brian became more harmonious during DANCE implementation, as displayed in Figure 3. Additionally, Betty's indices of happiness (IOH) data substantially increased whilst the DANCE was implemented. This increase in happiness during the intervention phase may have been attributed to Betty selecting activities that Brian had initially identified in our initial conversations as ones she enjoyed. Additionally, it may have been a result of increased harmonious and enjoyable interactions between herself and Brian. As explained previously, this data suggests that Betty and Brian learned to 'socially dance' with one another, as they increasingly shared harmonious interactions throughout the DANCE, again indicating strong social validity in terms of the acceptability and overall effect of the treatment.

In regards to routine sessions, there was minimal improvement in both routine durations and response latencies in intervention phases compared to baseline. Notably, during assessment 16, Betty's bedtime routine lasted 54 minutes, marking the longest time taken to complete either routine. When reviewing this entire routine video, I observed that Brian provided Betty with attention each time she began to cry or complain. Brian's attention likely functioned as reinforcement, which may have inadvertently reinforced Betty's crying and complaining behaviours, potentially explaining this prolonged routine duration.

While there are no experimental effects demonstrated in Figures 5 and 6, response latencies (Figure 5) followed a more stable data pathway during bedtime routines when the second phase of the DANCE was implemented. This suggests that parent implementation of the DANCE may have led to this more consistent responding but to no notable improvements in routine durations and response latencies. However, unlike parent IOH during routine sessions, Betty's IOH increased during both bedtime and morning routines while the DANCE was implemented. Through incidental observations of routine sessions, Betty would often

dance, sing, laugh, and smile as she completed her routines both during baseline and intervention phases, potentially helping to explain the relatively higher IOH.

Question 3

What is the social validity of the DANCE coaching model, as rated by parent participants?

Brian's exit interview responses and TARF-R scores indicate high social validity of the DANCE, especially regarding treatment acceptability and the social importance of intervention effects. Based on Brian's responses from the exit interview, it appeared that he found the intervention acceptable, goals were appropriate and positive outcomes were achieved. Despite little routine duration improvement and some difficulties in imaginative play, Brian observed increased independence in Betty, smoother routines, and an improved relationship with Betty. Brian expressed gratitude and willingness to continue the intervention, suggesting that the DANCE made a meaningful impact on their family. On the TARF-R, Brian's responses indicate that the treatment was acceptable regarding his concerns for Betty and that it was reasonable given Betty's behavioural problems. Additionally, responses showed that Brian believes the treatment is likely to make permanent improvements in Betty and that he is confident that this treatment was effective for both himself and Betty.

Social Validity More Generally

In the early stages of the DANCE, there is a focus on negotiating target behaviours with parents, ensuring that appropriate goals are selected. Targeting appropriate recruitment of attention, behavioural flexibility, and decreasing the response latency between Betty being instructed to complete a task within her routines to the time she began engaging in this task were all chosen through collaborative discussions with Brian and Barbara. Through early

conversations, our preliminary interview, and observations, Brian, Barbara and I believed that these goals were of most benefit to improving parent-child interactions and child outcomes.

While we had originally intended to target three child goals exclusively during face-to-face sessions, our approach shifted when the family expressed the several challenges they faced with Betty's routines in our initial conversations. Recognising the social importance of intervening in Betty's routines led us to extend our focus to both face-to-face and routine sessions. Selecting goals within face-to-face and routine settings aligned with the needs of the family, as they indicated that targeting Betty's routine was socially important to them. While this did impact our ability to display experimental control in either setting, this decision allowed us to prioritise the family's needs and uphold the principles of social validity.

In regards to the social validity of behavioural flexibility specifically, we do not know how much behavioural flexibility is considered adaptive. While Betty's behavioural flexibility improved, as shown in Figure 2, we do not know what levels of her behavioural flexibility are adaptive. This can also be acknowledged as a limitation of this study, emphasising the cultural and societal values and norms that define what behaviours are considered adaptive and maladaptive. These values and norms evolve, making it difficult to establish benchmarks for such behaviours. Additionally, individual differences play a vital role, as defining what constitutes behavioural flexibility in one cultural context may be defined differently in another. What we do know is similar to the inherent tendency of not always sharing items with others, not always exhibiting behavioural flexibility is common in human behaviour (Essler et al., 2020). Behavioural inflexibility only becomes maladaptive and a concern when it hinders one's quality of life (American Psychiatric Association, 2013). Therefore, while measures of behavioural flexibility increased while the DANCE was implemented, it is difficult to determine whether such levels are truly indicative of adaptive behaviour. To address this in the future, we could look into literature regarding child levels of

adaptive behaviour and use such levels as a benchmark for measuring changes in behavioural flexibility. This may help us determine how much of Betty's behavioural flexibility is adaptive.

Validity of Findings

The construct validity of the measure delivering attention contingent upon the child's target behaviour (ACTB) is questionable. Upon reflection, we believe that measuring ACTB did not capture the actual changes that occurred during DANCE implementation when training Brian to apply differential attention. We wanted to teach Brian to deliver attention contingent upon Betty appropriately recruiting attention (ARA) in order to teach Betty to emit appropriate recruitment of attention. However, we may have measured the wrong dimension of differential attention, as Figure 1 displays that Brian already engaged in ACTB for the majority of the time, supported by high percentages of ACTB. What we actually needed to change was for Brian to deliver less attention all together. While measuring ACTB showed that Brian was already engaging in this behaviour, it did not show us whether he also delivered attention contingent upon Betty engaging in inappropriate recruitment of attention or whether he withheld attention when Betty engaged in inappropriate recruitment of attention. We should have measured and targeted reducing Brian's delivery of attention contingent upon Betty engaging in inappropriate recruitment of attention and increasing the rate at which Brian withheld attention when Betty engaged in inappropriate recruitment of attention. Measuring these variables would have better assessed differential attention. However, as we aimed to promote positive behaviour change, we decided not to measure these parent variables.

Construct validity was also compromised because we did not measure whether Betty completed her routines more independently; an additional goal that was collaboratively chosen with Brian and Barbara. In the exit interview, Brian reported that Betty was becoming

more independent in completing her routines. However, this lack of measurement hinders our ability to objectively assess whether Betty began completing her routines more independently as a result of the DANCE intervention.

Generalisation

Generalisation probes were taken during some of Betty's routine assessments, where Barbara was present with Betty instead of Brian, assessing generalisation across parents. However, because this data is so variable, it is unclear whether generalisation across parents occurred or not. We also targeted generalisation during face-to-face sessions, where despite training having occurred in the home environment, parent-child interactions occurred in various play and game contexts (see materials/toy section under the method). In an ideal world, Barbara could have engaged in some of these play interactions with Betty. Barbara was present during the majority of sessions and participated in the initial training sessions. However, due to work commitments, Brian participated in the majority of intervention sessions.

If we refer to Figures 1, 2, and 3, we can see that maintenance was evident in the one-month follow-up. Figures 4 and 5 also display maintenance in child and parent measures. However, indices of happiness during the routine sessions decreased for both Betty and Brian. This suggests that my coaching and support played a role in fostering higher indices of happiness during the intervention phases.

It would have been interesting to analyse to what extent behaviours targeted in face-to-face sessions may have generalised to routine sessions. Brian was ultimately applying differential attention in both settings, where he provided attention to targeted or desired behaviours and withheld attention from undesired behaviours. However, during face-to-face sessions, if Betty began to whine during a game or play activity, Brian generally withheld attention, while during routine sessions, he often seemed to provide attention regardless of

whether Betty whined. We could, therefore, argue that fewer of the taught skills were displayed in my absence, demonstrating evidence of limited generalisation across these contexts.

Limitations

While we collaboratively decided with our participating family to target Betty's routines, integrating the DANCE into these proved to be difficult for several reasons. The DANCE primarily emphasises enhancing the quality of parent-child interactions through parents creating opportunities for their child to attend to and play with them (Ala'i-Rosales et al., 2013). However, Betty's routine objectives were aimed at her completing them in shorter durations and more independently. As explained previously, these routines naturally led to fewer parent-child interactions – straying away from one of the DANCE's primary focus points. Important to note is that most bedtime and morning routines do not involve play, further limiting the number of potential parent-child interactions. Moreover, the interactions that did occur between Betty and Brian during routines were not always positive. Brian reported that he sometimes became irritated when Betty was not completing a task and when he had to resort to prompting her to do so. Therefore, we adapted the DANCE with the aim of fostering Betty's independence and prompt task completion, envisioning more time for positive quality interactions once routines were complete, whether it be reading stories or leaving for preschool.

An additional challenge we faced was not being able to use behaviour shaping during Betty's routine sessions. Being physically present in the family's home whilst Betty completed her bedtime and morning routines was deemed inappropriate. The privacy concerns and ethical considerations related to being involved in these personal aspects of family life limited our ability to provide real-time modelling, coaching, and immediate feedback, all integral aspects of behaviour shaping. Not having provided these aspects of

behaviour shaping likely contributed to the little to no improvement observed in parent emitted vocalisations during bedtime and morning routines. Behaviour shaping is crucial to teaching and modifying behaviours (Cooper et al., 2020), where its process involves providing both immediate reinforcement and feedback to guide an individual towards executing target behaviours.

This lack of behaviour shaping and immediate feedback may have helped to explain the lower mean caregiver fidelity scores in routine sessions (57.3% during bedtime routines and 65% during morning routines). During face-to-face sessions, I was present to shape Brian's behaviour in real-time as he interacted with Betty, likely explaining why the mean caregiver fidelity score in face-to-face sessions was so high (91.5%). During routine sessions, Brian would sometimes give attention to Betty while she was complaining or behaviourally indicating that she did not want to engage in her routine tasks, reinforcing these behaviours. In all routine assessments, Brian provided aversive stimuli (i.e., questions) and reinforced inappropriate or undesired behaviours. These are two caregiver fidelity rubric checks (questions three and seven; see Appendix N) that I attempted to extinguish through delayed feedback. Another check that Brian often did not complete during routine assessments was providing effective verbal instructions for routine tasks. He would sometimes ask what task Betty wanted to do next instead of stating the next task in the routine as initially instructed. Brian also did not always refer to the visual schedules during routines; instead, he would often verbally prompt Betty on her next step rather than pointing to the next task to complete. This portrays evidence of a lack of treatment fidelity by Brian. However, Brian not receiving immediate feedback for his behaviours during routines represents a lack of treatment fidelity on our behalf, as we were not able to correct errors he made. If I had been present during routines, I would have been able to provide immediate feedback on Brian's behaviours, model behaviours directly before he would implement them, and prompt him to make

statements rather than asking questions, deliver effective instructions, and not attend to Betty's inappropriate or undesired behaviours; all in real-time.

Another limitation of this study is that we were not always able to observe Brian's facial expressions during routine sessions as Brian filmed most of these sessions. This is because his face was not always in view, meaning we sometimes relied on indirect indices of happiness, including laughter, an elevated vocal pitch, or statements of praise to evaluate IOH. We could have asked Brian to adjust the camera placement, ensuring that Betty and himself were in view during the entirety of the routine. Additionally, we could have considered implementing self-report measures regarding indices of happiness for both Betty and Brian after each routine to confirm whether the observed IOH aligned with these reports.

Lastly, our target behaviours were more complex than those of previous studies conducting the DANCE, which posed more difficulties when measuring and evaluating them (Cunningham, 2018; Guðmundsdóttir et al., 2019; Ogorman, 2016; Tavera, 2019). These previously conducted studies typically targeted the same child behavioural goals, where, for example, Ogorman (2016) and Guðmundsdóttir et al. (2019) both targeted social attending and requesting in their child participants. Targeting these more complex behaviours in this study meant we did not have a norm sample present to which we could compare Betty's results. Additionally, participants of these previously conducted studies consisted of parents and their toddlers diagnosed with ASD (Cunningham, 2018; Guðmundsdóttir et al., 2019; Ogorman, 2016; Tavera, 2019). Moreover, towards the end of our study, Brian informed us that he had recently been diagnosed with ASD and ADHD. His impairments may have contributed to relatively poorer social interactions, especially in baseline face-to-face sessions, as evidenced by the low levels of harmonious engagement and variable responding of other measures. In any parent-child interactions, both partners may contribute to a lack of harmony. Previous DANCE studies predominately focused on the child's role in disrupting

the harmony in parent-child interactions (Cunningham, 2018; Guðmundsdóttir et al., 2019; Ogorman, 2016; Tavera, 2019), yet Brian could have played a more significant role in this. Whilst seen as a limitation, this may have made the DANCE a very appropriate intervention for this family to enhance their parent-child interactions.

Research Implications

Concerns about treatment fidelity in this study extend to both myself as the researcher and the parents. To enhance treatment fidelity, my fellow Master's student could have scored the coaching fidelity rubric, allowing for a more comprehensive implementation of the DANCE. Following each session, I could then identify any steps I did not cover and prioritise addressing them in the following session. However, this approach was not pursued due to the logistical challenges we faced. During my initial discussions with Brian and while modelling skills for the session, my fellow Master's student was actively engaging with Betty, preventing them from being available to score some fidelity checks. To address this, the inclusion of an additional researcher dedicated to scoring coaching fidelity could have been considered. Furthermore, had it been feasible to be present during Betty's routines, the potential for immediate coaching, real-time feedback, and behaviour shaping may have led to improved fidelity scores. This, in turn, would have allowed me to provide timely prompts and guidance to Brian during Betty's routines, fostering a more effective intervention.

To establish experimental control, we could have targeted an additional child behaviour during face-to-face sessions. If the DANCE was introduced to this additional behaviour from the 19th assessment, and data was collected over multiple assessments, we may have been able to demonstrate one more experimental effect (refer to Figure 2). If that were to occur, we could have demonstrated experimental control within this design, as now we would be demonstrating three experimental effects at three different points in time. Moreover, since we would have been targeting an additional child behaviour, the introduction

of a corresponding parent behaviour would also be inherent, as we teach parents skills through which they subsequently use to address their child's target behaviour. This would further mean that if data were collected over multiple sessions from the 19th assessment, we might have been able to demonstrate an experimental effect and, potentially, experimental control (refer to Figure 1). However, we did not target an additional child behaviour within face-to-face settings as we honoured the parents' priorities, this being also to target Betty's routines.

Important to note is that we were aware that implementing the second phase of DANCE training during routines simultaneously compromised our ability to demonstrate experimental control. This should have been implemented in a staggered fashion, as ideally, an independent variable is introduced to one setting at a time to determine effects, if any, in multiple probe designs. However, this decision was made for the following reasons. We received multiple routine videos per week, making it impossible to implement the new DANCE training phase after the eighth intervention video assessment if the eighth and ninth assessments were received simultaneously. Furthermore, Brian expressed difficulties in both of Betty's routines, meaning it made logical sense to intervene during the morning routine at this time. Additionally, the sticker chart should have been introduced at different times in each routine to evaluate whether its implementation had any effect on Betty's behaviour. However, we decided to implement the sticker chart simultaneously in both routines to promote equal reinforcement for Betty when completing her routines. This aimed to minimise any potential distress that may have come about from receiving stickers after only one routine.

Clinical Implications and Future Directions

Being a relatively novice practitioner may have influenced how well this study was carried out. The DANCE is a PTP that requires a high level of experience and expertise on

behalf of the trainer. It requires knowing how to intervene and to which behaviours, behaviour shaping skills, arranging the environment to occasion specific behaviours, supporting the family throughout the study, and teaching parents the basic principles of ABA, such as reinforcement. Additionally, it requires the fluent ability to implement such principles in a responsive manner to real-time events and high levels of observation skills to identify maladaptive or improving interactions and behaviours. These skills are typically learned through experience, so having a lack of experience proved to be challenging at times and contributed to a lack of treatment fidelity by myself as the researcher.

A direct Zoom link could have been used in the routine sessions so that I could have provided timely feedback and, therefore, more effectively shaped the parents' behaviour. When toileting or getting dressed occurred, the camera and audio settings could be turned off to avoid these personal tasks.

Conclusion

The outcomes of this study contribute to the literature supporting the effects of the DANCE, that this is an effective PTP in supporting families from various cultural backgrounds, now including a family from New Zealand (Ala'i-Rosales et al., 2013; Guðmundsdóttir et al., 2019). Although the DANCE was originally designed for children with ASD, it proved helpful for this family and may be useful to help any family improve their parent-child interactions. We were able to adapt the DANCE to novel situations, overcoming the challenges of remaining focused on enhancing parent-child interactions. The DANCE proved to be more effective during face-to-face sessions, where its interactive nature, alongside immediate behaviour shaping and feedback in situ with parent-child interactions, led to improved child, parent and parent-child outcomes. While we were unable to demonstrate any experimental control, harmonious engagement and indices of happiness

increased throughout the DANCE in both face-to-face and routine assessments, indicating strong social validity in terms of its overall effect.

Within the context of New Zealand, Sunny Starts could provide families with a culturally responsive PTP that adapts to and incorporates both cultural and family values and an individualised approach that caters to their specific, unique needs. It can aid families who do not necessarily have a toddler with an ASD diagnosis but for those who want to improve their parent-child interactions. Additionally, Sunny Starts could provide New Zealand families with one-on-one training, rather than in a group context, and a positive learning environment that values the happiness and enjoyment of both dance partners. Moving forward, continued research of Sunny Starts holds promise for creating lasting and positive impacts on family dynamics and child development in an enjoyable, culturally sensitive manner.

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Appendix A

School of Psychology

THE UNIVERSITY OF WAIKATO
Te Whare Wānanga o Waikato

PARTICIPANT INVITATION

Adapting and Implementing the Sunny Start Dance Programme in New Zealand

Are you the parent or caregiver of a young child (toddler – pre-schooler) who has recently been diagnosed with autism, or a child at risk of autism?
We (Associate Professor Angelika Anderson, Paul Cabigon and Kim Herberg – Masters Students at the University of Waikato) are looking for participants for a project that aims to trial and evaluate the 'Sunny Start DANCE' programme. The aim of this programme is to facilitate parent-led early intervention for young children who have or could have autism.

sunny starts
A Family Coaching Program to Promote Growth and Harmony

We want to:

1. adapt the programme to fit the New Zealand context,
2. test how effective it is,
3. conduct focus groups and follow-up session to find out how helpful and acceptable this programme is for New Zealand families,
4. and revise the curriculum, and conduct additional effectiveness studies of the revised and adapted programme.

Benefits of our study:

- Teach parents/caregivers effective strategies to increase their ability to help their child develop
- Enhance closeness, mutual enjoyment and harmony within families
- Take into account family values, hopes and concerns throughout our project
- Work around family schedules regarding when we will meet and carry out our project

If you think you might be interested in participating, please contact one of the researchers for more information.

Associate Professor Angelika Anderson
School of Psychology, Waikato University
Phone: 07 838 4466 ext 9209
Email: angelika@waikato.ac.nz

Paul Cabigon
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Kim Herberg
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*This research project has been approved by the Human Research Ethics Committee [*HREC (Health) 2022#55*] of the University of Waikato. Any questions about the ethical conduct of this research may be sent to the chair of the committee (humanethics@waikato.ac.nz).*

Appendix B

School of Psychology

THE UNIVERSITY OF WAIKATO
Te Whare Wānanga o Waikato

CONSENT FORM

Please retain a copy of this form for your personal records.

Research Project: Adapting and Implementing the Sunny Start Dance Programme in New Zealand

Name of Participant: _____

I have received a copy of the information sheet describing the research project and have been given sufficient time to read it. Any questions that I have relating to the research have been answered to my satisfaction. I understand that I can ask further questions about the research at any time during my participation and that I can withdraw my participation at any time (up to two weeks) after completion of data collection.
I understand that I can ask to have the observations stopped at any time.
When I sign this consent form, I will retain ownership of the collected data, but I give consent for the researcher to use the data for the purposes of the research outlined in the information sheet. I understand that my identity will remain confidential in the presentation of the research findings.

Please complete the following checklist. Tick (✓) the appropriate box for each point	**Yes**	**No**
1. I have read the participant information sheet (or it has been read to me) and I understand it.		
2. I have been given sufficient time to consider whether or not to participate in this study.		
3. I am satisfied with the answers I have been given regarding the study and I have a copy of this consent form and information sheet.		
4. I understand that taking part in this study is voluntary (my choice) and that I and my child may withdraw from the study at any time without penalty.		
5. I have the right to decline to participate in any part of the research activity.		
6. I know who to contact if I have any questions about the study in general.		
7. I understand that the information supplied by me could be used in future academic publications.		
8. I agree to take part in talks with the research team, including answering questions to help fill in questionnaires.		
9. I agree to take part in Sunny Start Dance coaching sessions.		
10. I consent to researchers observing me and my child during after coaching sessions.		
11. I consent to researchers observing interactions between me and my child during after coaching sessions.		
12. I consent to researchers observing my child's interactions with other family members.		
13. I consent for my child to participate in a preference assessment and a criterion referenced assessment to find out what my child likes and needs to learn.		
14. I understand that my and my child's participation in this study is confidential and that no material which could identify me personally will be used in any reports on this study.		
15. I wish to receive a copy of the findings		
16. I consent to researchers collecting video samples of interactions between me and my child		
17. I consent to researchers collecting audio recordings of our initial meeting/conversations		

Participant: _____ Researcher: _____
Signature: _____ Signature: _____
Date: _____ Date: _____
Contact details: _____ Contact details: _____

Appendix C

School of Psychology

THE UNIVERSITY OF WAIKATO
Te Whare Wānanga o Waikato

PARTICIPANT INFORMATION SHEET

Associate Professor Angelika Anderson
Faculty of Social Science
Waikato University
Phone: 07 838 4466 ext 9209
Email: angelika@waikato.ac.nz

Dr Amarie Carnett
School of Education
University of Wellington
Email: amarie.carnett@vuw.ac.nz

You are invited to participate in a research project conducted by Associate Professor Angelika Anderson from the School of Psychology at the University of Waikato and Dr Amarie Carnett from Victoria University of Wellington. Please read this information sheet in full before deciding if you will agree to participate. If you would like further information about the project, please contact either Angelika or Amarie via the contact details above.

What are the aims of the research?
This project aims to test a new way to facilitate parent-lead early intervention for young children "at-risk" for autism and other developmental disabilities We aim to:

1. adapt and implement the Sunny Start DANCE, programme for young children diagnosed with or identified as
   "at-risk" for autism and other developmental disabilities to fit the New Zealand context,
2. test how effective it is,
3. conduct focus groups and follow-up session to find out how helpful and acceptable this programme is for New Zealand families,
4. revise the curriculum, and conduct additional effectiveness studies of the revised and adapted programme.

The Sunny Start DANCE, programme
Sunny Starts is a family coaching programme for families with newly diagnosed children with autism and other developmental disabilities. It is short-term, flexible, collaborative, and evidence based. Sunny Starts has proved effective at supporting parents from various cultural backgrounds in learning naturalistic behavioural techniques to help their child learn skills that are important to their family, that help their child's continued development, and that also enhance the child-family relationships. There are many versions of the programme as it is designed to be adapted to the needs of individual families, and as it continues to be refined through various research projects, but they all include the DANCE. 'DANCE' stands for **D**ecide, **A**rrange, Now, **C**ount, and **E**njoy, which briefly describe the five parts that make up the programme. Parents learn to:

- **Decide** on a good teaching moment for their child.
- **Arrange** the environment to maximise learning opportunities
- respond effectively to their child's efforts **Now**, for example with enthusiasm and playfulness.
- **Count** occurrences of targeted responses at home, and
- **Enjoy each episode,** making sure everyone is happy and comfortable.

Who will the participants be?
Participants will be families with a young child who has recently been diagnosed with autism spectrum disorder (ASD), or who is at risk of ASD.

What will the participants have to do?
You will be invited to an information session to explain the project and research consent. At least one family member has to agree to participate, and the legal guardian has to consent for the child to participate. Families who agree to participate will then:

- participate in collaborative discussions with researchers to get to know each other, identify intervention targets that are important to the family, and discuss any cultural preferences to take into account and inform the programme. During these visits the researchers will complete a few indirect assessments to help inform the intervention components for individual and family needs (e.g., Vinelands, Sunny Starts Parent Questionnaire). Altogether this could take 2 – 3 hours and may be spread over several visits.

- engage in weekly coaching sessions on how to implement the DANCE procedure in the context of their child's goal. During the first training sessions the coach (researcher) describes the programme, models the steps, and provides opportunities for parents to practise. At the end of each session the parents and the coach review the session and agree on a weekly goal. This part of the training may take 2 – 3 sessions of 1 hour each, though the time this takes may vary for individuals.
- Following this initial training coaches maintain weekly contact with parents as required or requested by parents.
- Your child will only engage with the researcher directly in a preference assessment (about 30 minutes) and in the criterion referenced assessment procedure. For these assessments the researcher will mostly be observing the child play and interact with you and any other people who happen to be in their natural environment (i.e., siblings). This will take place at the same time as the early rapport building and consultation meetings.
- During the parent coaching and ongoing intervention sessions the child will be observed at times to count the number of social interactions and assess the occurrence of targeted skills. Targeted skills will be individualised but are likely to be skills such as shared attention, turn-taking, and communication. It is expected that total participation would be 10-12 weeks.

What are the expected benefits to the participants?
We hope that you will benefit directly by learning new ways to engage and play with your child that will help them learn skills that are important to you. We can also send you a summary of the results and a copy of any published journal articles if you wish.

Right to withdraw
Participation in this project is voluntary and you are under no obligation to give consent to participate. All participants have the right to withdraw from the project at any time, for any reason, and with no consequence. This includes the destruction of data, upon request, up to 2 weeks after participation in the project is complete.

Confidentiality
Although your name will be known to the researchers, participation in this project will remain confidential and no identifying information will be disclosed to anyone outside of the study. Codes and pseudonyms will be used for all participants to ensure no data can be traced back to any participants. None of the participants will be identifiable in the presentation of any results.

What happens now?
If you are happy to participate in this project, please complete the consent form and return it to one of us. If you have any questions regarding the project, please contact one of us on the details at the top of this form.

This research project has been approved by the Human Research Ethics Committee (Health) of the University of Waikato. Any questions about the ethical conduct of this research may be sent to the chair of the committee (humanethics@waikato.ac.nz).

Appendix D

THE UNIVERSITY OF WAIKATO
Te Whare Wānanga o Waikato

Social Skills Intervention for Children with Interaction/Communication Difficulties

Early childhood is the most important time for children's development. Children develop their social, emotional, and cognitive skills through the interactions they have with their parents. Difficulties in socialising with others can significantly impact children's development and may be early indicators of developmental disorders such as **autism spectrum disorder** (ASD).

We are trialling an intervention programme helping parents develop their children's communication and social skills through play.

The Intervention

- Sessions will be conducted in the participants' home
- Participants will be taught strategies to help their child develop skills that are important to them
- Families / whanau will help decide which skills are important
- 20 sessions in total

Who is this for?

We are looking for families / whanau who are concerned about their **toddler's** or **preschooler's** communication or social development, and who would like some help.

What the intervention provides

- Parent skills training
- Some child assessments
- Additional resources and support

If you're interested in participating, please contact one of the researchers for more information. We would love to have you participate in our project!

Associate Professor Angelika Anderson
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Paul Cabigon: Paulcabigon1@gmail.com

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*This research project has been approved by the Human Research Ethics Committee [*HREC (Health) 2022#55*] of the University of Waikato. Any questions about the ethical conduct of this research may be sent to the chair of the committee (humanethics@waikato.ac.nz).* INCLUDEPICTURE "https://lh3.googleusercontent.com/erB9fr_5_jHjLrfs4asCejwXka78wvZrJnVG_D6e8RmtH_tTJZUUDxcxNsloYbymRAk7qn2laadJjC36wWFuOMua9g45blpc04GXnRic9XYW5RNCGrMWPvWtbfDu2szsS41L53SZon-T" * MERGEFORMATINET

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Appendix E

A Family Coaching Program to Promote Growth and Harmony

Updated Monday, April 3, 2023

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Nicole Zeug

Session One:
Orientation and Family Relationship Development

Preface

To watch us dance is to hear our hearts speak.
~Hopi Proverb~

In 1999 Betty Hart and Todd Risley, two researchers from the University of Kansas, compared the beautiful and complex social interactions of parents and toddlers to a finely choreographed dance. One that is typically graceful and enjoyable. From the basic steps to complex interchanges, the dance partners lead and follow, listen and speak, entice and prolong. The social dance is one of shared joy. Embracing this description, the teaching strategy, DANCE, was created.

The teaching DANCE is a strategy that applies methods of behavior science in a developmentally suitable way to support families and toddlers. Families learn to draw on their toddler's interests to increase social communication "dialogues" and build a variety of new play skills. In doing so, they discover more complex and beautiful ways to dance together, strengthening and enhancing their family-child relationship.

Overview

Sunny Starts Mission

The primary mission of Sunny Starts is to enhance closeness, mutual enjoyment, and harmony within families. The secondary mission is to partner with families to support accelerated development within their natural family environment, in areas that are important to the family.

Families

A child's family is the most influential, durable, and valuable resource in their life. Families are experts about their child and about their family life. Supporting families in learning effective teaching strategies increases the family's ability to help their child develop and increases overall family happiness and satisfaction. This is the job of a family coach.

Quality Family Coaching

Quality family coaching programs are family-centered. This means that families play an active role in the identification and establishment of what they feel is important to teach their child. Families learn to understand both developmental, functional and cuspal considerations. Families and coaches work together to pick the best goals for their child – the ones that are most likely to produce the most gains and happiness over time. What families learn should improve the quality of life for the family. Open-ended discussion of assessments and goals provide new insights that enhance existing ideas and knowledge of child rearing. Family coaches are responsive to the needs of individual families. The overall aim of family coaching is a collaborative, interactive learning process that helps everyone succeed.

Progress Monitoring

Data collection to monitor progress towards selected goals helps maintain a collaborative and interactive learning process for everyone. Data collection allows the family and the coach to make informed decisions throughout the coaching process. To monitor progress, video assessments are collected at the beginning of each Sunny Starts session. To monitor generalization, ecological video assessments are also collected periodically. We review the assessment videos together and record and graph occurrences of each family's selected goals. These videos also make a nice visual documentary keepsake for families to remember this part of their journey together.

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Service Sequence

Session 1: Orientation & Family Relationship Development

- Ecological Assessments

- **Session 2-4: Child Assessments & Relationship Development**
- Training Assessment

- **Session 5: Goal Setting & Overview of the DANCE**

- **Session 6-18: DANCE Coaching**
  (overview, rationale and model, practice, feedback & discussion, self reflection)

Sessions 19 & 20 Transition Plan & Exit Interview

1 20

Sessions

Purpose

Part of the success of the intervention depends on understanding your values, hopes, and concerns. The following is a series of questions meant to help with that process. Please feel free to add information or to direct the conversation in the ways that makes you most comfortable.

Overview

We will discuss family life and values, family supports and challenges, and child strengths and needs. Each section will begin with a broader question to give you space to share as much information as you feel is necessary. Each broad question is tailed by follow up questions to help you elaborate when necessary.

The coaching team will audio record the conversation. This will allow the coach to review the audio recording and make sure they hear the important information you provide. Because of your participation in this study, the information will be deidentified and will be kept confidential. Only members of the research team will hear the recordings and they will be destroyed after they have been transcribed and deidentified.

The pace of the conversation will be set by your family. In general, this initial conversation lasts about 30 minutes to an hour. Many of the topics, however, we will return to throughout the course of the Sunny Starts program.

It is an honor and a privilege to be part of your family's journey. We hope that all our conversations are in the spirit of care, tenderness, and respect for your family's wellbeing.

Family Life and Values

Primary Question	• Please tell us about your family. • What do you love best about your family?
Follow Up	• What is most important to you and your family? • What is a typical daily routine for your family? • Can you tell us what a typical family gathering looks like? • Could you describe what usually happens during family outings? • What kind of activities does your family enjoy doing together? • Can you tell us what each person in your family enjoys most? • Can you tell us things that each person in your family dislikes? • Can you describe what happiness looks like in your family? • Can you describe what frustration looks like in your family? • What do you see in your future?

Notes:

Family Supports and Challenges

Primary Question	• Please tell us about your family's support system. • What do you love best about your family support?
Follow Up	• What are your family's strengths? • What are some areas where your family can improve? • What are your expectations for each person in your family? • What is each family member's role with childcare? • Can you describe a challenging routine for your family? • What are you most concerned about as a family? • Can you describe how your family helps with difficult situations? • What do your family members do for you on a typical day? • What advice have you received about how to help your child? • What are your reasons for seeking support?

Notes:

Child Strengths and Needs

Primary Question	• Please tell us about your child. • What do you love best about your child?
Follow Up	• Tell us about your child's relationship with everyone in the family. • What does a typical day look like for your child? • What are your child's strengths? • What are things your child does that makes you smile? • How do you communicate with your child? • How does your child communicate with others? • What does your child do when they are playing? • What kinds of things makes your child happy? • What kinds of things make your child upset? • What activities do you enjoy most with your child? • What activities do you enjoy least with your child?

Notes:

Session Two to Four:
Child Assessments and Relationship Development

sunny starts

Child Relationship Development and Skills Assessment

Purpose

In addition to understanding your values, hopes, and concerns, another component to the success of the intervention is us building and maintaining a relationship with your child to ensure their comfort with the intervention process. This will allow the family coach to further evaluate your child's current skill set to guide the goal setting discussion and to identify additional child preferences and dislikes.

Overview

During each relationship building and assessment session the coach will play with your child for approximately 30-45 minutes. You are always welcome to observe these sessions, or you may take the time to take care of other responsibilities. During these sessions the coach will be observing how your child communicates their likes and dislikes, how your child initiates interactions, how they engage with leisure and play activities they enjoy, and to what extent they will follow the coaches lead during play activities. Respect and care for your family's wellbeing is a priority during these sessions and throughout the program. Please let the intervention team know if there are any activities that are off limits for your child or if you would like us to shift away from a particular activity.

After the relationship development and assessment process, the family coach will prepare a short report to review with you during the goal setting discussion. The following table is a summary of the goal areas for the child assessment.

We look forward to playing with and getting to know your child!

Overarching Goal						
To increase responsiveness, enjoyment, and benefit from the social environment; to learn from others; and to develop loving family relationships over the course of a lifetime.						
Master Goal	**Communication**		**Social**		**Activity**	
	The child communicates their own likes, dislikes, interest, and responds to the communication of others		The child enjoys communicating and sharing activities with others and develops attachments to a widening circle of people		The child enjoys playing with a wide range of activities alone and with others	
Component Skills	Approaches caregivers to request items/ activities	Looks at desired items and to make choices	Socially attends to caregiver to get access to things	Stays within proximity of caregivers	Can play with toys on their own	Shares/allows caregiver to play with preferred items
	Socially attends to caregiver to get access to attention/people	Gestures to request items/activities	Socially attends to caregiver to get access to attention/people	Socially attends to caregiver to share experience.	Samples new items/activities	Engages in parallel play with caregiver
	Makes vocal sounds to request items/activities	Makes words + approximations to request items/activities	Follows caregiver lead during activities	Takes turns leading and following activities	Plays with toys in different ways	Imitates caregiver's actions and movements
	Requests to terminate activities/ remove items	Responds to the requests of caregivers	Entices and prolongs interactions through social attending	Engages in preferred activities with caregivers	Samples new activities with others	Engages in cooperative play with caregiver

Adapted from Kodaka (2009); Ala'i-Rosales (2023); North Texas Autism Project Lab (2016)

Session Five:
Goal Setting and Overview of the DANCE

Goal Setting

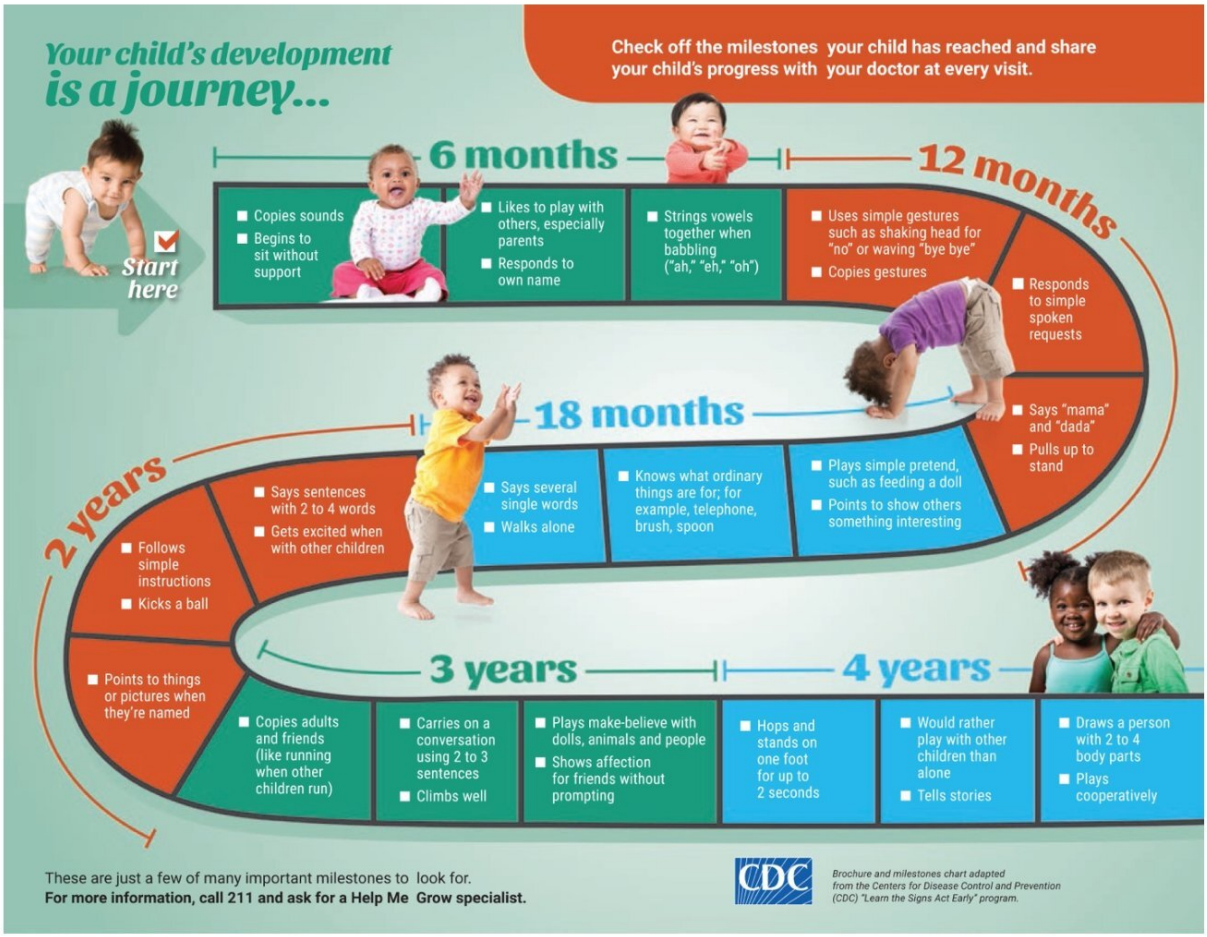
Setting goals allows for communicating and defining progress towards success. This is done by envisioning the bigger picture and then breaking it down into smaller components. Goals are set by considering five areas:

1. Family and Child Assessment
2. Developmental Milestones achieved
3. "The Big Four" quality of life and preventative skills
4. Likely "Behavioral Cusps"
5. Baseline assessments of working goals

The next part of this handbook provides an introduction and considers information from these areas.

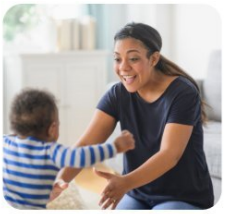
Developmental Milestones

Developmental milestones are markers that tell us where children are at different ages and stages of life. They help set our expectations and provide a system to assess progress. Since children grow at different rates it is important for families to view milestones as guides. How children achieve these milestones can be greatly influenced by enriched interactions.



Considering "The Big Four"

Ala'i-Rosales, et al (2019). The Big Four: Functional Assessment Research Informs Preventative Behavior Analysis. Behavior Analysis in Practice



1. Communicating

Safely, effectively, and respectfully communicating wants, needs, likes, and dislikes in ways that are understood by others and do not result in harm to self or other

Examples: Leading, pointing, talking

2. Initiating

Safely, effectively, and pleasantly initiating and gaining the attention and affection of others in ways that are understood by others and do not offend or hurt others

Examples: Social attending, gesturing, talking

3. Engaging

Joyfully engaging in activities alone and with others in ways that increase in number, duration, and complexity and do not cause harm to self or others

Examples: Playing with toys, imitating

4. Adapting

Safely, effectively, and diplomatically, coping with, tolerating, and accommodating adversity in situations that are in the child's best interests over the long term

Examples: Turn taking, pausing, waiting, changing

Behavioral Cusps

Rosales-Ruiz & Baer (1996) Behavioral cusps: a developmental and pragmatic concept for behavior analysis. Journal of Applied Behavior Analysis

Behavioral cusps are environment-behavior changes that set the occasion for greater changes to occur beyond the initial change itself. The concept of a cusp encourages us to consider the far-reaching implications of behavior change. Behavior change involves what we do and how we arrange the environment to support our goals and dreams.

Our goal is to coach families in the ways that help create far reaching changes in themselves, in their children, their environments.

Cusps are the expanded life opportunities. This can happen through skill development, relationship enhancement, and improved teaching conditions.

Our Tentative Goals

Family

The DANCE

Child

1)

2)

3)

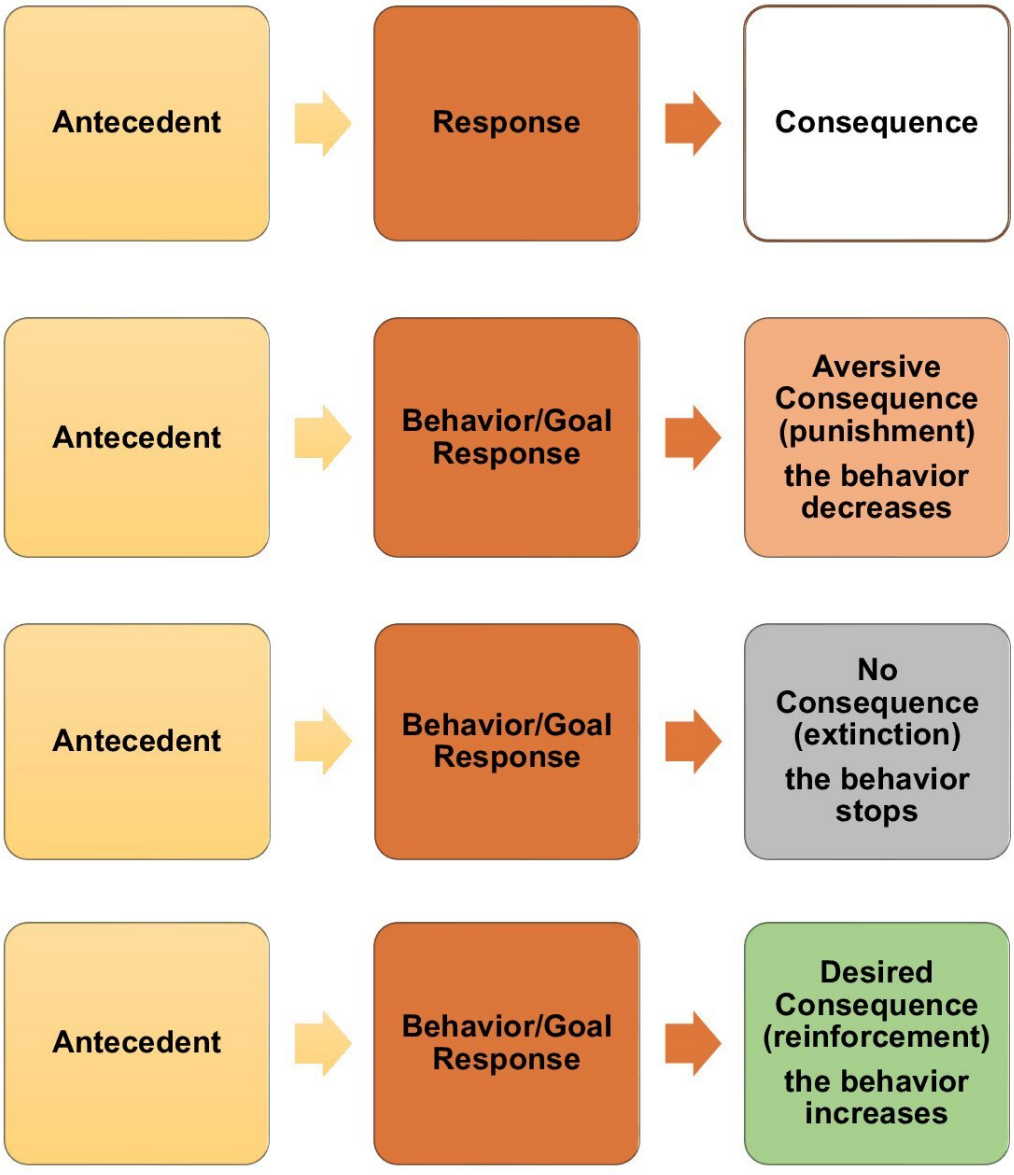
Family and Child

Harmony

The DANCE

The DANCE is both a metaphor and an acronym. The metaphor helps us understand the bigger picture of creating and maintaining enjoyable interactions. The acronym helps us remember the critical features that support and enhance enjoyable interactions. These features are based on the three-term contingency. The next part of this handbook will describe these critical features.

The Three-Term Contingency



DANCE coaching helps teach strategies for increasing behavior

Our DANCE

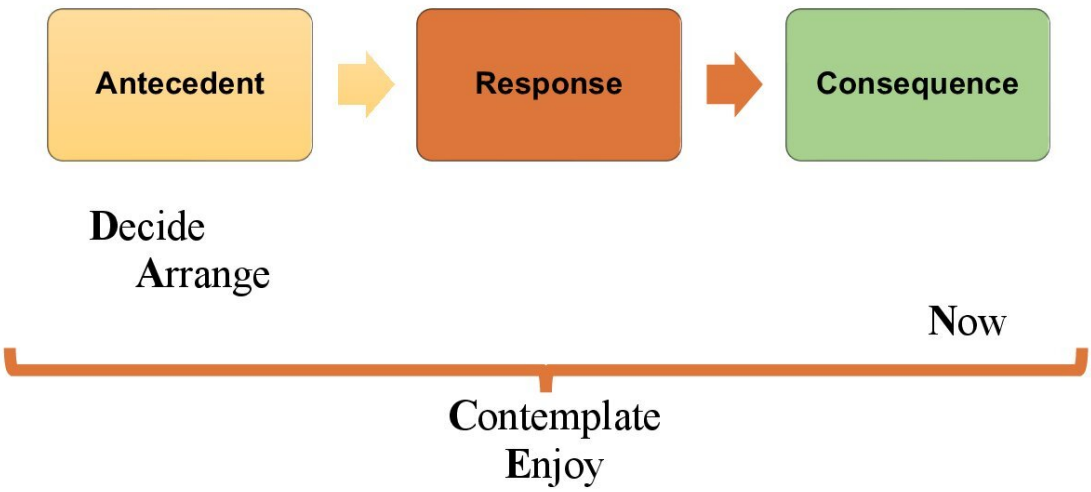
Decide if you should teach.

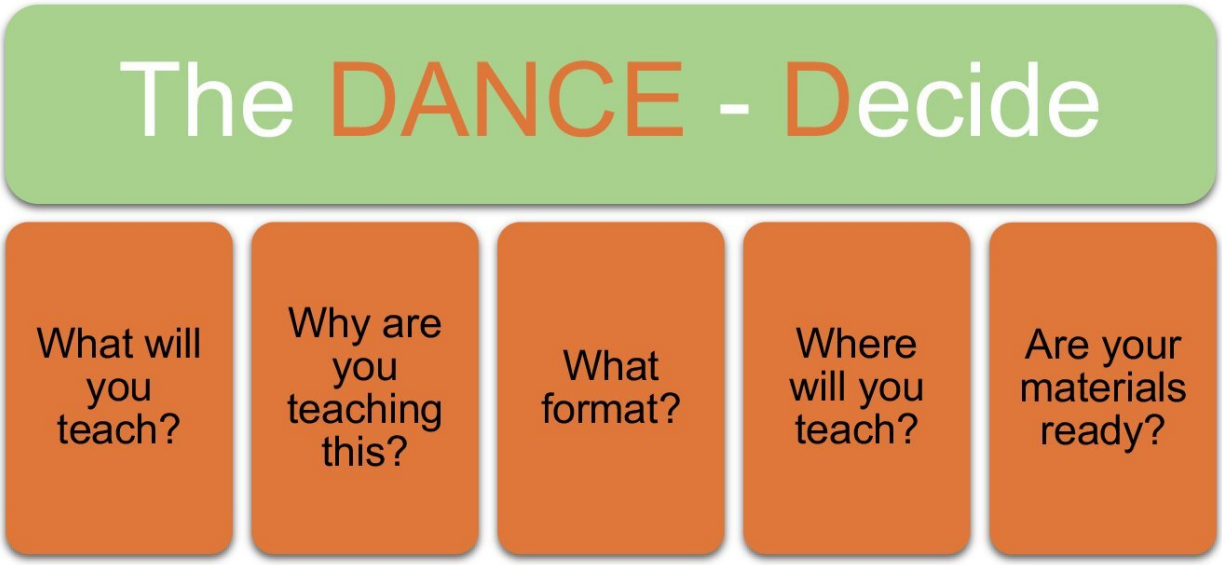
Arrange the environment.

Now is the time to reinforce.

Contemplate what is happening.

Enjoy your interactions!





sunny starts

Observe your child in a variety of settings

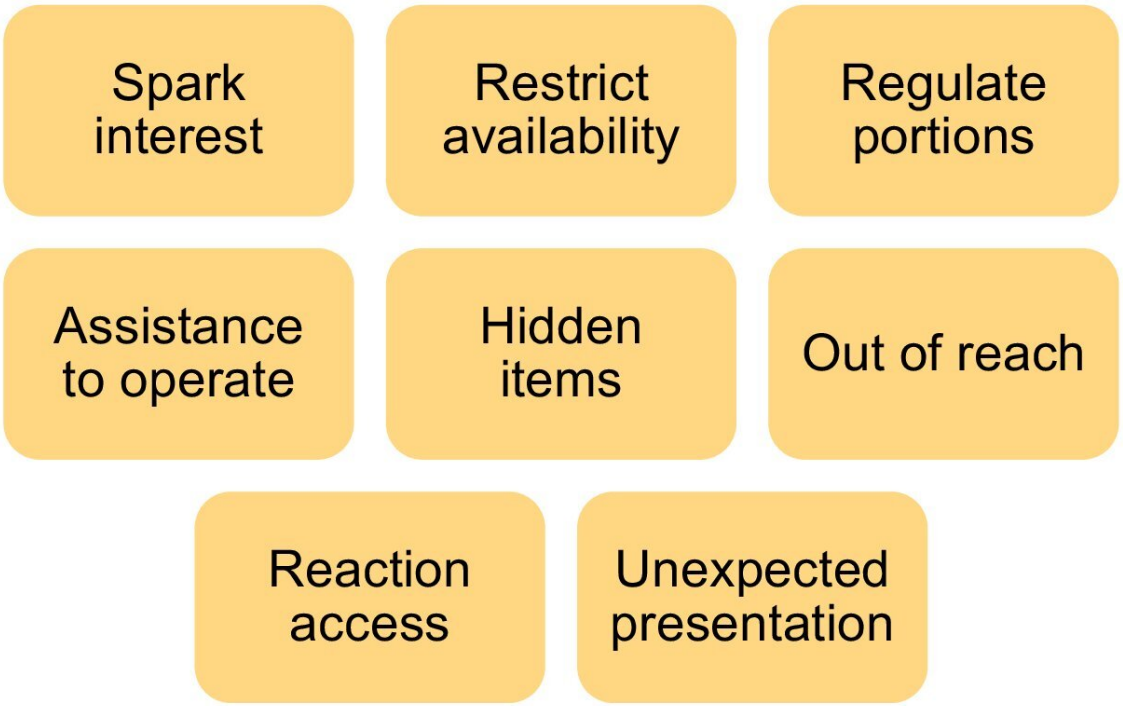
What do they approach, how do they initiate and how long do they show interest?

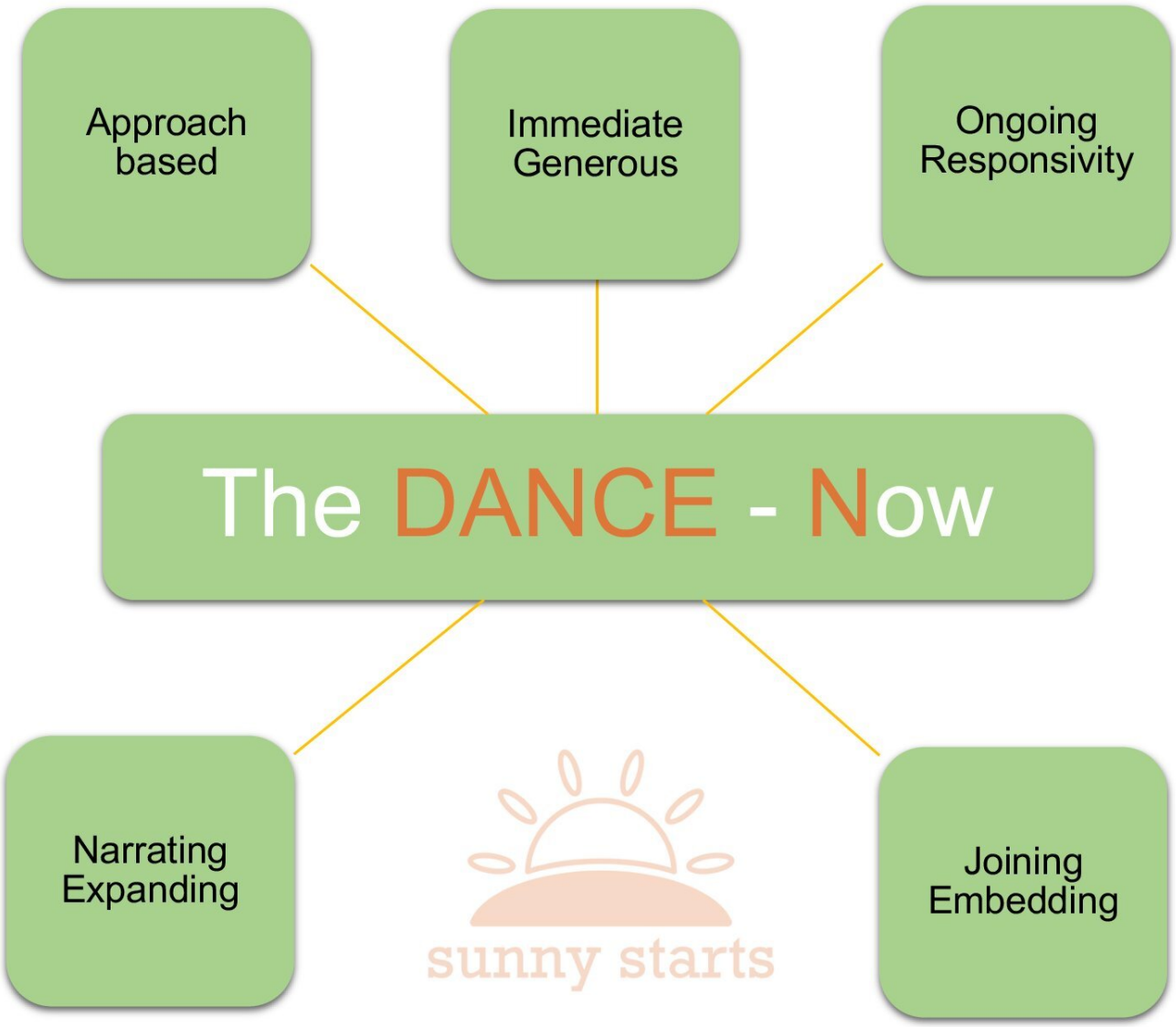
The DANCE - Arrange

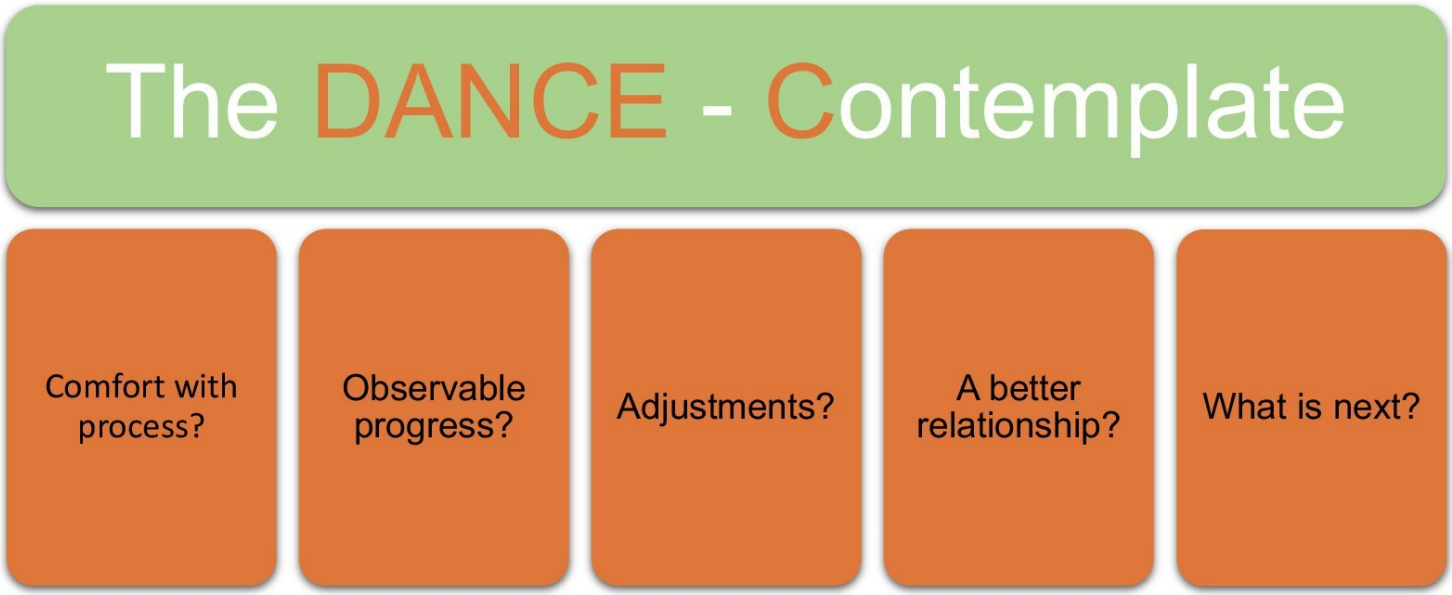
Ask others who know and care about your child what they think

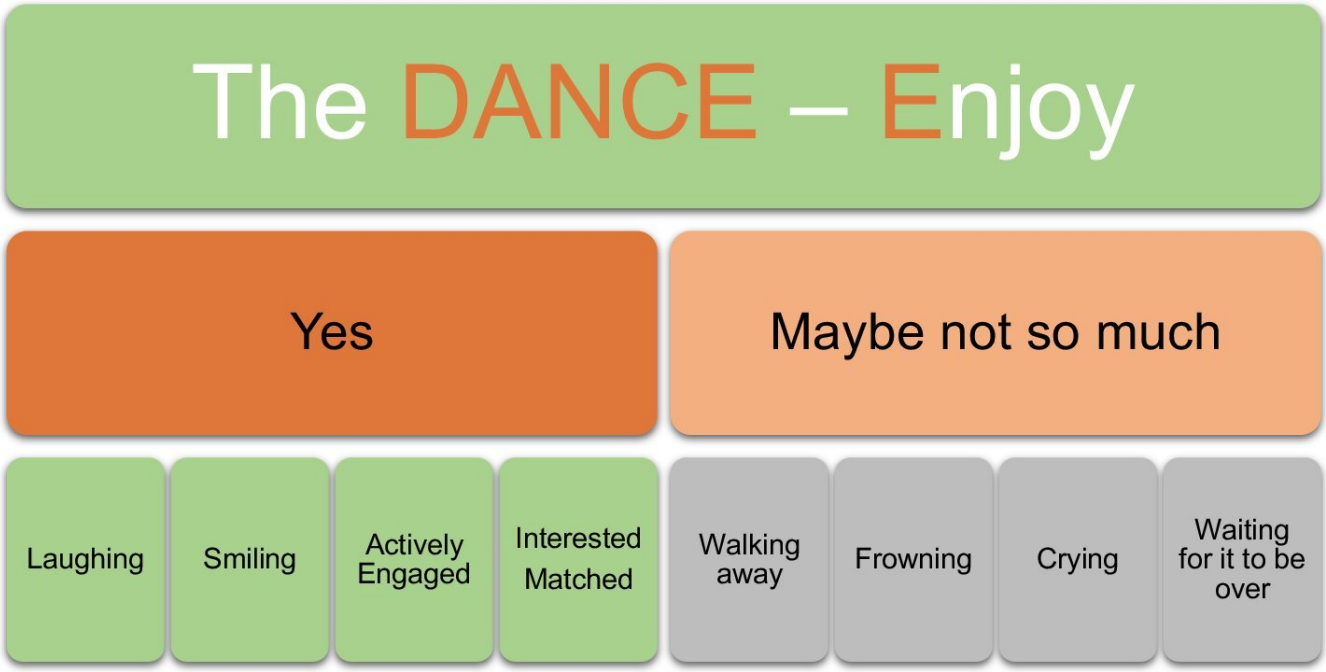
How will you arrange and regulate the environment (toys, materials) and your responses (timing, availability, expressions) to optimize progress?

Methods to Regulate Access




Approach based
Immediate Generous
Ongoing Responsivity
The DANCE - Now
Narrating Expanding
Joining Embedding
sunny starts





Indicators of Success

Smiles

High approach

High engagement

High rates of interaction

High rates of responding

Increases in response complexity

We move on to new goals

We are happy together

DANCE Practice

Decide

When will you teach?
What will you teach?
Do you know what your child likes at this moment?

Arrange

Have you arranged everyone's environment for success?
Are materials organized and ready?

NOW!

Are you responsive?
Are you generous?
Are you fast?
Are you together?

Contemplate

Are you both comfortable with the process?
Is there observable progress?
Do you have a relationship?
Should you continue or adjust?

Enjoy

Is there harmony?
Is your child happy?
Do you feel happy?

Home Helper

Family _____

Date _____

Session Data

Family Goals
Teaching Interactions
Increased Harmony
Decreased Discordance
Child Goal (s)

Session Notes

DANCE Component
Decide
Arrange
Now
Contemplate
Enjoy

For next week:

Session 19 and 20:
Transition Plan

Purpose

At this point it is time to celebrate the progress and success that we have all achieved and to begin planning for the next steps on your journey. The purpose of the last two sessions of Sunny Starts is to reflect and prepare for your next experience. To guide the celebration, reflection, and planning, the family coach will have a transition plan prepared to discuss with you.

Agenda

Session 19

- Summarize goals and progress.
- Summarize strategies and approaches that support progress.
- Discuss possible opportunities, concerns, and hopes for the coming year.
- Discuss possible resources, supports, and connections.
- Complete exit interview.
- Schedule two-month follow-up.

Session 20

- Follow-up
- Discuss meetings with next service providers.

Exit Interview

Purpose

To continue fulfilling our mission and helping more families enhance their family's growth and harmony, it is important for us to unpack your family's journey throughout the program. The purpose of this interview is for us to understand what your family found helpful and what suggestions you might have for us to improve our coaching program. The following are questions about your experience with the family coaching program.

Overview

We will be discussing your experience and impressions throughout the program. Like the family assessment, the interview will begin with a broader question to give you space to share as much information as you feel is necessary. The broad question is then tailed by follow-up questions to help you elaborate when necessary.

The coaching team will audio record the conversation. Like the family assessment, the information will be deidentified and will be kept confidential. Only members of the research team will hear the recordings and they will be destroyed after they have been transcribed and deidentified.

Please feel free to add information or to direct the conversation in the ways that makes you most comfortable. The pace of the conversation will be set by your family. In general, this interview lasts about 30 minutes to an hour.

Thank you for sharing your experience and helping us improve the program!

Experience and Impressions

Primary Question	• Please tell us about your family's experience and impressions throughout the family coaching program.
Follow-Up	• What did you learn from the program? • What did your child learn? • How did the program effect your relationship with your child? • How did the program effect your family relationships? • How did the program effect your family's daily routine? • How did the program meet your needs as a family? • How did the program effect your family's future? • How was the process of scheduling sessions? • How was the overall length of the program? • How were the length of the sessions? • How was the scheduling process for coaching sessions? • How did the binder materials help you? • How did the techniques learned benefit the family? • How were your interactions with the intervention team? • What did you like most about the program? • What did you like least about the program? • Would you recommend this program to other families?

Notes:

“Life's a dance you learn as you go

Sometimes you lead, sometimes you follow

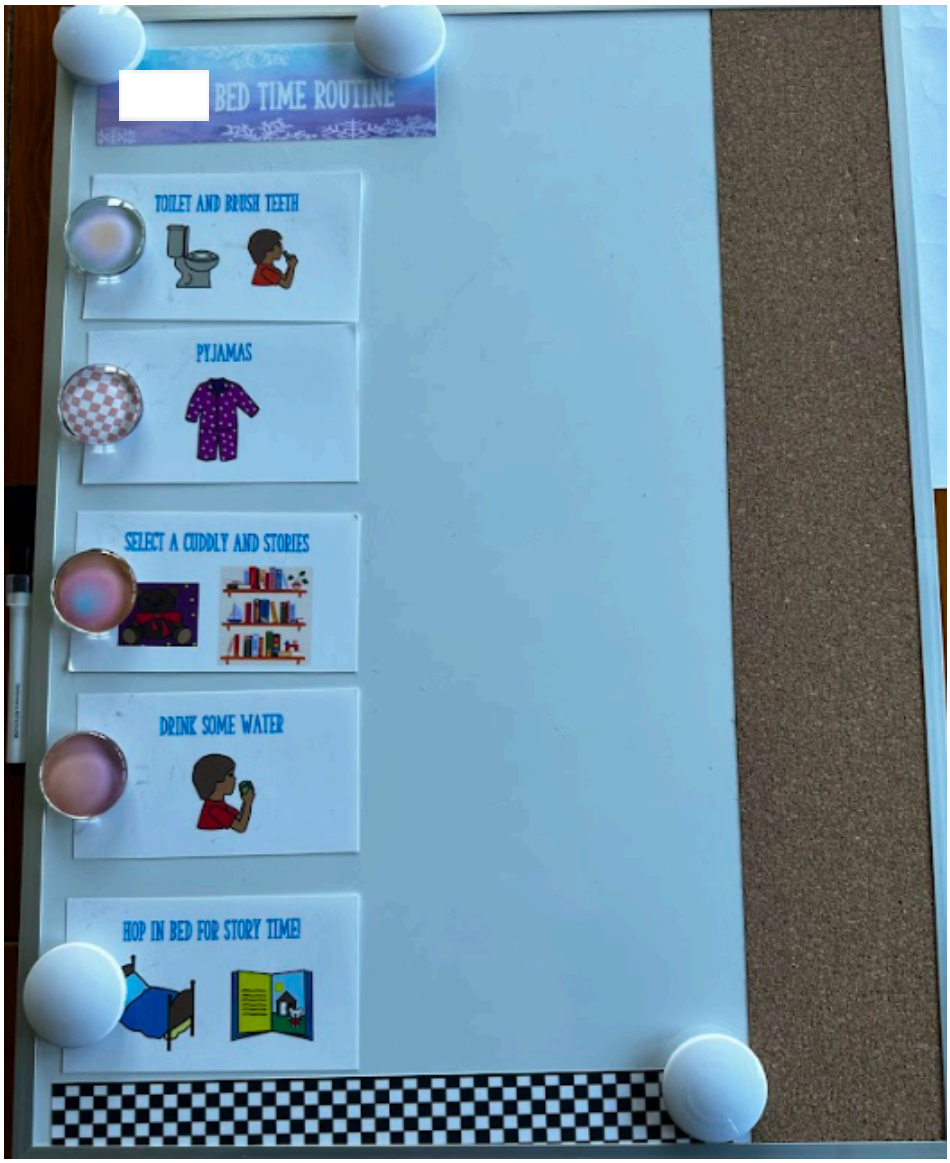
Don't worry about what you don't know

Life's a dance you learn as you go”

John Michael Montgomery - Life's A Dance

Appendix F

Visual Schedule Bed Time Routine



Appendix G

Visual Schedule Morning Routine

Appendix H

Sticker Chart! :)

If you get 5 out of 5 stickers in one week, you get a surprise toy!

Bed Time Routine :)

Completed in under ___ mins						Surprise Toy!
___ mins						
___ mins						
___ mins						
___ mins						
___ mins						
___ mins						
___ mins						
___ mins						

Morning Routine :)

Completed in under ___ mins						Surprise Toy!
___ mins						
___ mins						
___ mins						
___ mins						
___ mins						
___ mins						
___ mins						
___ mins						

Appendix I

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Te Whare Wānanga o Waikato

Data Collection Forms

Face-to-face Sessions

Session:	**Harmonious Engagement (HE)** 5 s partial interval recording of 5-min video Place + if behaviour observed, - if behaviour not observed						**BF** (frequency)	**ARA** (frequency)	**ACTB** (frequency)	**OBF** (frequency)
Date:	5	10	15	20	25	30				
	35	40	45	50	55	60				
	5	10	15	20	25	30				
Activity:										
	35	40	45	50	55	60				
	5	10	15	20	25	30				
Notes:	35	40	45	50	55	60				
	5	10	15	20	25	30				
	35	40	45	50	55	60				
	5	10	15	20	25	30				
	35	40	45	50	55	60				
	Total: %:						Total: Frequency/Min: %:	Total: Frequency/Min:	Total: Frequency/Min: %:	Total: Frequency/Min:

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Routine Sessions

Session:	**RD** (Minutes)	**LR** (Seconds)	**PEV** 5s momentary time-sampling of 5-min video Place + if behaviour observed, - if behaviour not observed					
Date:			5	10	15	20	25	30
			35	40	45	50	55	60
			5	10	15	20	25	30
Activity:		Instruction Given:	35	40	45	50	55	60
			5	10	15	20	25	30
Notes:		Task Engaged in:	35	40	45	50	55	60
			5	10	15	20	25	30
			35	40	45	50	55	60
			5	10	15	20	25	30
			35	40	45	50	55	60
	Total:	Total:	Total: %:					

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Face-to-face and Routine Sessions

Indices of Happiness (IOH) 5 s partial interval recording of 5-min video Place + if behaviours observed, - if behaviours not observed						**Indices of Happiness (IOH)** 5 s partial interval recording of 5-min video Place + if behaviours observed, - if behaviours not observed					
Session: Participant: child Date: Activity: Notes:						Session: Participant: parent Date: Activity: Notes:					
5	10	15	20	25	30	5	10	15	20	25	30
35	40	45	50	55	60	35	40	45	50	55	60
5	10	15	20	25	30	5	10	15	20	25	30
35	40	45	50	55	60	35	40	45	50	55	60
5	10	15	20	25	30	5	10	15	20	25	30
35	40	45	50	55	60	35	40	45	50	55	60
5	10	15	20	25	30	5	10	15	20	25	30
35	40	45	50	55	60	35	40	45	50	55	60
5	10	15	20	25	30	5	10	15	20	25	30
35	40	45	50	55	60	35	40	45	50	55	60
5	10	15	20	25	30	5	10	15	20	25	30
35	40	45	50	55	60	35	40	45	50	55	60
Total: %:						Total: %:					

Appendix J

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Te Whare Wānanga o Waikato

TREATMENT ACCEPTABILITY RATING FORM – REVISED (TARF-R)

Please complete the items listed below. The items should be completed by placing a checkmark on the line under the question that best indicates how you feel about the psychologist's treatment recommendations.

1. How clear is your understanding of this treatment?

   _____ _____ _____ _____ _____ _____ _____

   Not at all clear — Neutral — Very clear

2. How acceptable did you find the treatment to be regarding your concerns about your child?

   _____ _____ _____ _____ _____ _____ _____

   Not at all — Neutral — Very acceptable acceptable

3. How willing were you to carry out this treatment?

   _____ _____ _____ _____ _____ _____ _____

   Not at all willing — Neutral — Very willing

4. Given your child's behavioural problems, how reasonable do you find the treatment to be?

   _____ _____ _____ _____ _____ _____ _____

   Not at all — Neutral — Very reasonable reasonable

5. How costly was it to carry out this treatment?

   _____ _____ _____ _____ _____ _____ _____

   Not at all costly — Neutral — Very costly

6. To what extent do you think there were disadvantages in following this treatment?

   _____ _____ _____ _____ _____ _____ _____

   None are likely — Neutral — Many are likely

7. How likely is this treatment to make permanent improvements in your child's behaviour?

   _____ _____ _____ _____ _____ _____ _____

   Unlikely — Neutral — Very likely

8. How much time was needed each day for you to carry out this treatment?

   _____ _____ _____ _____ _____ _____ _____

   Little time was needed — Neutral — Much time was needed

9. How confident are you that the treatment was effective?

   _____ _____ _____ _____ _____ _____ _____

   Not at all confident — Neutral — Very confident

10. Compared to other children with behavioural difficulties, how serious are your child's problems?

    _____ _____ _____ _____ _____ _____ _____

    Not at all serious — Neutral — Very serious

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11. How disruptive was it be to the family (in general) to carry out this treatment?

Not at all disruptive			Neutral			Very disruptive

12. How effective was this treatment likely for your child?

Not at all effective			Neutral			Very effective

13. How affordable was this treatment for your family?

Not at all affordable			Neutral			Very affordable

14. How much do you like the procedures used in the proposed treatment?

Do not like them at all			Neutral			Like them very much

15. How willing will other family members be to help carry out this treatment?

Not at all willing			Neutral			Very willing

16. To what extent are undesirable side-effects likely to result from this treatment?

No side-effects are likely			Neutral			Many side-effects are likely

17. How much discomfort was your child likely to experience during the course of this treatment?

No discomfort at all			Neutral			Very much discomfort

18. How severe are your child's behaviour difficulties?

Not at all severe			Neutral			Very severe

19. How willing would you be to change your family routine to carry out this treatment?

Not at all willing			Neutral			Very willing

20. How well did carrying out this treatment fit into the family routine?

Not at all			Neutral			Very well

Appendix K

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Te Whare Wānanga o Waikato

DANCE - Coaching Fidelity Rubric

Client:	Rater: Primary Reli
Date:	Coach:
Caregiver:	Session Number:

Instructions: Rate the coach according to the steps as "+", "-", or N/A. For Baseline, only rate the *Preparation* and *During Session* phases. All other are N/A

Topic	Topic Skills	+/-
Preparation	1. Coach ensures room is set up for the session (e.g., preferred items environmentally arranged in boxes, up on shelves, etc.)	
	2. Coach confirms with the parent the nominated target skill	
Teach	3. Coach vocally reviews session materials with caregiver	
	4. Coach answers any questions caregiver has regarding the materials	
Model	5. Coach models target skill	
	6. Coach uses caregiver-appropriate language that corresponds to the handout to describe what they are modeling	
	7. Coach models skills with 100% fidelity	
	8. Coach explains the components of the goal and its effects of the skill on the child	
	9. If applicable, coach describe example and non-examples of the skill and appropriate/non-appropriate times to target the skill (e.g. settings to implement the skill, situations where not to implement)	
	10. Coach answers any questions caregiver has regarding the materials	
Pre-Session Coaching	11. Coach provides feedback during role-play	
	12. Questions by the caregiver for clarification are answered by Coach	
	13. Coach asks caregiver if they are ready to implement	
	14. Coach prompts caregiver at their current level of prompting as identified by previous session data	
	15, Descriptive feedback is given to caregiver for modifications to implementation procedures when procedure is not implemented with fidelity	
	16. Behavior specific praise is used to encourage appropriate delivery of instructional methods	
During Session	17. Coach starts the video recording, states the session number, date, participant initials, and provides the caregiver with the SD "show us how you play with your child" or something similar	
	18. Coach allows the caregiver to play and teach their child for a 5 minute session	
Review	19. Coach gives a verbal overview of each step of the implementation procedure	
	20. Coach asks if the Caregiver has any questions	
	21. Questions by the caregiver for clarification are answered by Coach	
TOTAL out of 21		

Appendix L

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Te Whare Wānanga o Waikato

DANCE - Caregiver Fidelity Rubric (Face-to-face Sessions)

Client:	Rater:
Date:	Circle one: Primary Reliability Check
Caregiver:	Session Number:

Instructions: Complete the entire rubric. If a skill is observed, code a "+", if the skill is not observed, code a"-", and if the skill is not applicable, code "NA". After scoring is completed, add up the total number of items and convert to a percentage. Final scores will be recorded on the last page of this document.

Note: All of these tasks are scored using the 5 minute video assessments

Topic	Topic Skills	
	DECIDE	
	1. Caregiver identifies targeted child skill for session	
	2. Caregiver identifies the materials (e.g., toys) they will use in the session	
	3. Caregiver identifies teaching strategy for the session (e.g., incidental teaching, mand training, etc.)	
	4. Caregiver determines if it is an appropriate time to teach (e.g., ensuring the conditions are good enough for teaching so the child is likely to be successful)	
	ARRANGE	
	5. Caregiver clears the environment of clutter and all unnecessary items are removed	
	6. Caregiver prepares materials and ensures they are accessible for the teaching session	
	7. Caregiver provides a variety of stimuli including novel items and items that the child has seemed to prefer in the past	
	8. Caregiver has control of child's access to items in the environment, child's access to the items are conditional on parent providing access	
	NOW	
	9. No aversive stimuli are presented(e.g., demands, questions, work activities, etc.)	
	10. Caregiver presents at least 1 teaching opportunity to their child	
	11. The environment is manipulated to contrive specific MO's relevant to the current target goal using at least one of the following strategies: - Placing the item out of reach - Providing limited access - Interrupt a routine or activity - Removal of item or sabotage - Enticement with preferred items	
	12. Caregiver reinforces child target behaviour immediately after it is exhibited (FR1 schedule). This includes reinforcing approximations of the target behaviour to reinforcing the exact behaviour	
	13. If necessary, caregiver provides an appropriate time delay (e.g., 3 s) before implementing prompting (least to most prompting is used)	
	14. No inappropriate or undesirable behaviours are reinforced	
	CONTEMPLATE	
	15. Caregiver reviews video recorded session from previous session	
	16. Caregiver identifies at least one expected behaviour which they performed well	
	17. If applicable, caregiver identifies one behaviour for improvement	
	18. If applicable, caregiver initiates practice of the behaviour for improvement with the coach	
	ENJOY	
	No expected caregiver behaviour for evaluation because indices of happiness for both the child and caregiver are tracked throughout the course of the intervention, and measured at both at the beginning and end of the intervention. (If there are any obvious signs of distress, we will terminate the session)	N/A
TOTAL out of 18: Notes:		

Appendix M

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Te Whare Wānanga o Waikato

DANCE - Caregiver Fidelity Rubric (Routine Sessions)

Client:	Rater:
Date:	Circle one: Primary Reliability Check
Caregiver:	Session Number:

Instructions: Complete the entire rubric. If a skill is observed, code a "+", if the skill is not observed, code a"-", and if the skill is not applicable, code "NA". After scoring is completed, add up the total number of items and convert to a percentage. Final scores will be recorded on the last page of this document.

Note: All of these tasks are scored using the 5 minute video assessments

Topic	Topic Skills	
ARRANGE		
	1. Caregiver prepares the visual schedule and ensures this is accessible for the teaching session	

NOW		
	2. Caregiver provides effective verbal instruction for each routine task	
	3. No aversive stimuli are presented (e.g., questions)	
	4. Caregiver presents at least 1 teaching opportunity to their child	
	5. Caregiver reinforces child target behaviour immediately after it is exhibited (FR1 schedule), provided the child engages in the target behaviour within 10 s of being given a verbal instruction to do so. This includes reinforcing approximations of the target behaviour to reinforcing the exact behaviour	
	6. If necessary, the caregiver provides an appropriate time delay (e.g., 3 s) before implementing prompting	
	7. No inappropriate or undesirable behaviours are reinforced	
	8. Caregiver provides non-contingent attention on a time schedule of every 15-20 seconds (applicable from the session it was implemented)	
	9. Caregiver includes the visual schedule and prompts to tasks when necessary	
TOTAL out of 9:		

Notes:

Appendix N

List of Instructions Given and Task Engaged

Bed Time Routine

5 Minute Video Assessments	Instruction Given	Task Engaged In
BL1	We need toilet and brush teeth	Toilet
BL2	Now we probably want to choose some stories	Choosing stories
BL 3	You can go choose some stories	Choosing stories
CS1	Okay we are doing pyjamas	Putting on pyjamas
CS2	Pyjama time	Putting on pyjamas
CS3	Alright let's go get pyjamas	Putting on pyjamas
CS4	We need to go toilet and brush our teeth don't we?	Brushing teeth
CS5	Alright let's hop in bed	Gets into bed
CS6	We need to choose our stories	Choosing stories
CS7	It's toilet time now	Toilet
CS8	Now we need to choose stories don't we?	Choosing stories
CS9	Alright dry your hands then we can brush our teeth	Brushing teeth
CS10	Now we need to get onto the stool and wash our hands	Wash hands
CS11	Alright let's hop in bed	Gets into bed
CS 12	I kind of need you to hop out of the bed so we can put our pyjamas on, can you do that?	Get undressed
CS13	Now it's toilet and brush teeth let's go	Teeth Brushing
CS14	Toilet and brush teeth, great let's go	Toilet
CS15	Now we need to do pyjamas	Get undressed
CS16	Your next job is a cuddly and some stories	Choosing a cuddly
CS17	We can hop into bed for some stories	Gets into bed
CS18	First up we are going to do pyjamas	Get undressed
CS19	Now we are going to select a cuddly and story	Choosing story
CS20	Hop in bed for story time	Gets into bed

Morning Routine

5 Minute Video Assessments	Instruction Given	Task Engaged In
BL1	It's time to go toilet, brush teeth and get dressed	Toilet
BL2	We need to go to the bedroom and get dressed	Getting dressed
BL3	Do you want shoes?	Shoes on
BL4	Then we are going to need the bathroom to go toilet and brush teeth	Toilet
BL5	Toilet and brush teeth	Toilet
CS1	Shoes on, shoes on time	Shoes on
CS2	Now we need to go toilet and brush teeth don't we?	Toilet
CS3	Shoes, ah yes you are right	Shoes on
CS4	We need to do toilet and brush teeth	Toilet
CS5	We need to get dressed so we need to take our pyjamas off	Pyjamas off
CS6	Okay, let's go toilet and brush teeth then	Teeth brushing
CS7	Let's go get some shoes	Shoes on
CS8	Next one is get dressed	Get undressed
CS9	Now we are going to go get shoes	Shoes on
CS10	Let's go toilet and brush teeth	Toilet
CS11	Next up is get dressed	Get undressed
CS12	Then we need to go toilet and brush teeth	Brush teeth
CS13	Time to put shoes on	Shoes on
CS14	Let's go toilet	Toilet

Appendix O

Initial Interview Responses

Family Life and Values

Q: What are the best things about your family?
A: Enjoy playing board games and movie nights.

Q: What are some favourite family activities you do together?
A: Betty has phases of favourite activities to do. Used to go to the zoo monthly. Also used to play a lot in the playground nearby. Recently went to Auckland to see Disney on Ice. Loves Frozen and Disney movies and loves to dress up as a princess. Loves dinosaurs.

Q: What types of activities do you usually do?
A: We do activities every weekend. Go to the park, take Betty to go see grandad and aunty. Looks forward to seeing extended family members. No cousins of the same age that she can play with. Has 1 cousin that is quite older (31).
Note: Have a very young cousin who lives in Brisbane which Betty hasn't met yet.

Q: What does your daily routine look like?
A: Getting ready for preschool. Eat with family once home from school. Reads story book. Naptime. On weekends, mum takes Betty to help with shopping.

Q: After daycare, what does she usually do?
A: Attends to multiple activities at once. Playing with toys while watching cartoons.

Family Supports and Challenges

Q: What do you like best about your family support?
A: Grandad and Aunt enjoy having Betty visit. Every few months, Barbara's parents visit us.

Q: What type of relationships does Betty have with the extended family?
A: Betty tends to play around grandparents and aunt. She does not interact too much but keeps in close proximity to them. Likes to play with grandparent's things.

Q: Does Betty socialize with others much?
A: Betty tends to not engage too much with most people with the exception of her two close friends at preschool. She parallel plays with others but does not engage too much in reciprocal play.

Child Strengths and Needs

Q: What do you love most about Betty?
A: She's very genuine, affectionate, likes to cuddle, is very helpful, and likes to do the same stuff that parents are doing.

Q: What activities does Betty enjoy doing?
A: Likes books, reading, drawing, cuddly toys, and watching TV.

Q: What are her dislikes?

A: Does not like loud noises and bright lights. Does not tolerate change in activities/transition very well. Transition from an enjoyable activity to a non-enjoyable activity.

Q: What are some things that make Betty really happy?
A: Obsessed with surprises. May expect us to constantly have surprises ready for her. Loves novel items.

Q: Family's biggest concern at the moment.
A: Getting ready to go to school and getting ready to get to bed. Engaging in tasks that she does not want to engage in. Needs to have reinforcement for doing activities that she does not want to do (e.g., first needs to choose a cuddly toy to bring to preschool, only then will she get ready to go to school). Routines can become very complex very quickly as Betty increases the demand to accomplish tasks. Routines become longer and longer.

Notes:

- Betty attends preschool Monday to Friday from 08:30 – 5:00. Been attending since 10 months old.
- Betty enjoys going to daycare. Has two best friends there.
- Betty likes routines. Has the same morning routine to get ready for school. May not tolerate a big change in routine too much.
- Can take a while for her to feel comfortable with other people.
- Parents set up a timer to get Betty to transition to a different activity.
- Recently potty trained but may still have accidents.
- Family needs help with routines as Betty likes to place increasing demands on parents to engage in everyday tasks.

Appendix P

Parent Report

Sunny Starts is a parent training programme aimed to enhance the harmony between parent and child and working towards aiding a child's development in areas important to both the child and parent.

During our initial discussions, the main points that arose were that Betty tends to:

1. Exhibit rigidity during play and interactions with her peers,
2. Prolong morning and bed time routines and
3. Requires prompting during these routines

As a result of our discussions, we decided on three child goals:

1. Increase appropriate recruitment of attention,
2. Increase behavioural flexibility and
3. Shorten the time it takes from when Betty is given an instruction to complete a task within her routines, to the time she begins engaging in this task

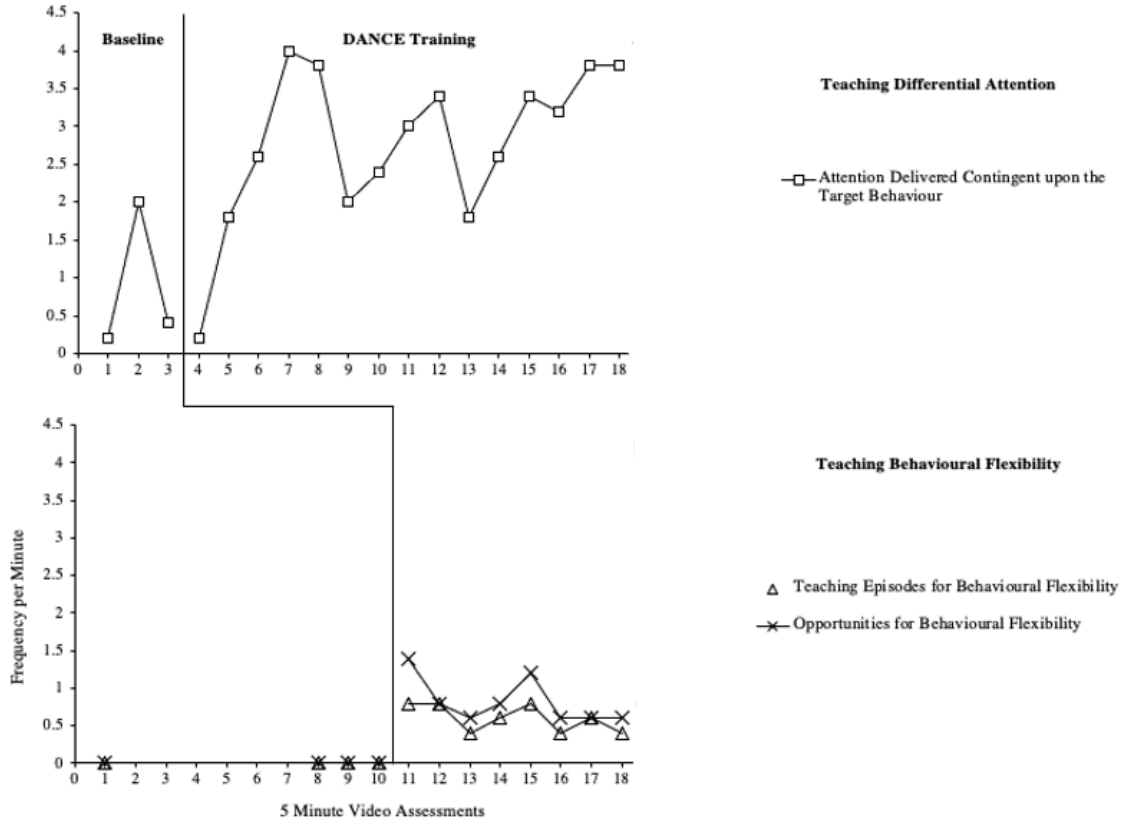
The purpose of these goals (in respective order), was to

1. Increase Betty's ability to recruit another's attention in an appropriate manner, which could generalise to preschool, where Betty may use such skills to ask to join in on play or to sit next to her friends.
2. Increase Betty's ability to accept and adapt to unexpected changes. Such changes could include Betty not being able to sit next to her friend at preschool or performing less rigidity when playing with her peers.
3. To reduce the routine duration as a whole, particularly important regarding morning routines so Betty can be dropped off at preschool, and you can begin work on time. (Additionally, we targeted routines to reduce Betty relying on parent vocalisations/ prompts through the use of a visual schedule).

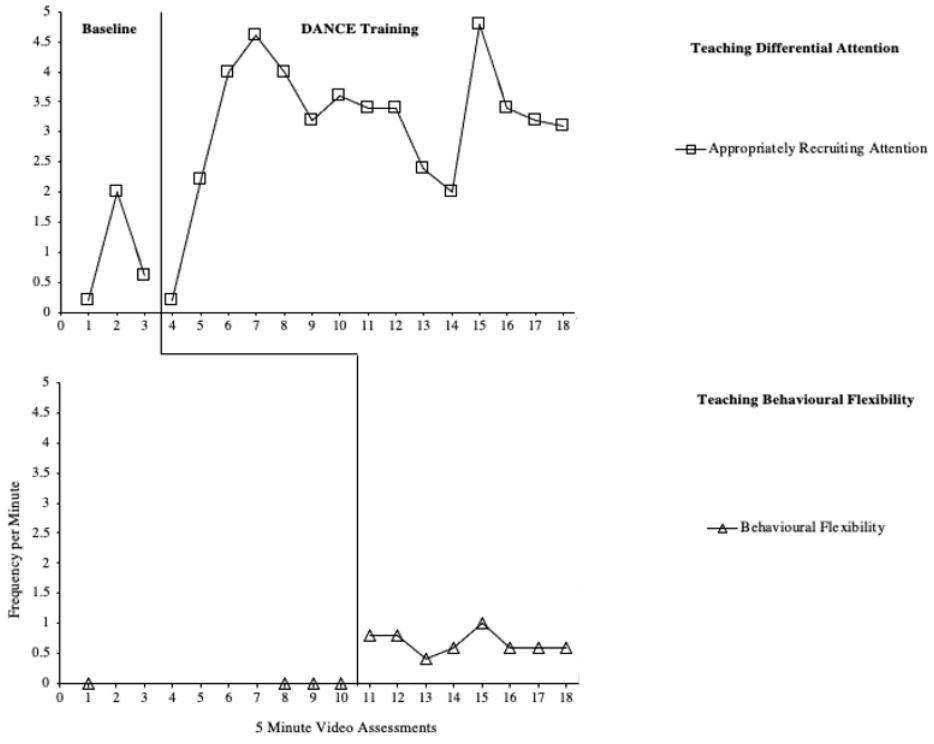
Graphs for face-to-face and routine sessions portray the different variables we measured

Face-to-face Sessions

Parent Delivery of Attention Contingent upon the Child's Target Behaviour and Teaching Episodes and Opportunities for Behavioural Flexibility across 5 Minute Video Assessments



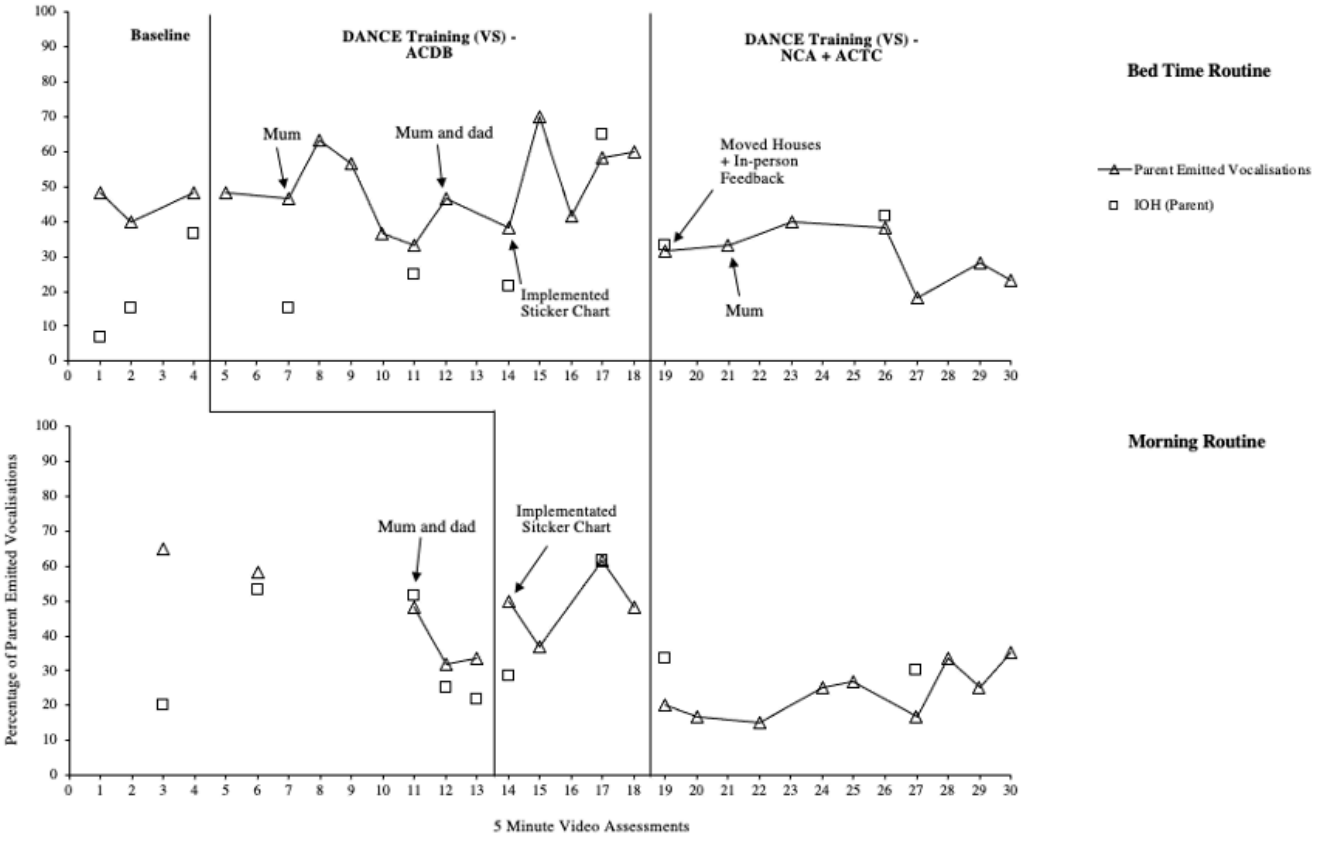
Child Appropriate Recruitment of Attention and Behavioural Flexibility across 5 Minute Video Assessments



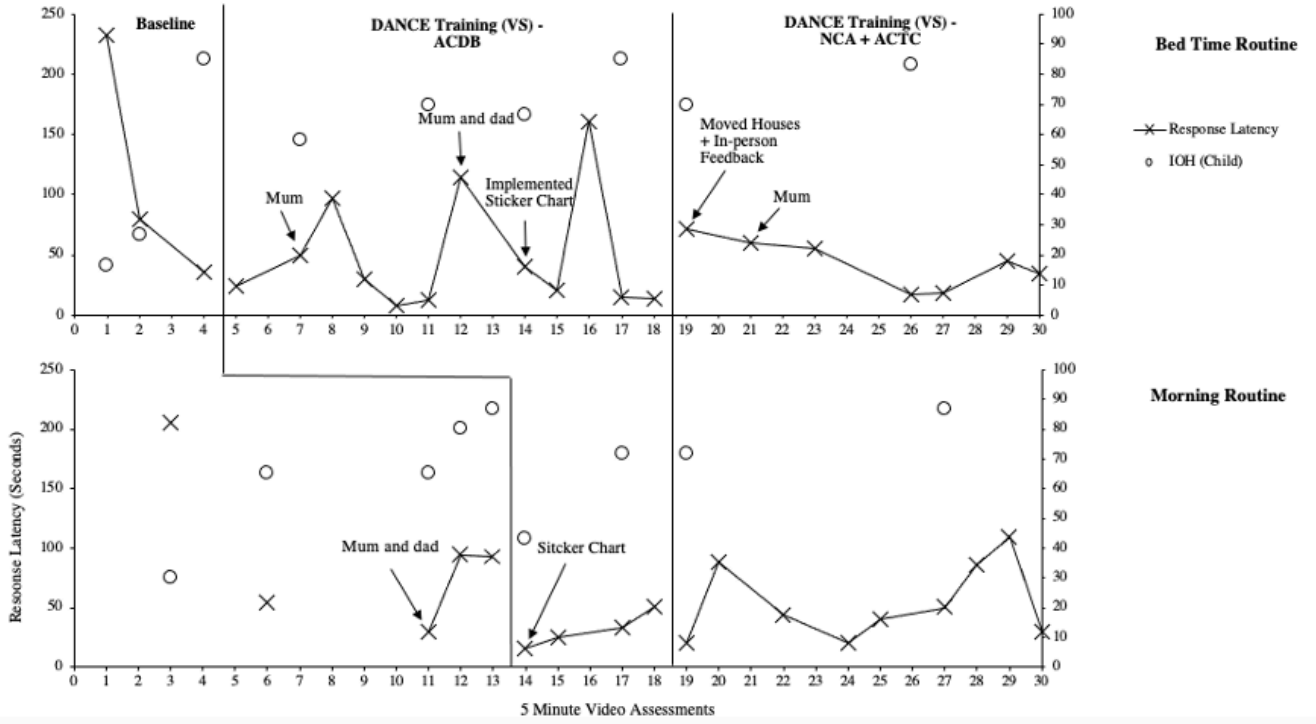
Harmonious Engagement and Indices of Happiness

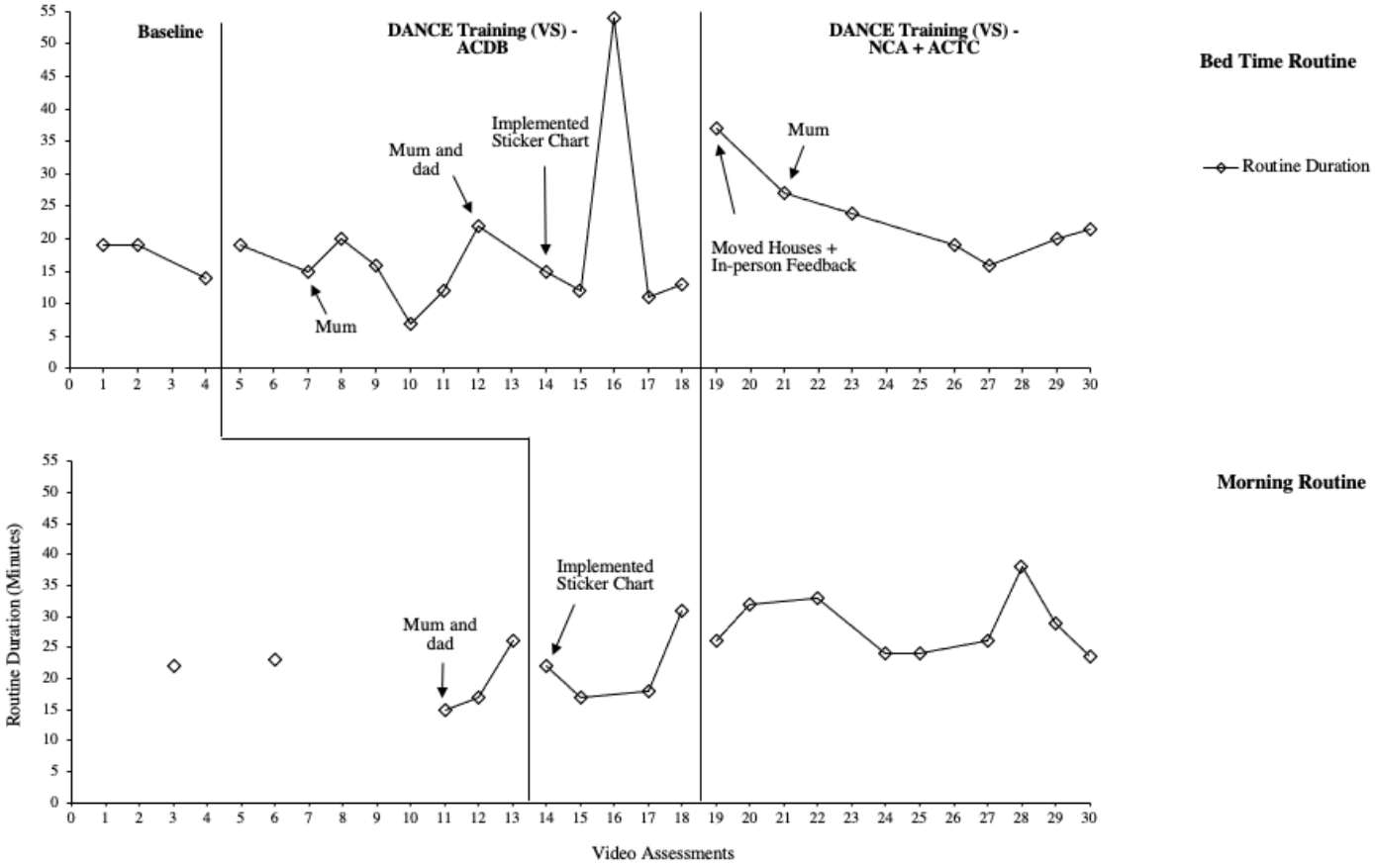
Routine Sessions

Percentage of Parent Emitted Vocalisations and Indices of Happiness across 5 Minute Video Assessments



Child Response Latency and Indices of Happiness across 5 Minute Video Assessments




Baseline
DANCE Training (VS) - ACDB
DANCE Training (VS) - NCA + ACTC
Mum and dad
Implemented Sticker Chart
Mum
Mum
Moved Houses + In-person Feedback
Bed Time Routine
Routine Duration
Morning Routine
Implemented Sticker Chart
Mum and dad
Routine Duration (Minutes)
Video Assessments

Future Directions

Following this parent training programme, here are a few things I would recommend:

1. Refer to reliable online resources such as https://raisingchildren.net.au/
   - This site is full of information to help parents through their journey of being a parent!
   - Helpful tabs on this site that could be helpful regarding Betty include sleep, play and learning

2. Continue to apply the skills you have learned through this parent training programme
   - Providing reinforcement and attention once Betty has completed a task in her routines, or after she completes a desired behaviour outside of her routines
   - Providing non-contingent attention while Betty is completing her routines (to also help promote independence), but 'lean the schedule': that is, gradually reduce the rate at which you provide this to promote independence.
   - Promote independence during Betty's routines such as prompting her to put tooth paste on by herself and to choose her own clothes. And then of course reinforce this! Again, gradually fade your prompts (do less and less of this) and reinforce completion rather than engagement except for the initiation of tasks following your request.
   - Provide clear instructions for Betty's routines, and avoid questions

Appendix Q

Exit Interview Answers

Q: What did you learn from the program?
A: The core of it is attention and reinforcement. Providing positive reinforcement for every good thing that gets done, or all the behaviours you want to increase. Doing it immediately. Non-contingent attention was a totally new thing for me, and it's worked well, and it is a good tool to have.

Q: What did your child learn?
A: I have seen her becoming more independent in her routines. They may not be going necessarily a whole lot faster but she is doing things much more herself. The recruiting of attention was very successful, and the behavioural flexibility, probably less so, sometimes yes and sometimes no.

Q: How did the program effect your relationship with your child?
A: I think it has improved the relationship. Even getting some improvement with the routines has lowered my stress levels which has improved how I interact with her. I wasn't very good at making time for play sessions with Betty, so having the schedule of you coming in twice a week where we could sit down and play was good. I think we play more in general now.

Q: How did the program effect your family's daily routine?
A: It's made the mornings and evenings smoother, even if not necessarily faster. It's been good to have more structure in getting Betty ready in the morning and going to bed.

Q: How did the program effect your family's future?
A: With the morning and bed time routines, these are examples of transitions - needing to move from one task to another. That was a concern that we and Betty's preschool had for Betty's school readiness, which is part of the reason we did not start her at school on her birthday, we were going to push her out till next year. So as she is starting to seem more prepared and organised for school, its positive for her future.

Q: How was the process of scheduling sessions?
A: Once we had settled on certain days and times, that was really good.

Q: How was the overall length of the program?
A: We would have it gladly done more, but it was good and we really appreciate it.

Q: How did the techniques learned benefit the family?
A: Reinforcement is quite generalisable to anything else we needed to teach Betty/ she needs help with.

Q: How were your interactions with the intervention team?
A: They were great. Really accommodating, helpful and very understanding when I failed to get you videos on time.

Q: What did you like most about the program?
A: The positivity, it's all positive reinforcement.

Q: What did you like least about the program?
A: The thing I found the most difficult was in the play sessions, where I had to improvise and engage in imaginative play as this doesn't come very natural. It also was quite stressful on the days we did a face-to-face session and I filmed Betty's routines. This was quite a lot to manage all at once.

Q: Would you recommend this program to other families?
A: Yes, absolutely

Appendix R

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TREATMENT ACCEPTABILITY RATING FORM – REVISED (TARF-R) (POST-INTERVENTION)

Please complete the items listed below. The items should be completed by placing a checkmark on the line under the question that best indicates how you feel about the psychologist's treatment recommendations.

1. How clear is your understanding of this treatment?

   Not at all clear ____ ____ ____ Neutral ____ ____ ____ Very clear

2. How acceptable did you find the treatment to be regarding your concerns about your child?

   Not at all ____ ____ ____ Neutral ____ ____ ____ Very acceptable acceptable

3. How willing were you to carry out this treatment?

   Not at all willing ____ ____ ____ Neutral ____ ____ ____ Very willing

4. Given your child's behavioural problems, how reasonable do you find the treatment to be?

   Not at all ____ ____ ____ Neutral ____ ____ ____ Very reasonable reasonable

5. How costly was it to carry out this treatment?

   Not at all costly ____ ____ ____ Neutral ____ ____ ____ Very costly

6. To what extent do you think there were disadvantages in following this treatment?

   None are likely ____ ____ ____ Neutral ____ ____ ____ Many are likely

7. How likely is this treatment to make permanent improvements in your child's behaviour?

   Unlikely ____ ____ ____ Neutral ____ ____ ____ Very likely

8. How much time was needed each day for you to carry out this treatment?

   Little time was needed ____ ____ ____ Neutral ____ ____ ____ Much time was needed

9. How confident are you that the treatment was effective?

   Not at all confident ____ ____ ____ Neutral ____ ____ ____ Very confident

10. Compared to other children with behavioural difficulties, how serious are your child's problems?

    Not at all serious ____ ____ ____ Neutral ____ ____ ____ Very serious

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11. How disruptive was it be to the family (in general) to carry out this treatment?

Not at all disruptive — Neutral — Very disruptive

12. How effective was this treatment likely for your child?

Not at all effective — Neutral — Very effective

13. How affordable was this treatment for your family?

Not at all affordable — Neutral — Very affordable

14. How much do you like the procedures used in the proposed treatment?

Do not like them at all — Neutral — Like them very much

15. How willing will other family members be to help carry out this treatment?

Not at all willing — Neutral — Very willing

16. To what extent are undesirable side-effects likely to result from this treatment?

No side-effects are likely — Neutral — Many side-effects are likely

17. How much discomfort was your child likely to experience during the course of this treatment?

No discomfort at all — Neutral — Very much discomfort

18. How severe are your child's behaviour difficulties?

Not at all severe — Neutral — Very severe

19. How willing would you be to change your family routine to carry out this treatment?

Not at all willing — Neutral — Very willing

20. How well did carrying out this treatment fit into the family routine?

Not at all — Neutral — Very well