# Developing a targeted graduated exposure to peers for a 4-year-old child who does not tolerate other children in his environment

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ABSTRACT: This case study shows the development of social play skills of a 4-year-old child over an 8-month period. During this time, the child attended the BeyondAutism Early Years service on 41 occasions and followed an individualised plan devised from observations, an informal interview with parents, a baseline assessment using the Essential for Living (EFL) assessment (McGreavy, Fry & Cornwall, 2012), and a Play and Social Skills Assessment (adapted from Ingersoll & Dvortcsak, 2019; Parten, 1932).

The Early Years' Service is a free provision where families are supported by a interdisciplinary team during this crucial time, to empower them to build skills, knowledge, and confidence to support their children in developing communication and language, and to better understand their child's behaviours that challenge. The service works closely with parents and carers, focussing on behaviours, relationships, and developmental play, underpinned by Behaviour Analysis.

BeyondAutism Early Years believe that play is an important milestone in every child's development that acts as a scaffold to develop every other skill. A unique social and play skills assessment developed within the service was used to track the progress of the child. Parents of the child were successfully involved in the learning process, providing them with detailed targets and guidance throughout their attendance.

The results section of this study has shown progress on the areas that were targeted, thus being prerequisite skills to later build up the child's social skills.

### Introduction

This study focuses on a cheerful 4-year-old boy with communication and social difficulties. He has been attending the Early Years' service underpinned by Behaviour Analysis twice a week. The aim of this service is to support families in learning how to engage their children from a very young age. The family worked on a tailored curriculum, creating positive outcomes whilst being guided by a interdisciplinary team.

In order to develop this child's social play skills, the service focused on working on his communication, so he was able to express himself during the sessions and in different environments. Additionally, he worked on waiting for increasing periods of time as well as building up his tolerance towards transitioning from highly preferred activities and developing new play skills.

When the child first started, communication involved labelling items using one to three words, however he was unable to use this language functionally to make requests for preferred items and activities. He found it difficult when his activities were interrupted, when he was asked to wait, when he was told no, when he wanted something that he can have, when presented with demands, or when he was asked to transition. This learner exhibited a variety of behaviours that

challenge, including running off, crying, whining, screaming, head butting, hitting, kicking, grabbing or scratching, among others. Some of these behaviours may cause injury to others. Behaviours that challenge directed to peers were a particular barrier for this child, with him spontaneously hitting other children on multiple occasions.

The child's play observed when the family first joined the service was mainly centred on one particular activity, presenting behaviours that challenge when interrupted, especially by other children. We would define an interruption, in this particular case, as another child being present in the room where he was playing, other children taking toys while he was engaged with them and when other children first picked toys that are preferred to this child, even though he was not playing with those.

This case study centres on how, by breaking down the stages of play and social skills, using BeyondAutism Early Years' Play and Social Skills Assessment, and setting S.M.A.R.T (specific, measurable, achievable, relevant, and time-bound) targets to work on during the sessions in conjunction with the child's parents, BeyondAutism Early Years supported a child's development of play and social skills meaningfully and successfully. The targets that were set for this 4-year-old child were around communication, tolerance to interruptions, waiting skills, play skills and social skills. The selection of these was made to build up the foundations to later expose the child to other environments, such as busy locations or turn-taking activities.

### Literature Review

This case study focuses on gradually exposing this 4-year-old to other peers his age and on building up his social play skills. During his attendance to the Early Years service, the service focused on this by targeting the area and setting S.M.A.R.T targets to achieve this child's progress. Therefore, different techniques have been



used throughout. For example, graduated exposure to an environment with peers while working bottom-up the different play and social skills stages. Ingersoll and Dvortcsak (2019, p.114) outlined 10 stages of play in the Play Section of their Social Communication Checklist, whilst Parten (1932, p.260) outlined 6 stages of social interactions. These stages were taken as the basis for the BeyondAutism Early Years' Play and Social Skills Assessment (Figure 1). Regarding graduated exposure, it entails the systematic presentation of the stimulus gradually; feared either increasing the salience of the stimulus or by the duration of the stimulus presentation, without provoking distress and avoidance. Successful exposure is repeated, with the aim that the person is able to tolerate the previously feared stimulus (Cavaleri et al, 2013).

Undoubtedly, play is a crucial component of children's development. It serves as a platform through which they acquire essential skills like sharing, cooperation, and turn-taking. Recreational activities with peers contribute to the learning of social language, the formation of self-esteem, and the development of friendships. Play also stimulates cognitive growth, fosters emotional development, and shapes one's personality. It provides an avenue for exploring societal roles and rules, allowing children to practice problem-solving. Additionally, play cultivates creativity and imagination. While typically developing children naturally engage in enjoyable, imaginative, and socially interactive play, many children with autism spectrum conditions struggle to engage in play that facilitates development. Skill deficits and problematic behaviours often productive play in children with autism spectrum conditions. Consequently, it is crucial for early interventions to target this essential aspect of development (Lantz, 2001).

Wolfberg (1995; as cited in Lantz, 2001) defines play as 'an activity that is pleasurable, intrinsically motivated, flexible, non-literal, voluntary, and involves active engagement'. On the contrary, children diagnosed as autistic often exhibit rigid and repetitive patterns of play and may not demonstrate symbolic or imaginative behaviour. They tend to perceive the world in a concrete and literal manner, which makes it challenging for them to grasp abstract concepts or engage in imaginative play. Additionally, these children may

struggle with sequencing and motor planning, resulting in difficulties in creating play scripts or comprehending the scripts of other children. Typically, play among autistic children is solitary in nature. Several factors contribute to the limited social play observed in these individuals. Firstly, they experience communication deficits, making it difficult for them to understand the language and social cues of their peers, as well as effectively express their own emotions to others. Secondly, they may lack the understanding that others have their own distinct thoughts and feelings, thereby hindering reciprocal interactions. Thirdly, autistic individuals often develop restricted and unconventional interests, leading them to resist exploring new play themes with others. Finally, peers may exclude autistic children or struggle to effectively engage them in play due to a lack of understanding. In conclusion, the factors impeding social play in autistic children include communication difficulties, challenges in understanding others' emotions, restricted and unconventional interests, and exclusion by peers (Lantz, 2001).

Social relationships are an integral and critical part of life. For all people, weaknesses in social skills are linked to how they are accepted by peers and their performance in school during childhood. In adulthood, these can contribute to mental health problems and affect success in employment. Social challenges are a defining feature of autism. Typically, autistic individuals do not acquire appropriate social behaviour simply by being exposed to socially adept peers, therefore teaching social skills systematically and ensuring consistent practice is often necessary. Unfortunately, many autistic individuals lack opportunities to practice these skills. As a result, their limited knowledge, lack of opportunities, and insufficient practice contribute to ongoing difficulties in social skills, leading to a continuous cycle of rejection and isolation from peers. (Wheeler, 2005).

# Method

The Early Years' service follows a unique model, and therefore a unique assessment system was needed. BeyondAutism Early Years' Play and Social Skills Assessment (Figure 1) was devised through looking at a range of different assessment tools and adapting these to best suit the needs of the service.

The VBMAPP (Verbal Behaviour Milestones Assessment and Placement Programme - Sundberg, 2017), ABLLS-R (Assessment of Basic Language and Learning Skills - Partington, 2006) and Early Start Denver Model (ESDM) (Rogers and Dawson, 2010) were all considered, however whilst including play skills they are very indepth and would not be time efficient to use in the current BeyondAutism Early Years' model.

Looking at the developmental literature, many professionals split play and social skills into different stages, as discussed above. It was therefore decided to take these stages and formulate them into an assessment tool to allow for frequent and rapid visual analysis in order to track progress. A quick assessment was therefore developed using Ingersoll and Dvortcsak's (2019, p.114) Social Communication Checklist and Parten's (1932, p.260) 6 stages of social interactions, outlining whether the child had been observed to engage in these stages, and which stage their play predominantly consisted of.

The Play and Social Skills assessment (Figure 1) is completed at baseline when a child starts at BeyondAutism Early Years , and then at the end of every full term. The assessment focusses on the



stages that have been observed on at least one occasion, and which stage is currently the child's most common. This assessment is based on observations of the child playing, and from conversations with parents about the child's play and social skills at other settings. Targets may be selected from the assessment to work on specific areas if mutually agreed by the parents and the BeyondAutism Team.

When the child in question started coming to the service, this assessment was conducted by their key worker. After completion of the assessment, it was decided to focus on working on specific areas in order to build skills that have an impact in play and social skills. These areas were the following: communication, when the child's play was interrupted, to develop and increase the waiting for a preferred item and/or activity, to follow simple instructions from adults in play situations and to transition to other activities and/or different rooms by holding hands with adults. Tracking the evolution of the targets is made by working out percentages when successful and not successful trials were conducted during the sessions, resulting in ratings where letters (R, A, G, G+) signify: prompting required throughout most of session, prompting required approximately 50% of the time, mostly independent, independent throughout session. respectively. Once these basic areas were covered and showed successful ratings over three consecutive sessions, goals targeting peer play were set up. At that point, they started introducing this child into parallel activities with peers his age. In these activities, he would engage in preferred play activities alongside or near others but not necessarily engaging with them, using the same or similar toys to those around him.

Similarly, parents had their corresponding targets and were also supported to understand and put into to practice the techniques to successfully guide their child. During the sessions parents were promoted to create multiple opportunities to engage with their child across a range of activities during the session while giving them the tools to generalise these skills at home and in other settings.

# **Findings**

Since the family's start at the Early Years' service, significant progress has been observed within the targets that were set up

at the time. Initially, three areas that were targeted as a prerequisite to develop future social skills. These were communication, waiting for preferred items and/or activities and tolerating being interrupted when playing with motivating items, as he would engage in behaviours that challenge when a delay or interrupt occurred. Once mastery criteria were accomplished on the basic skills (achieving three consecutive G+ on the daily ratings), they were able to introduce social play activities during the sessions.

Upon joining the service, the child had a small range of vocabulary that he was able to use, however was not yet able to use this functionally across a range of situations. The child started echoing back simple words from adults to make requests, and soon started to request for preferred items when they were in sight independently. With time, the child has been observed using longer sentences to comment on situations or to express himself, for example "What is that noise?", "Give me", "I don't want it" (see Figure 4).

As for waiting skills, a 5 second visual countdown was implemented, and later in the term it was also observe the child implementing it by himself when asked to wait on a few occasions. Furthermore, the amount of time that he could wait increased significantly and this skill was also generalised playing with his mother, waiting to take turns (see Figure 5).

Moreover, developing waiting skills helped the child to tolerate interruptions from a preferred toy for a short period of time. This target was introduced to support with tolerating giving up preferred items and being interrupted while playing. While playing with the child, his mother would take an object that he was playing with and prompt him to wait while counting down from 5. An increase in the child's tolerance to share some toys and be interrupted whilst playing, mainly by adults, was noticed, with this being 93% successful trials during the last session, as well as seen generalised across settings and people. At the same time, he demonstrated being able to echo back "stop" or "my turn" when those situations happened and was observed using those phrases independently on some occasions, although not yet consistently (see Figure 6).

The skill of following simple instructions from other people was also targeted, that being asking the child to engage in an action or to give an item to another person whilst in play situations. The child demonstrated being able to follow instructions around 90% of the time during the last few sessions (see Figure 7).

During the first few sessions, it was observed that the child would find it hard walking around other children and would engage in behaviour that challenges directed towards peers. Therefore, they introduced a target for him to walk holding hands with an adult to transition between rooms to ensure safety for all. The child has shown great progress walking with his mother and other adults on 100% of the occasions and shortly after started to request "go" when wanting to transition between rooms. By the end of the first term, his mother focused on prompting him to slow down his pace while walking, and the child was able to walk without holding hands on a few occasions. This target was also put in practice in the community, while walking to the service and back home, as well as on our end of term trip to Soft Play. At Soft Play he was also very sociable, saying hello to other children, and did not attempt to engage in behaviours that challenge towards other children at all



(see Figure 9).

By the end of the term, the child showed more interest in other children's play and parallel play opportunities were created for him to join his peers in preferred activities, such as water play. At the beginning, the child would still find it difficult when preferred toys, such as animals, were involved in the play situation, however, this child is now able to join activities with highly preferred items together with other peers (see Figure 8). All of these is due to previous consistent work using strategies stated above - see attached showing the reduction in figure 4 behaviours that challenge when the child is surrounded by other peers, proving the success of targeted areas and techniques applied. What's more, lately he has been observed pretending to take on roles such as being a dragon while playing chase with other children as well as encouraging them to take on roles with him. That shows a further step on social skills, demonstrating associative and cooperative play, which are when a child starts to interact with others during play, for example giving, taking, and sharing play materials, and playing together with others and having an interest in both the activity and the other children involved in playing, respectively.

# **Discussion and conclusion**

'Children and young adults must be given an opportunity to engage in a meaningful social interaction to prevent and break the cycle of peer rejection' (Wheeler, 2013). Exposure to peers is critical to develop appropriate social skills. Moreover, taking part in play activities promotes naturally reinforcing and mutually enjoyable experiences.

It was found that tolerating others in his environment and positive peer interactions were difficult for this child. He was engaging in behaviour that challenges which made it difficult to ensure that he was accessing different activities and environments that are relevant for his learning and social development. Evidently, these conditions were impacting his behaviour management and his learning acquisition. Therefore, it was very important that procedures to help reduce these difficulties were established.

Tracking the child's play and social development assertively using BeyondAutism Early Years' Play and Social Skills Assessment, in conjunction to observations and an informal interview with

the parents, facilitated the setting of targets that were relevant and individualised to the child. The broken-down stages in the assessment tools enabled us the possibility of creating a framework for the child to go from "what they know" to "what else could they know". Intrinsically understanding the progression of the different stages of play and social development made it possible for us and the parents to enter the child's play as co-creators, effectively scaffolding our intervention by modelling, giving clues or prompts while the child was trying out a new skill, and then as the child approached mastery, withdrawing our support.

Altogether with the use of graduated exposure, systemically the child was introduced into busier environments; that helped the learner's behaviour that challenges reduce dramatically. This child is now spending the whole session surrounded by peers and attending group adult led activities and other peer play activities in proximity of other children successfully. Moreover, this child has demonstrated positive interactions with other peers communicating without prompts that he wants to join and play or take turns with them. An increase in his independence has also been observed, as he is now able to travel to most activities without holding hands from adults or reinforcement. In summary, this child can access learning and daily life activities with a different approach. Nevertheless, continued work in those areas would be desirable to get his needs met to an even greater extent than it is currently. For example, understanding the limits of social interactions, as the child would currently hug other children unexpectedly, or building up knowledge about feelings and how to regulate them through such tools as the Zones of Regulation.



# Play and Social Skills Assessment

Child's name:					
Date of birth:					
Age at testing:	1	2	3	4	
Date of testing:					
Colour / Tester					

Date								
	Observed on at least one	Majority of play rated in	Observed on at least one	Majority of play rated in	Observed on at least one	Majority of play rated in	Observed on at least one	Majority of play rated in
Play Stage	occasion	this category						
Exploratory Play								
Combinatorial Play								
Cause and Effect Play								
Functional Play								
Self-Directed Pretend Play								
Other-Directed Pretend Play								
Symbolic Play								
Complex Pretend Play								
Imaginary Role-Play								
Socio-Dramatic Play								

	Observed se	Nacionity of	Observeden	Mai authoraf	Observeden	Majarity of	Observed se	Main site of
	Observed on	play rated in	Observed on	play rated in	Observed on	play rated in	Observed on at least one	play rated in
Social Stage	I	this category		this category	I	this category		this category
Unoccupied Play								
Solitary Play								
Spectator/Onlooker Play								
Parallel Play								
Associate Play								
Cooperative Play								

	Play Skills		So cial Skills
Stage	Description	Stage	Description
Stage	DEXTIPUOTI	Stage	DESTIPUOTI
	The child plays with toys mainly by exploring by		At this stage baby is just making a lot of movements
	touching, mouthing, visually examining, smelling,		with their arms, legs, hands, feet, etc. They are learning
Exploratory Play	banging, throwing and dropping them.	U noccupied Play	about and discovering how their body moves.
,,	The child combines to ys to gether by nesting one object		
Combinatorial	in another, putting o bjects in containers, lining,		This is the stage when a child plays alone. They are not
Play	stacking or ordering toys in certain ways.	Solitary Play	interested in playing with others quite yet.
Cause and	The child uses cause and effect to ys such as pop-up	Spectator/Onlooker	During this stage a child begins to watch other children
Effect Play	toys and music toys.	Behaviour	playing but does not play with them.
Ellectriay	The child is using most common toys appropriately,	benaviour	When a child plays alongside or near others but does
	such as pushing cars, putting people in cars and		not play with them. They might use the same or similar
Functional Play	throwing and catching a ball.	Parallel Play	tovs to those around them.
runctional Play	throwing and catching a ball.	Parallel Play	When a child starts to interact with others during play,
			for example giving, taking and sharing play materials. It
			is generally the first stage where social interaction is
			required through engaging in a mutual activity, ho wever
	The child directs some basic pretend play actions		they are not yet working to wards a common goal. E.g.
	towards himself. Examples could include pretending to		construction activities (but no division of labour or
Self-Directed	eat, pretending to sleep and pretending to talk on a toy		organisation of the activity or discussion about what
Pretend Play	phone.	Associate Play	they are attempting to achieve)
Pretend Play	priorie.	ASSOCIATE Play	When a child plays together with others and has an
			interest in both the activity and the other children
			involved in playing. E.g. playing games with rules,
	The child directs basic pretend play to wards another		working to gether on something (e.g. building a
Other-Directed	person or doll or other toy, such as pretending to feed		sandcastle). Co operative play can become quite
Pretend Play	a parent or a baby doll, putting a doll to bed.	Cooperative Play	complex and requires extensive communication skills.
Pretend Play	a parent or a baby doil, putting a doil to bed.	Cooperative Flay	complex and requires extensive communication skins.
	The child begins to pretend the one thing represents		
	another, attributes characteristics to an inanimate		
	object that it does not have, and animates objects. For		
	example, he/she might pretend a block is a car or a		
	stack of blocks is a building. He may pretend the toy		
	food tastes "yummy" or "yucky". He/she may make a		
	figurine walk or have a doll hold a cup rather than		
	placing a cup to the doll's mouth and he/she may		
	engage in pantomime such as opening an imaginary		
Symbolic Play	door.		
	The child links several pretend actions together to tell		
Complex	an extended story with toys. For example, your child		
Pretend Play	puts a doll in the car and drives the car to the store.		
	The child takes on an imaginary role during play such as		
Imaginary Role-	pretending to be a doctor, fireman, a mum/dad or		
Play	superhero.		
	The child tells an extended story while taking on an		
	imaginary role with at least one other person. For		
Socio-Dramatic	example, the child pretends to be a teacher while		
Play	his/her sister pretends to be a student.		

Figure 1: Play and Social Skills Assessment

# Play and Social Skills Assessment

Child's name:				
Date of birth:		02.	05.2019	
Age at testing:	1 3y 4m	2 3y 7m	3 3y 10m	4 4y
Date of testing:	Sep-22	Dec-22	Mar-23	May-23
Colour / Tester				

Date	20.:	20.10.21 ibserved on Majority of play rated in occasion this category								
	Observed on	Majority of	Observed on	Majority of	Observed on	Majority of	Observed on	Majority of		
	at least one	play rated in	at least one	play rated in	at least one	play rated in	at least on e	play rated in		
Play Stage	occasion	this category	occasion	this category	occasion	this category	occasion	this category		
Exploratory Play										
Combinatorial Play										
Cause and Effect Play										
Functional Play										
Self-Directed Pretend Play										
Other-Directed Pretend Play										
Symbolic Play										
Complex Pretend Play										
Imaginary Role-Play										
Socio-Dramatic Play										

	Observed on at least one	Majority of play rated in	Observed on at least one		Observed on at least one		Observed on at least one	
Social Stage	occasion	this category	occasion	this category	occasion	this category	occasion	this category
Unoccupied Play								
Solitary Play								
Spectator/Onlooker Play								
Parallel Play								
Associate Play								
Cooperative Play								

Figure 2: Child's play and social skills assessment



Figure 3. A line chart showing the decrease on behaviour that challenges directed to peers



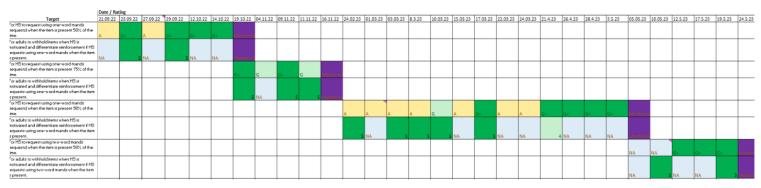


Figure 4. Child's communication skills summary targets data

	01.03.23	03.03.23	8.3.23	10.03.23	15.03.23	17.03.23	22.03.23	24.03.23	21.4.23	26.4.23	28.4.23	3.5.23	05.05.23	10.05.23	12.5.23	17.5.23	19.5.23
For HS to be able to wait 5s for a desirable								-									
item/activity, 5-10 during a session without any																	
behaviour that challenges	A	G	G+	NA	A	A	A	G+	G+	G	G+						
For adults to ask HS to wait for 5s for a																	
desirable item/activity using a visual sign for													l .				
wait,5-10 times in a session	NA	5	5	NA	NA	4	NA	NA	3	NA	NA	Mastered					
For HS to be able to wait 10s for a desirable														_			
item/activity, 5-10 during a session without any																	
behaviour that challenges													G+	A	G+	G+	Mastere
For adults to ask HS to wait for 10s for a																	
desirable item/activity using a visual sign for								l									
wait,5-10 times in a session													NA	3	NA	NA	Mastere

Figure 5. Child's waiting skills summary targets data

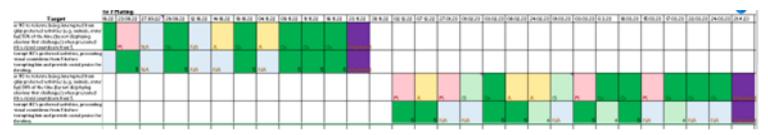


Figure 6. Child's tolerating interruptions skills summary targets data



Figure 7. Child's following instructions skills summary targets data

Target		07.12.22	27.01.23	01.02.23	03.02.23	08.02.23	24.02.23	01.03.23	03.03.23	8.3.23	10.03.23	15.03.23	17.03.23	22.03.23	24.03.23	21.4.23	26.4.23	28.4.23	3.5.23	05.05.23	10.05.23	12.5.23	17.5.23
For HS to attend a parallel play see	ssion with																						
peers per session without displaying	ng behaviour																					1	
that challenges.		R	A	NA	NA	G+	A	G+	A	G	G+	NA	A	G+	A	G	NA	G+		G	A	G+	Moster
For adults to guide HS while on par	rallel play,																						
prompting adequately if challenging	behaviour																					4	1
arises		3	NA	NA	NA	5	5	NA	4	5	5	NA	5	G	NA	5	NA	NA	NA	NA	4	NA	Master

Figure 8. Child's social skills summary targets data

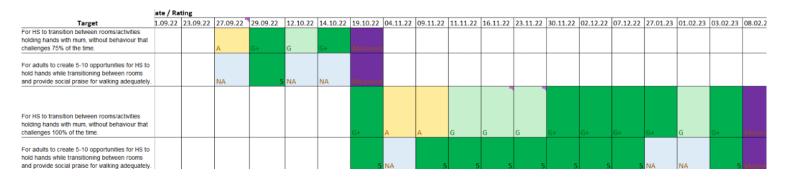


Figure 9. Child's transitions between activities summary targets data



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