CENTRE FOR AUTISM
MIDDLETOWN

Social and Leisure Skills

CONTENTS

INTRODUCTION

This is the twenty fourth Research Bulletin produced by Middletown Centre for Autism and it provides summaries of fifteen articles spanning from 2010-2017.

The Bulletin commences with an interview with Adam Harris.

Adam Harris is a social entrepreneur and Founder-CEO of AsIAm.ie, an organisation working to build an Ireland where every person with autism can "live and succeed as they are". AsIAm.ie provides a central online hub for the autism community, which aims to inform and empower those affected, their families and supporters. Through online engagement with users, AsIAm creates training programmes and campaigns to engage various aspects of Irish life to understand Autism better and to become more autism friendly.

Adam founded AsIAm.ie based on his experiences of living with Asperger syndrome. Adam spent three years in Special Education, five in mainstream Primary education, with the support of an incredible Special Needs Assistant (SNA), and completed Post Primary School without the support of an SNA. As Adam benefited from early intervention, he felt the need to do something to give back to the autism community in Ireland.

He felt that a poor online presence and a society that does not truly understand were key elements of the challenges people with autism face, which needed to be addressed.

Today, Adam is a frequent contributor in media and at conferences home and abroad, around autism issues and the need to have a whole-community approach to autism. A Social Entrepreneurs Ireland Awardee, Adam sits on the Board of Specialisterne Ireland and is a member of a number of governmental committees exploring disability issues.

Please note that the views represented in this document do not necessarily reflect the views of Middletown Centre for Autism. Reviewers have, where possible, used the original language of the article, which may differ from UK and Ireland usage and the usage of a range of terminologies for autism.

AN INTERVIEW WITH ADAM HARRIS

1. What are the benefits of teaching leisure skills to children and young people with autism?

I think we tend to sometimes talk about autism in a very clinical way – we talk about academics, therapies and care. Those three areas are vitally important but sometimes what is forgotten is that meaningful inclusion means being included in everything, it means recognising that people with autism don't JUST want to learn or be cared for. Like everyone else, we want to be involved in our communities, be out and about and have fun. Doing those things, can be just as challenging as going to school or accessing support – but sometimes they are overlooked.

The consequences? Members of the autism community left out in their community, isolated as adults or not able to relax or exercise. It is important we are given the skills to be able to fully participate in the community.

2. Did you find it difficult to understand and learn social and leisure skills? If so what helped you appreciate social and leisure?

Yes. When I was a younger child I found it very hard to participate in social and leisure activities with my peers, especially if they were unstructured or the rules kept changing. I was very rules driven and so found my own age group could often be confusing. Why on earth would you change or break a rule?

I think you can't make a child socialise and I think it's silly to try and force it – "go over there and be friends with that boy" – that's not how the world works.

You can't make someone enjoy socialising but what you can do is create the environment for that to work – expose the young person to lots of different types of activities, insist they participate in something, ensure the people facilitating that activity have a good understanding, identify young allies in that setting to enable participation at a pace which is comfortable for the young person.

I was lucky in that my parents exposed me to so many things and, as a result, I was learning to socialise – but slowly, without realising it and in a setting I was actually enjoying.

3. How do you encourage young people who have communication difficulties to engage in recreational activities?

You learn the language. We underestimate this issue in schools and I imagine this is the case even more so in leisure settings, which are often voluntary in nature. In order to help the person to be able to communicate, you can't just speak your language – you need to provide interpretation. We need to see much better recognition of alternative communication systems and we need them to be something which are recognised in the community – like Irish Sign Language (ISL). Similarly, we need to be better at communicating visually – how many leisure settings have social stories, visual schedules or other tools to enable a person to understand the environment and what to expect?

Also, it's important we engage the other children in this process – we shouldn't make learning a language an adult thing. We don't do it with Spanish or French.

4. As professionals, how can social and leisure skills be improved for children and young people with autism?

I think the starting point in every relationship a professional has with a member of the autism community should be – "What are you good at?", "What are your interests?", "How could these enable you to be part of the community?"

Often we start with the list of "can'ts" – I think if you start with the list of "cans" you can build a whole plan around those cans to teach just about anything. But most critically you find ways to build leisure and social skills around this interest … without the person even realising!

A great example is CoderDojo – for young autistic people who happen to like coding, for the first time, their peers see them as the best at something and they are engaged with their peers outside the classroom, but not in a contrived way but rather doing what they like! Over time, they become more comfortable and so the roots of friendship and mutual understanding can emerge.

My experiences participating in projects in Transition Year enabled me to get comfortable with a group of people who today are my best friends. Sometimes interests can be strange or niche – but there is always a way to build a social opportunity around it, sometimes you just need to create it!

5. How can parents and family members help support and encourage the social and leisure skills of children and young people with autism?

Expose, expose, expose – don't force the young person to do things they really don't like but equally do not let a universal opt out of all activities be an option.

Be honest with facilitators – I'm inspired to see organisations like Foróige, CoderDojo, Scouting Ireland and many others actively engaging with organisations, like ours, and saying – we want to be inclusive so what do we do? Often though the experience of parents has been that the "A word" has led to exclusion from groups so they join a group or activity and don't tell facilitators about the diagnosis. This means the facilitator can't help and the setting will be totally unsuitable.

Be honest. If you are turned away as a result – your child is way too good for that club or organisation. Things are changing and many groups are joining our cause. I think it is also important to explain what autism means to your family member – download an "All About Me" booklet from our website and write simply their differences, strengths and challenges and those top tips you have developed which work for your son or daughter.

6. How can teachers integrate social and leisure skills into the curriculum for children and young people with autism?

I believe that it's quite important that social and leisure skills are a priority for children and young people with autism – the rest can come later. Developing these skills should be a central part of any Individualised Education Plan (IEP) as they can be the greatest barrier to being able to access the community.

Again, I'm not a fan of explicit "let's make friends time" but I am a huge fan of using the classroom setting to promote the strengths of a person with autism to their peers i.e. if someone is good at history, make sure they do a history project and present it to their peers in class.

Too often the person can be portrayed as "the person who can't do things" and this is really, really unhelpful.

I think providing structured social opportunities in school is vital – after school clubs, at break times etc, and make sure the offering is in line with the interests of students who may struggle to participate in non-structured activity or who may not join something unless they are passionate about it.

Don't underestimate the sensory environment – after more than decade of a policy of mainstreaming we still completely ignore the major accessibility issue that schools present from a sensory point of view. I think that the times of the day students mix – before school, at breaks, between classes and after school are sensory chaos and make socialising next to impossible. Do a sensory audit of your leisure times and look at how you can make adaptations and make sure students are sensory aware of one another and understand it is a real issue.

7. What sort of group leisure activities can we offer young people with autism to promote the development of their social skills?

Be person-centred; what will work for one young person will not necessarily work for another. Try to see if you can find common interests or co-habit interests alongside each other. It is vital that group leisure activities also appeal to neurotypical peers and aren't "special needs activities" at break times.

8. Is it preferable to learn about and develop leisure skills in the classroom or in the real environment?

Both are needed. You cannot throw someone in the deep end without appropriate preparation for starting something new – addressing the "what ifs" (which cause so much anxiety) and letting the person set their own pace and build confidence and trust. But equally, you can't totally roleplay the real world – so ultimately exposure is vital.

LIMITATIONS IN SOCIAL ANTICIPATION ARE INDEPENDENT OF IMAGINATIVE AND THEORY OF MIND ABILITIES IN CHILDREN WITH AUTISM BUT NOT IN TYPICALLY DEVELOPING CHILDREN

BACKGROUND

The ability to anticipate likely future interactions forms part of our daily social experience and allows us to adaptively prepare for future situations, respond flexibly across environments, and make choices that result in better outcomes. Individuals with autism spectrum disorder (ASD) have difficulty with social interactions, this is widely recognised and is posited to be linked to deficits in imaginative and social cognitive abilities.   Recent research suggests that this may also be, in part, due to a decreased ability to consider and rehearse future situations, actions, or contingencies in the social setting. How children with autism engage in social anticipation (the ability to anticipate the probable form and content of a future social interaction and to adapt one's preparation for same accordingly) is an area that is currently under-researched.

RESEARCH AIMS

The aim of this research study is to investigate if differences in imaginative capacities and social anticipation exist between intellectually able children with autism and their neurotypical peers. The role of Theory of Mind (ToM), and imagination, in relation to social anticipation, is discussed.

RESEARCH METHODS

The authors interviewed 64 intellectually able children with autism and 71 typically developing (TD) children. The children were grouped according to chronological age and full-scale IQ. Responses to tasks across the following categories; Theory of Mind, imaginative ability, storytelling and social anticipation, were measured. All participants were individually tested at their school for a period of 20 minutes. All sessions were recorded and transcribed. The transcriptions were then independently scored.

RESEARCH FINDINGS

The authors found that both groups (children with autism and TD children) were closely matched in age and full-scale IQ. With respect to ToM, the TD children scored higher than their peers with autism, however, in terms of imaginative ability and storytelling, there were no significant differences between the two groups. In relation to social anticipation, the authors found that the TD children were more likely to produce a response than the children with autism. For both groups, a correlation was found between background characteristics (age and full-scale IQ) and imagination measures. The correlation between imaginative ability and ToM was similar for both groups however the correlation between ToM and storytelling, which utilises social imagination, was only significant for the TD children. Equally with respect to social anticipation, the TD children's responses correlated positively across ToM, imaginative ability and storytelling while the children with autism's responses showed a very inconsistent correlation pattern. Furthermore, the influence of storytelling and imaginative ability and ToM was significant for the TD group but not significant for the children with autism group.

Overall this study found that intellectually able children with autism only differ in terms of their ability to produce a response, i.e. what they would say to another person, in a social anticipation task. Moreover, and in line with previous research, when measured utilising a structured task the imaginative abilities of children with autism did not differ from those of TD children. Social anticipation performance was not predicted for children with autism as it was for TD children however, it is possible that with repeated social experiences children with autism develop the capacity for a level of social anticipation. The study also found that whilst the children with autism were as able as their TD peers to anticipate what the interviewer may ask, their inability to state what they themselves would ask may be due to a difficulty with adopting an egocentric stance. The authors posit that children with autism do not have an inherent deficit in their ability to anticipate social interactions, rather it is that they are atypical in how they engage in this activity.

IMPLICATIONS FOR PRACTICE
(by the authors)

- It is imperative to study how children generate a particular type of response rather than focus solely on the characteristics of the response itself.

- The role of imaginative abilities in facilitating social interaction warrants further investigation.

Full Reference

Angus, D. J., de Rosnay, M., Lunenburg, P., Meerum Terwogt, M. and Begeer, S. (2015). Limitations in Social Anticipation are Independent of Imaginative and Theory of Mind Abilities in Children with Autism but not in Typically Developing Children. *Autism*, 19(5), p. 604-612.
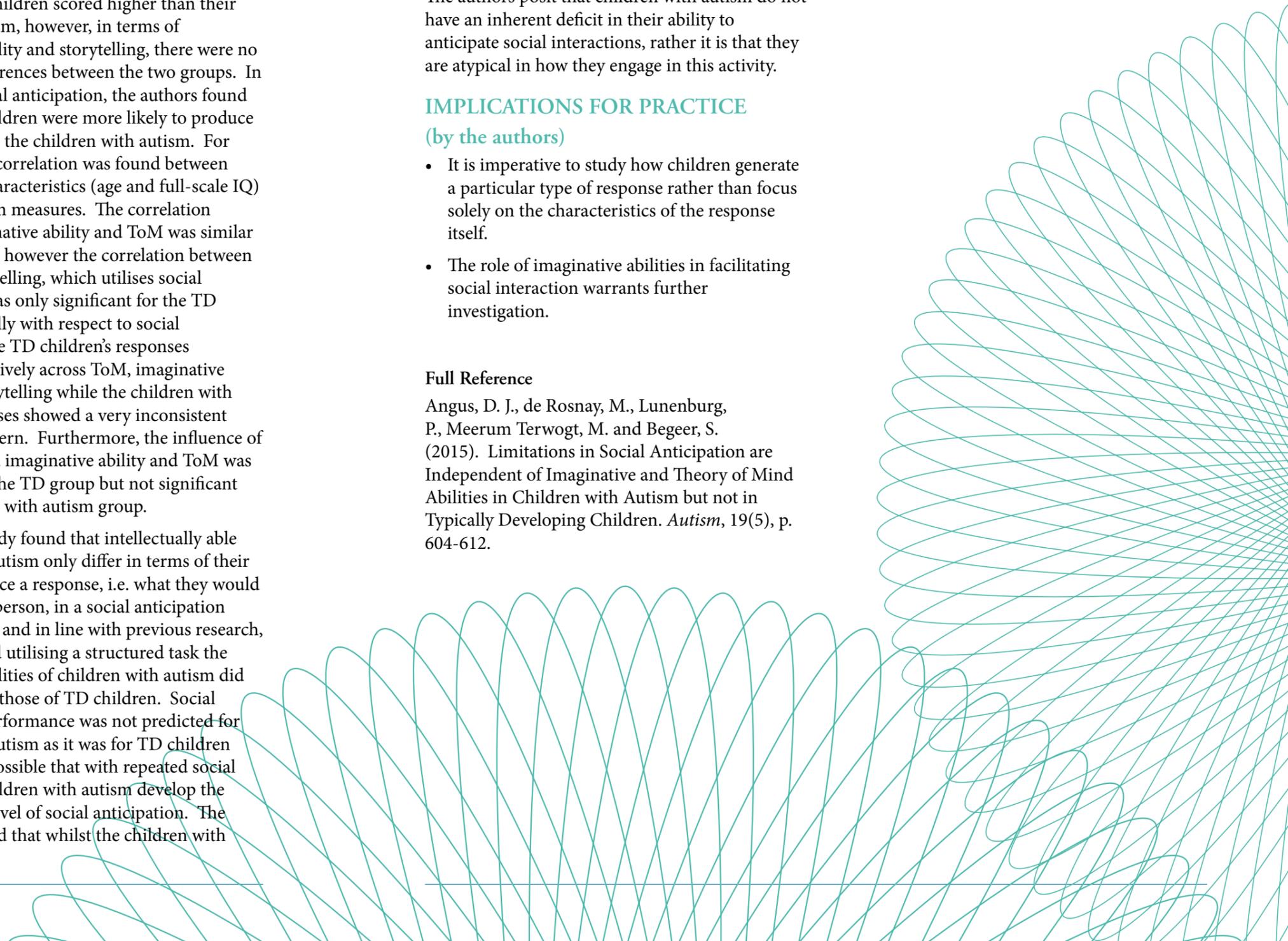
AN IPAD™-BASED PICTURE AND VIDEO ACTIVITY SCHEDULE INCREASES COMMUNITY SHOPPING SKILLS OF A YOUNG ADULT WITH AUTISM SPECTRUM DISORDER AND INTELLECTUAL DISABILITY

BACKGROUND

There is extensive literature to support techniques to establish community-based skills within non-community contexts. However, researchers have recognised the importance of teaching community skills, such as shopping for groceries, directly in the community. Given the dearth of community-based research, more studies are needed to evaluate strategies for teaching community skills directly in the community.

Recently, investigators have employed various types of technology to teach community shopping skills and have shown that video prompting and video modelling are effective in producing complex response chains while minimising prompting from instructors or caregivers.

RESEARCH AIMS

The purpose of this study was to evaluate the use of visual cues and video prompting delivered by an iPad 2 to teach shopping skills in the community to a young adult with an autism spectrum disorder (ASD) and intellectual disability. Maintenance and generalisation were also assessed.

RESEARCH METHODS

Participants

The participant was an 18-year-old female student diagnosed with ASD and intellectual disability. The student attended an approved private school in north-eastern USA and resided in a residential community home on the same campus. The student also demonstrated limited independence with shopping in community stores and was reported to be heavily reliant on instructor prompts to perform skills such as shopping. The student was further familiar with the iPad 2 for use with communication applications, but had not been exposed to the iPad 2 to teach shopping skills or related skills.

Materials and settings

Book Creator software downloaded on an iPad 2 was used to provide visual cues and video prompting. The application allows the user to create a "book" with individualised photos, videos, and lists. The first author photographed or filmed each step of the task analysis in each of the three locations. These photos and video clips were embedded in the "book" created within the Book Creator application for each location.

The study took place at three locations of the Acme chain grocery store located in the north-eastern USA.

Procedures

A preference assessment was conducted with the participant to determine preferred items to be purchased during intervention and generalisation. The four most preferred items were chosen, two for intervention, and two for generalisation.

A multiple-probe design across settings was used in three grocery store locations. During baseline, the participant was assessed on her skills in following a printed picture list to shop for two items identified in the preference assessment.

During intervention, the participant was taught to shop for the same two items using the iPad 2 with Book Creator software to provide visual cues and video prompting. Then, a maintenance probe was conducted to evaluate the participant's independence in shopping for the same two items without the iPad 2.

Finally, a generalisation probe was conducted to assess the participant's independence in shopping for two novel items, also identified in the preference assessment, in the second and third locations, with the iPad 2 with Book Creator software to provide visual cues and video prompting.

The participant's parent, an educational staff person, and a residential staff person also completed a nine-item social validity survey to assess their opinions on the goals, procedures, and outcomes of intervention.

Data analysis

During baseline, the participant independently completed an average of only 22% of the nine steps of the shopping task analysis in the first location, 17% in the second location and 21% in the third location.

Upon implementation of the intervention in the first location, the participant's percentage of independent shopping increased, but was variable with an average of 49%. In the second location, she performed 66% of steps independently whilst in the third location, she performed 62% of steps independently.

Due to medication changes and closure of the Acme store at the first location, intervention was discontinued at the first location.

During the maintenance probe without the iPad 2 with Book Creator software, the participant could independently complete 88% of the shopping steps in the second location, and 88% of steps independently in the third location.

In the generalisation probe, in which she shopped for two novel items with the iPad 2 with Book Creator software, she could independently complete 88% of the shopping steps in the second location, and 88% of independent shopping steps in the third location with the iPad 2.

RESEARCH FINDINGS

Results of the current study replicate previous research showing the benefits of picture schedules, video prompting, and video modelling, as well as the use of educational technology to teach community shopping skills.

In the nine-item social validity survey, respondents reported that software was as effective as other instructional methods for the community; her parent and residential staff personnel rated the iPad 2 with Book Creator software as easy to use, while her educational staff personnel rated its ease of use as comparable with other methods. All respondents indicated that the iPad 2 with Book Creator software was as acceptable as other methods for community instruction, and all indicated that they would be somewhat likely to use it to teach other community skills. All respondents reported some improvement in the participant's community shopping skills.

IMPLICATIONS FOR PRACTICE
(by the authors)

- The iPad 2, a readily available technology device that many people without disabilities use, can be effectively adapted to teach functional daily living skills directly in the community.

- Shopping skills taught with the iPad 2, maintained when the iPad 2 was withdrawn, and shopping skills generalised to novel shopping items.

Full Reference

Burckley, E., Tincani, M. and Guld Fisher, A. (2014). An iPad™-Based Picture and Video Activity Schedule Increases Community Shopping Skills of a Young Adult with Autism Spectrum Disorder and Intellectual Disability. *Developmental Neurorehabilitation*, 18(2), p. 131-136.

USING VIDEO PROMPTING TO TEACH LEISURE SKILLS TO STUDENTS WITH SIGNIFICANT DISABILITIES

BACKGROUND

Some people with disabilities lack a repertoire of leisure skills that allow them to use free time in constructive ways. Impairments in leisure skills may be attributed to difficulties in cognitive functioning, communication, and social skills but are also likely to come from structure constraints, such as a lack of resources, support and opportunities. The development of leisure skills in individuals with disabilities has been linked to several positive social and emotional outcomes. Teaching leisure skills, however, continues to be a low priority in the education of students with disabilities.

Most individuals with disabilities require systematic instruction and supports to develop leisure skills. Several methods for teaching leisure skills have been shown to be effective, including explicit instruction and prompting, errorless learning and backward chaining, constant time delay and simultaneous prompting. One promising intervention for teaching leisure skills is video prompting, with has been effective in teaching a variety of skills such as cooking, self-help, daily living and vocational skills.

RESEARCH AIMS

The purpose of this study was to determine if video prompting could be used to teach leisure skills to students with disabilities. In addition, the researchers sought to examine if the students' preference for particular leisure activities would shift following skill acquisition.

RESEARCH METHODS

Participants and setting

Nine students, aged between 10 and 22 years, with intellectual, physical and developmental disabilities, including autism, participated in the study. They were identified by their teachers, who reported that they had extremely limited leisure skills repertoires. All sessions took place in a classroom separate from those of the students.

Procedures

At the start of the study, each student's parent and teacher completed a leisure inventory developed by the researchers to identify potential leisure skills to teach. Students' preferences for activities were assessed by presenting items relating to the task in an arc in front of the student, e.g. nail polish for painting nails. The student was asked to "pick one", until all items had been chosen. Students were then taught their first-, third-, and fifth-ranked preferences.

Task analyses for all 14 tasks taught in the study were developed. Videos were then filmed using an iPhone 4, comprising of individual clips for each step of the task analysis. Videos were filmed from the perspective of the student, using the same materials used by the students during the sessions. An auditory prompt was given by a narrator during each clip.

Data analysis

The primary dependent measure for this study was the percentage of steps of a given leisure skill completed correctly, within 30 seconds of viewing the video clip during the intervention. Error correction was provided for incorrect responses using a hierarchy of prompts. Baseline data was collected at the beginning by providing verbal instructions to the student without the use of video prompting.

Data was also collected on the participants' preferences for the targeted leisure skills before and after intervention.

RESEARCH FINDINGS

Overall, this study found that video prompting was effective with all but one student. Five participants responded positively to the intervention, mastering all three leisure skills with the use of video prompting with error correction. Three students had mixed responses to video prompting with error correction, with two students showing improvement in all three skills but only mastering one of these each, and the other showing improvement in all three skills but no mastery of these. One student did not respond to video prompting with error correction, however when provided with in vivo instructions mastered two of the leisure skills taught.

Maintenance and generalisation to novel situations of the newly acquired skills was found to be high across all who had mastered their leisure skills.

The study also found a dramatic shift in students' preferences after they acquired new leisure skills.

IMPLICATIONS FOR PRACTICE
(by the authors)

- Using video prompting to teach leisure skills is increasingly more feasible, given the pace of development of digital technology. Following the initial investment in the technology, video prompting is a low-cost teaching tool.

- Leisure activities are important because of the positive effects on social interaction, communication and overall quality of life.

- Teaching leisure skills in a systematic way can also create a context to teach many other functional skills, for example communication through providing choice of colours during activities and turn taking during cooperative games.

- The results of this study suggest that video prompting is an effective method for leisure skill instruction.

Full Reference

Cannella-Malone, H. I., Miller, O., Schaefer, J. M., Jimenez, E. D., Page, E. J. and Sabielny, L. M. (2016). Using Video Prompting to Teach Leisure Skills to Students with Significant Disabilities. *Exceptional Children*, 82(4), p. 463-478.
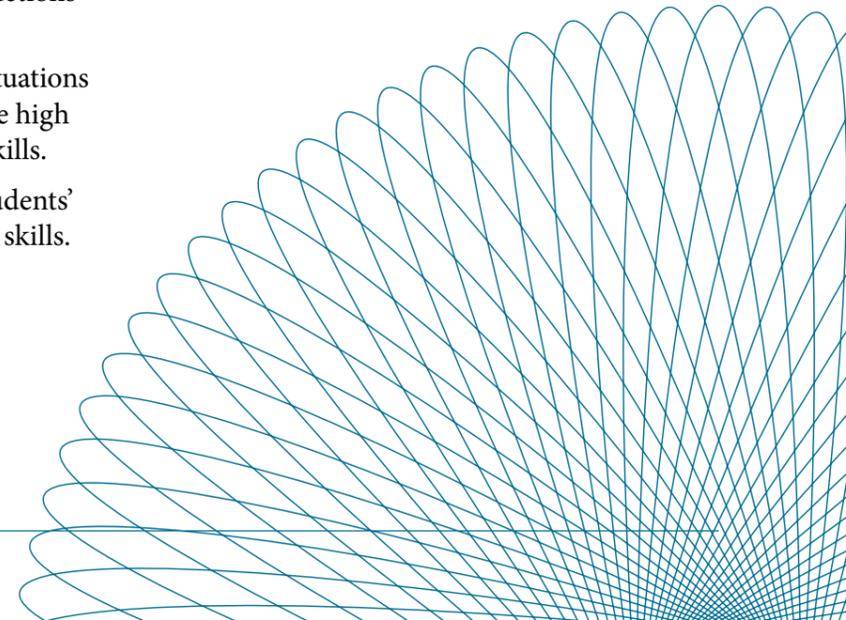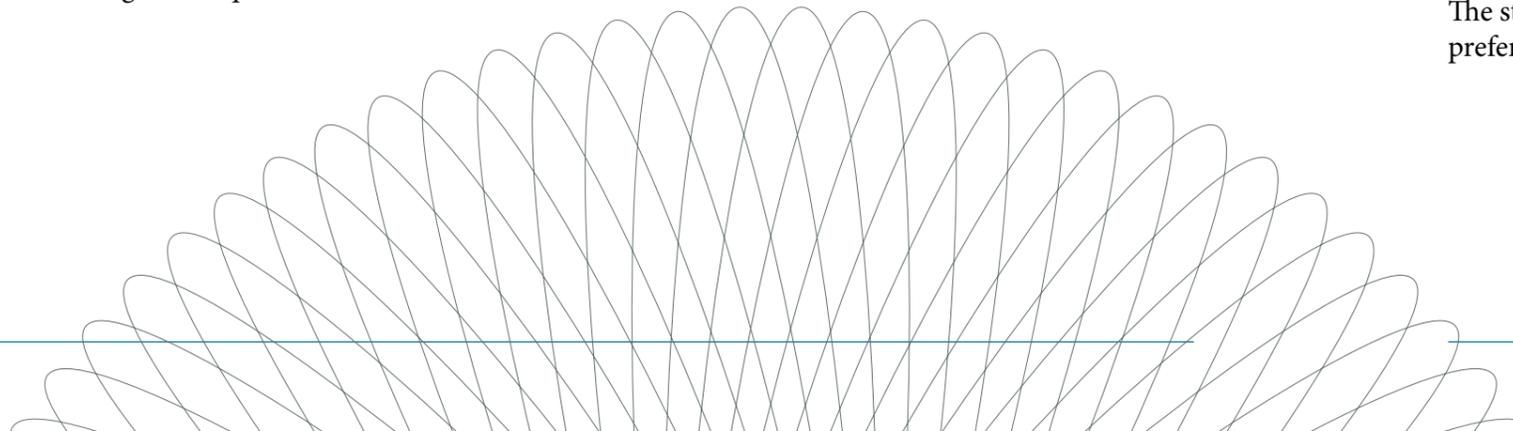
PROMOTING SOCIAL COMPETENCE AND PEER RELATIONSHIPS FOR ADOLESCENTS WITH AUTISM SPECTRUM DISORDERS

BACKGROUND

Adolescence is a period when young people encounter numerous transitions. One of the most complex of these, is the social world that students must learn to navigate.

RESEARCH AIMS

The purpose of this article was to outline some of the key considerations and complexities associated with supporting schools to address social competence and peer relationships for transition aged young people with autism.

RESEARCH METHODS

Difficulties and/or changes adolescents with autism may experience in the following four areas include:

1. Changing relationships with peers

   Relationships with peers gradually become more prominent in the lives of adolescents as they transition through to adulthood. A growing proportion of a young person's day is spent in the company of peers. The nature of relationships also changes and new social, emotional, cognitive and behavioural skills are required to interact successfully with other adolescents. Students spend an increasing amount of time outside of the classroom with their peers in both structured and informal activities while the use of social media allows adolescents a method by which they can continue to interact beyond the school day. Navigating the social world can be a challenging task for young people with autism due to the complexity of social rules and hidden assumptions.

2. Changing relationships with adults

   Adolescents gain more independence and have less assistance and support from adults than during childhood. Many of the social interactions that adolescents encounter are with their peers and they may have limited adult support during these interactions. It is necessary however that teachers continue to facilitate peer relationships by providing opportunities for students to engage in positive peer interactions.

3. Changing educational contexts

   As students transition through adolescence, they encounter increasing numbers of teachers and fellow students. The authors note that expectations may vary across settings, particularly for those students with autism who attend both mainstream and special education settings.

4. Changing definitions of Social Success

   Social skills expectations can vary across settings. The skills required to successfully interact with teachers are different from those required when interacting with one's peers. The authors note that different social skills and competencies may also be required for situations after graduation. Therefore, students are required to develop social skills which are to be used across various settings and with various groups of people.

RESEARCH FINDINGS

The authors outline points of intervention under the following headings:

1. Intervention approaches focused on students with autism

   An important intervention strategy involves teaching adolescents specific skills and knowledge required to improve the quality of their interactions with peers and others. The following strategies are discussed:

a. Social skills training involves teaching specific social related skills e.g. eye contact and turn taking in order to improve the interpersonal interactions of young people with autism. It is noted that social skills training should be delivered in typical settings and driven by assessment.

b. For those young people who experience difficulties with communication, it may be necessary to ensure they become fluent with the use of aided or unaided communication systems with their peers. It is necessary for young people with autism to have a means by which they can fluently communicate with their peers.

c. Certain behaviours may hinder a young person's ability to successfully interact with his/her peers and therefore behavioural interventions may often be necessary in order to teach a more appropriate response that serves the same function.

d. Social cognitive interventions involve providing guidelines on the cognitive aspects of social interaction e.g. theory of mind and emotion identification. The development of these skills can support a young person with developing their social skills and lead to more positive social interactions.

2. Intervention approaches focused on peers

   These interventions focus on providing information, training and/or support to typically developing peers in order to increase their confidence in interacting with their peers who have autism. Providing accurate information on the strengths and needs of students with autism is necessary to allow their peers to become more aware of their abilities and learning needs. These strategies seek to address barriers to peer relationships which may stem from a lack of awareness and/or accurate information about autism. In addition, peer interactions are more likely to be successful and/or maintained if peers have received training and support in how to use relevant communication systems, facilitate bids for interaction and a student's participation in social activities. It is recommended that the following steps are followed: a) identify students with autism and peers who wish to be involved, b) provide relevant strategy instruction, c) facilitate regular social interactions and/or opportunities, d) provide guidance and support and e) evaluate the progress of participants across time.
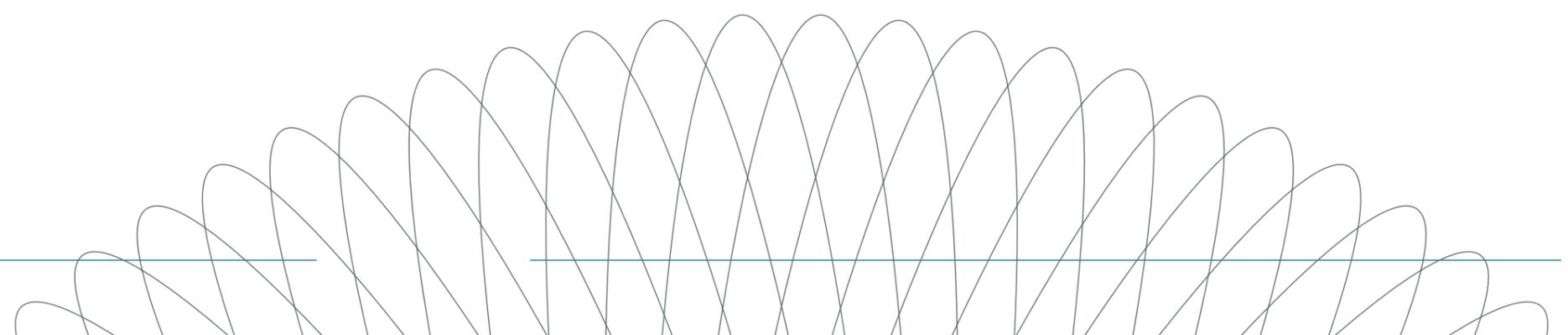
3. Intervention approaches focused on educator and paraprofessional supports

   It is essential that teachers and professionals establish interventions that ensure students receive adequate social supports which simultaneously fade adult proximity. School staff can ensure the facilitation of social interactions and can embed this into ongoing instruction e.g. learning groups. Teachers can also plan interactive activities around leisure activities or special interests.

4. Intervention approaches focused on schoolwide changes

   Whole school policies and practices influence the degree to which students are provided with opportunities for exposure to supported social interactions. The structure of schools dictates the extent to which students with and without autism spend time together both in and out of the classroom. Formal peer programmes can provide opportunities for students to get to know their peers with autism and other disabilities.

5. Intervention approaches to engage families

   Families represent a significant factor when exploring the social opportunities available to students with autism. The expectations parents may have in relation to social participation can influence the opportunities they provide to their children with autism, while family resources can affect the extent to which they can access various technologies and/or particular social events. Family priorities can also affect the degree to which social goals are included within Individual Education Plans.

   Families can play an active role in teaching social skills associated with greater social competence in the home. Parents, however, require information and strategies to support their children's social development.

It is also necessary that parents are made aware of any school based interventions and strategies to ensure that they can continue to be developed in the home environment.

IMPLICATIONS FOR PRACTICE
(by the authors)

Five recommendations were outlined by the authors to promote social competence and peer relationships for adolescents with autism:

- Students with autism may benefit the most when teachers adopt a comprehensive approach to intervention that simultaneously addresses building student competence, equipping peers, reconceptualising adult roles, creating supportive school cultures and engaging families more actively.

- School teams should reflect on the roles staff will play in delivering interventions, as well as the professional development and support each will need to do so effectively.

- Peers should play an important role in developing interventions focused on whole school change.

- The use of new technologies is providing more students with autism with a reliable means of communication. It is recommended that identifying ways of facilitating the use of this technology warrants increased attention.

- It is noted that there is a necessity for the development of social related assessment tools and planning approaches specifically designed for use with adolescents with autism.

Full Reference

Carter, E. W., Common, E. A., Sreckovic, M. A., Heartley, H. B., Bottema-Beutel, K., Gustafson, J. R., Dykstra, J. and Hume, K. (2014). Promoting Social Competence and Peer Relationships for Adolescents with Autism Spectrum Disorders. *Remedial and Special Education*, 35(2), p. 91-101.

EFFECTS OF A MODIFIED POWER CARD STRATEGY ON TURN TAKING AND SOCIAL COMMENTING OF CHILDREN WITH AUTISM SPECTRUM DISORDER PLAYING BOARD GAMES

BACKGROUND

The authors have claimed that there is a dearth of information regarding appropriate strategies to support children with autism to engage in social reciprocal play with their peers. They advocate that the Power Card Strategy, using the child's motivational interests and innate qualities surrounding routine and predictability, may support the acquisition of the necessary social interaction skills. The Power Card Strategy is a skills-based approach that incorporates the child's visual strengths in his or her area of special interest, with his or her favourite character acting as an instructional motivator, to offer opportunities for social initiation encompassing appropriate social behaviours to allow for increased levels of social inclusion and integration.

RESEARCH AIMS

This study aimed to teach two boys with autism, through the introduction of the Power Card Strategy, the required skills to allow for appropriate social interaction, including initiating a turn, relinquishing a turn and social commenting, while playing board games with their peer group.

RESEARCH METHODS

The two boys with autism were aged nine and ten years. The study was carried out in an autism specific classroom during social skills group with four other peers, a teacher and an assistant. The board games, part of the social skills group teaching, were selected as each student was already familiar with and had the necessary game completion skills, pincer grip, turn completion and game expectation.

Each student was given an individual Power Card for each game where the special interest character solved a difficult problem in a three or five step manner from his or her point of view. On the first occasion, to achieve a baseline, the teacher read through the support from the Power Card with the student, next, the Card was simply presented to the student and on subsequent occasions, the teacher used gestural prompts until eventually the script was replaced to the special interest character's picture and three one-word steps.

Each of the three required behaviours was measured per turn taking opportunity and converted to percentage of responses per opportunity. The social commentary was noted when the student independently made game relevant comments such as "You won", or "That was a really hard one!" and when the student commented using the script from the Power Card or verbatim lines from television programmes or films.

The parents were encouraged to use the same strategy and games at home to develop family play times.

RESEARCH FINDINGS

With both boys there were substantial increases in appropriate initiation and relinquishing of turns in their play with their peers and at home, even when the Power Card Strategy was differentiated to just the special interest character picture and the three, one-word support structure. However, neither boy, increased his appropriate commenting and both continued to display special interest character comments and television and film script remarks.

Both boys reported enjoying the activities and liked using the Power Card, with James saying he would like to use more Power Cards but Daniel said he did not want anymore.

Both sets of parents were delighted with the results of the Power Card Strategy when playing in the family home, as the number of tantrums had significantly decreased and they felt empowered to use the same concept for alternative family activities.

IMPLICATIONS FOR PRACTICE
(by the authors)

- The time spent carefully observing and evaluating the special interest of and influential characters on children with autism can be invaluable to the teacher, parent and assistants when they are developing learning plans to promote social inclusion, initiation and play skills.
- Consistently using the same strategy, at home and in school, can help the child with autism generalise, in two distinct environments, and develop appropriate social and leisure skills.
- The use of the Power Card Strategy may be differentiated to expand the array of social and leisure activities offered to the child with autism, once the child has assimilated the concept.
- The child with autism may be motivated to behave appropriately if the encouragement and directions are offered by their special interest character, as both boys enjoyed the use of the cards.

- As one boy requested more Power cards, as practitioners it is important to continually observe and recognise if the child with autism has a range of interests to ensure we do not limit the child.
- This use of a range of interests may allow for a breadth of social commentary and not confine the language used to one specific special interest character or activity.
- With the appreciation of the beneficial impact of the use of the Power Card Strategy, the Power Card script could offer a range of socially appropriate comments and discourage or restrict the use of echolalic responses and comments

Full Reference

Daubert, A., Hornstein, S. and Tincani, M. (2015). Effects of a Modified Power Card Strategy on Turn Taking and Social Commenting of Children with Autism Spectrum Disorder Playing Board Games. *Journal of Developmental and Physical Disabilities*, 27, p. 93-110.

EXECUTIVE FUNCTION PREDICTS THE DEVELOPMENT OF PLAY SKILLS FOR VERBAL PRE-SCHOOLERS WITH AUTISM SPECTRUM DISORDERS

RESEARCH AIMS

The researchers aimed to determine the relationship, if any, between the development of Executive Function (EF) skills and the development of play in preschoolers.

Further to this the researchers sought to determine the nature and direction of any relationship between the two e.g. does EF influence play development or vice versa?

RESEARCH METHODS

The sample consisted of 66 children with autism (55 male; 11 female). All the children were verbal, however there were individual differences in verbal ability within the sample.

The children completed a range of cognitive and neurocognitive assessments; a qualified observer rated the symbolic and pre-symbolic play of the children using a range of play objects.

RESEARCH FINDINGS

Language development emerged as a key factor in the relationship between play and EF. The children with higher language skills had a clear relationship between their EF development and their play. In these children, EF development predicted play development. In the children with lower language ability the relationship and the direction of the relationship is less clear. The researchers indicate that in these children the development of play skills was more closely related to language development.

These findings replicate previous research that link language development and play in those children with lower levels of early language development.

IMPLICATIONS FOR PRACTICE
(by the authors)

- The research highlights the importance of early language development and its role as a building block in the development of play skills. For those professionals who are delivering programmes of early intervention the research provides a rationale for the individualisation of early intervention programmes based on language development.
- For those children who do not have delayed language the focus on developing their play development should be on the working with EF skills and the development of their EF.

Full Reference

Faja, S., Dawson, G., Sullivan, K., Meltzoff, A., Estes, A. and Bernier, R. (2016). Executive Function Predicts the Development of Play Skills for Verbal Preschoolers with ASD. *Autism Research*, 9(12), p. 1274-1284.
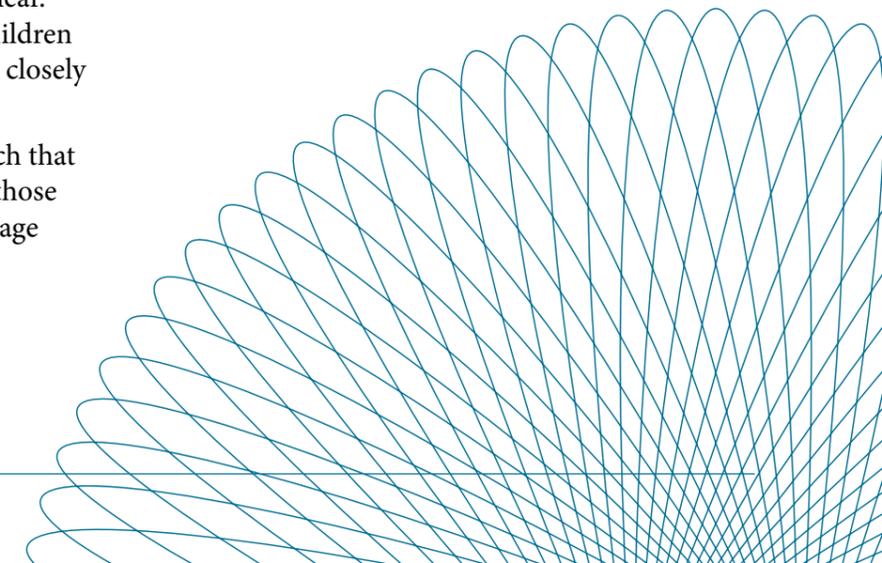
SUPPORTING INDEPENDENCE IN ADOLESCENTS ON THE AUTISM SPECTRUM

BACKGROUND

Adolescents with an Autism Spectrum Disorder (ASD) are often challenged in the areas of social communication, social interaction and maladaptive, repetitive and/or rigid behaviours. With adequate support provided during adolescence, many of these challenges can be managed and gains made by the individual. Adolescents in secondary school settings face challenges related to the structure and organisation of the school. The structural challenges relate to the physical structure and students are required to move from class to class in minimal transition time and often in crowded corridors. They also have numerous teachers for different subjects and often a different peer group in each class. Adolescents with ASD attending secondary school have lots of demands placed on them to ensure they get where they need to be, on time, and often with little support from others. Adolescence is often described as a time of increased independence but adolescents with ASD often need additional adult support so that functional independence does not decline when these individuals enter adulthood.

RESEARCH AIMS

The aim was to examine issues around independence, including the importance of developing independence during adolescence and student demonstration of independence in secondary settings, the influence on secondary and post-secondary outcomes and factors that contribute to difficulties in independence in individuals with ASD. In addition, a secondary aim was to provide a review of interventions that have been designed to promote independent demonstration of skills and to reduce behaviours that may inhibit skill acquisition. Recommendations for future research and practice are also made.

RESEARCH FINDINGS

Independence and ASD

Studies have shown that adults with ASD with and without intellectual disability rely heavily on others for support in employment, living and relationships in order to have good outcomes. Outcomes are affected by factors such as limited independent performance and an overreliance on prompts and feedback. Individuals with ASD experience difficulties attending to multiple cues in the environment, thus affecting their ability to learn by observing others. Independent functioning difficulties may also be related to deficits in social communication as an individual with ASD may not be able to ask questions, seek clarification about expectations or be able to express preferences. Achievement of long-term independent functioning can be impacted by an excessive resistance to change or need for sameness and this may create difficulties when caregivers try to fade or remove prompts that have been previously provided.

Individuals with ASD present with impairment in executive functioning which also contributes to difficulties in independence. For example, individuals may be challenged when planning multi-step sequences of events and find it difficult to demonstrate mental flexibility.

Other contributors in establishing independence in individuals with ASD is the challenge related to generalisation of skills and to the heavy reliance on prompts provided by others, rather than environmental cues.

Evidence-based interventions to support independence in adolescents with ASD

Practices that could be used to increase independence for individuals with ASD e.g. with difficulties in social skills include self-monitoring, video modelling and work systems. In addition, task analysis and visual supports can be used to promote independence. Individuals themselves need to learn self-determination and parents/caregivers will sometimes require support themselves to alleviate their worries about their child's ability to function independently in secondary school.

IMPLICATIONS FOR PRACTICE
(by the authors)

Practitioners and caregivers who offer support to individuals with ASD must first recognise the importance of independence as a curricular area for students in secondary school and teaching for independence should become the focus of every activity:

- The emphasis should be on teaching and measuring the process versus the product.
- Practitioners should use the students' strengths in order to promote independence.
- Consider how, when and who will implement independent instruction and supports.
- Examine parent involvement to support independence.

Full Reference

Hume, K., Boyd, B. A., Hamm, J. V. and Kucharczyk, S. (2014). Supporting Independence in Adolescents on the Autism Spectrum. *Remedial and Special Education*, 35(2), p. 102-113.
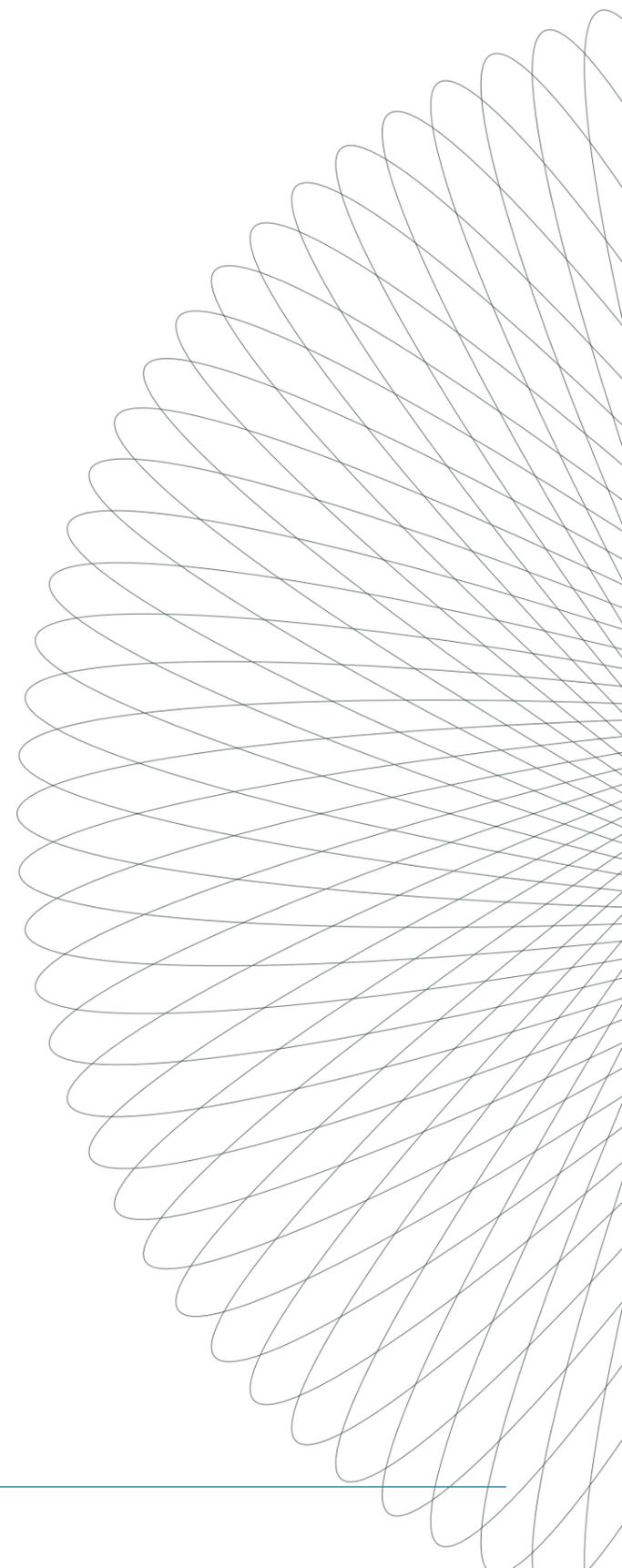
A RANDOMISED CONTROLLED TRIAL TO IMPROVE SOCIAL SKILLS IN YOUNG ADULTS WITH AUTISM SPECTRUM DISORDER: THE UCLA PEERS PROGRAM

BACKGROUND

Social skills and positive relationships with others are indicators of good quality of life for adults with high functioning autism. Adults who are socially isolated and who have not formed friendships are at greater risk of experiencing loneliness and developing mental health complications. Many adults with autism and without intellectual disabilities remain dependent on caregivers, and so intervention programmes which are assisted by caregivers often have better outcomes. This study therefore examined the effectiveness of a caregiver-assisted social skills programme for adults with autism who do not have an intellectual disability. The intervention programme used was the Program for the Education and Enrichment of Relational Skills (PEERS).

RESEARCH AIMS

1. To replicate a previous study with a new sample of young adults with autism.
2. To assess the maintenance of outcomes 16 weeks following intervention.
3. To determine if young adults receiving the PEERS intervention would make more gains in social skills, social responsiveness, social skills knowledge and peer engagement than a control group.

RESEARCH METHODS

Twenty-two adults with autism aged 18-24 years were recruited from the UCLA PEERS clinic and The Help Group (a community mental health organisation), and were randomly assigned to a treatment or control group. The treatment group attended 16 weekly 90-minute social skill group sessions while the control group received the same intervention 16 weeks later. Sessions included a focus on friendship skills, romantic relationships and peer conflict/resolution.

Caregivers for the adult participants were also recruited and included family members, job coaches, life coaches and peer mentors. This involved attending 16 weekly intervention sessions, separate from the young adults with autism.

Teaching methods included didactic instruction, role play, structured practice and homework. Caregivers were given specific instructions on how to assist with social coaching and support the young adults in homework assignments.

Assessments were carried out before intervention, at the end of 16-week intervention and then at 16-week follow up. Outcome measures were assessed using:

1. Social Responsiveness Scale (SRS; Constatino, 2005)
2. Social Skills Rating System (SSRS; Gresham and Elliott, 1990)
3. Quality of Socialization Questionnaire (QSQ; Laugeson and Frankel, 2010)
4. Empathy Quotient (EQ; Baron-Cohen and Wheelwright, 2004)
5. Test of Young Adult Social Skills Knowledge (TYASSK; adapted from Laugeson and Frankel, 2010)

RESEARCH FINDINGS

The treatment group showed significant improvements over the control group in overall social skills, knowledge of social skills and frequency of engagement. There were also improvements in social motivation, social communication, cooperation and assertion, and a reduction in autistic mannerisms (restricted interests and repetitive behaviours) in the treatment group.

There was no difference between the two groups in change in empathy as reported by caregivers and no significant differences in social awareness, social cognition, responsibility or self-control. Participants in the treatment group reported more monthly get-togethers, and caregivers in the treatment group reported an increased number of invited get-togethers.

Most gains were maintained at 16-week follow-up and there were new improvements in social communication, assertion, responsibility and empathy.

These outcomes suggest that PEERS for Young Adults is effective in improving the social skills of young adults with high functioning autism. The study findings also highlight the importance of caregiver support in social skills intervention.

IMPLICATIONS FOR PRACTICE
(by the authors and reviewer)

- Social skills intervention programmes can be effective in improving the overall social skills of young adults with high functioning autism. In particular, improvements may emerge in the areas of social responsiveness, social skills knowledge and frequency of social get-togethers.

- Most of these improvements are maintained, and sometimes further enhanced, 16 weeks after intervention has been completed. Other studies also report maintenance of outcomes years after intervention.

- The involvement of parents and other caregivers in the intervention programme is a key to its success. When caregivers are trained in social coaching and give support to young adults with autism, outcomes are more likely to last longer.

- The involvement of caregivers also means that skills can be generalised to multiple settings rather than only taught and practised in the clinic setting.

- Training and support should be given to both caregivers and young adults with autism when aiming to improve social skills.

- The length of the intervention programme (16 sessions) and the types of teaching methods used will also have contributed to the successful outcomes, and it may therefore be worthwhile to replicate the intervention programme used in this study when working with young adults with high functioning autism.

Full Reference

Laugeson, E. A., Gantman, A., Kapp, S. K., Orenski, K. and Ellingsen, R. (2015).
A Randomised Controlled Trial to Improve Social Skills in Young Adults with Autism Spectrum Disorder: The UCLA PEERS Program. *Journal of Autism and Developmental Disorders*, 45(12), p. 3978-3989.
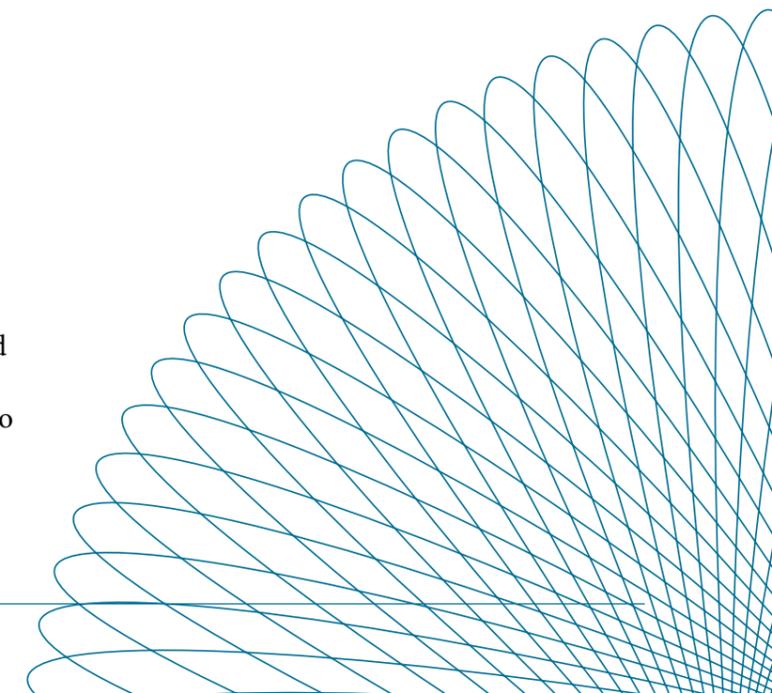
TEACHING SOCIAL INTERACTION SKILLS USING COOL VERSUS NOT COOL

BACKGROUND

One of the core deficits of Autism Spectrum Disorder (ASD) is impairments in social behaviour. The lack of social behaviour can lead to negative outcomes for individuals diagnosed with ASD such as isolation. One procedure that can be implemented to increase social behaviours is the cool versus not cool procedure (CNC). CNC is a discrimination programme used to teach learners to distinguish between appropriate ("cool") and inappropriate ("not cool") social behaviours. CNC starts with a teacher demonstrating the behaviour (either the "cool" or "nor cool" way) in front of the learner and then asking the learner to rate if the demonstration was "cool" or "not cool". Next, the teacher asks the participant to state why the demonstration was "cool" or "not cool." An optional component of CNC is the learner having the opportunity to role-play the behaviour in front of the teacher.

RESEARCH AIMS

The purpose of the study was to examine if the CNC procedure with addition of mandatory role-playing would be effective in teaching social behaviours relating to social interaction to individuals diagnosed with autism.

RESEARCH METHODS

Participants

Three participants with a clinical diagnosis of Autistic Disorder participated in this study. All participants were able to discriminate between "cool" versus "not cool" demonstrations and had the language to state why a demonstration was "cool" or "not cool". The study also had two confederate peers to help with naturalistic probes (NPS). Both confederate peers were five years old and also diagnosed with an Autistic Disorder but were considered cognitively "higher functioning".

Prior to the study, the researchers trained both confederate peers on the behaviours to display during NPS.

Procedures

The study was conducted in small clinical rooms of a private agency that served as the primary school placement for each participant at the time of the study. NPS and teaching sessions were conducted in two different rooms.

Each participant was taught one social skill related to social interaction. This skill was chosen in consultation with each participant's clinical supervisor. The skills selected were:

a) How to make a compromise in selecting which game to play.

b) How to share a snack with a peer.

c) How to be assertive when a peer takes a play item without asking.

Research sessions involved one session a day across five days. The design consisted of three conditions: baseline, intervention, and maintenance. Intervention was not implemented on the second or third participant until an increase of behaviour was demonstrated by the previous participant.

Baseline: The researcher removed the participant and the confederate peer from their clinical setting and conducted a single NPS around one of the skills identified above. NPS were opportunities for the participant to display the targeted skill. A trained confederate peer engaged in a behaviour that set the occasion for the participant to display the social behaviour e.g. the peer asked the participant what game she wanted to play and then the peer stated a different game. No reinforcement or prompting occurred during NPS.

Intervention: The intervention condition consisted of a NPS (as in baseline condition), a ten minute break, and then implementation of CNC. First, the researcher labelled the skill to be practiced for the session. Next, the researcher demonstrated the target skill with a second adult – two "cool" and two "not cool" (order randomly selected). During "cool" performance, the researcher displayed all of the steps of the targeted behaviour. During "not cool" demonstrations, the researcher either omitted one of the steps or demonstrated a step incorrectly. The researcher demonstrated the skill inappropriately based on how the participant performed during the earlier NPS, or based upon a previous NPS if the earlier NPS was 100% appropriate. General praise or corrective feedback was provided to the participant. The participant was then asked to state one reason why the demonstration was "cool" or "not cool". General praise was provided for correct responses, for incorrect responses the researcher provided corrective feedback and modelling of the correct response.

Maintenance: Identical to the baseline condition.

Inter-observer agreement and treatment fidelity

Inter-observer agreement was collected on the primary dependent variable during 51.5% of probe sessions and was 100% across all probes. Treatment fidelity was also 100% across all sessions.

Data analysis

The main measure was participant mastery of skills which was determined during NPS. Mastery criterion was set as the participant displaying 100% of the skill steps across three consecutive NPS. The second measure was the percentage of correct responding during researcher demonstrations. Third, the average number of role plays required per session were measured.

RESEARCH FINDINGS

Skill acquisition

The CNC procedure was effective in teaching social behaviours with all three participants reaching mastery criterion and the length of time to reach mastery criterion (five sessions, three sessions, eight sessions) was within the range for other commonly implemented interventions.

Demonstrations and role-plays

Results showed the participants could discriminate and state why demonstrations were "cool" or "not cool" with a high degree of accuracy following demonstrations. Participants' average correct responding for appropriate discrimination were 90%, 100% and 100%. Participants' average correct responding for why the demonstration was "cool" or "not cool" were 95%, 91.6% and 96.9%. The results also showed that the participants required very minimal role-plays during each teaching session averaging 2, 2.3 and 2.25 per session.

IMPLICATIONS FOR PRACTICE

(by the authors)

- The CNC procedure may be an effective method to teach social behaviours to individuals diagnosed with ASD.

- Role-playing may be an important component in skill acquisition as it allows positive practice under more controlled settings.

- The demonstration of both appropriate and inappropriate behaviour may allow the participant to observe what he or she is doing incorrectly in his or her natural environment. This may lead to a change in behaviour as a result of being able to better discriminate his/her own behaviour.

- The CNC procedure allows the teacher to change the wording and role-playing per session which could allow for better generalisation during more natural conditions.

- Future research needs to be carried out for CNC to be considered evidence based. Research ideas include examining a wider variety of skills with more students, exploring how to teach children how to respond when different antecedents present themselves (e.g. they should not share a snack) and measuring higher degrees of generalisation e.g. without the presence of the researcher.

Full Reference

Leaf, J.B., Taubman, M., Leaf, J., Dale, S., Tsuji, K., Kassardjian, A., Alcalay, A., Milne, C., Mitchell, E., Townley-Cochran, D., Leaf, R. and McEachin, J. (2015). Teaching Social Interaction Skills Using Cool Versus Not Cool. *Child & Family Behavior Therapy*, 37(4), p. 321-334.

A GROUP BASED INTERVENTION FOR CHILDREN WITH SPECIAL EDUCATIONAL NEEDS: PROMOTING SOCIAL SKILLS AND COMMUNICATION THROUGH SHARED COOKING ACTIVITIES IN A MAINSTREAM PRIMARY SCHOOL

BACKGROUND

The students involved in the study were all based in mainstream classes, however the school identified groups of students that needed additional time to develop targeted skills to promote friendships and social inclusion. The school has a history of teachers working collaboratively to implement interventions, covering a wide range of curriculum areas, aimed at supporting the self-confidence and social competences of the children with SEN in the school. In the school year 2011/12, a cookery based intervention was begun.

RESEARCH AIMS

The aim of this cooking-based project was to create and implement an intervention, supported by literature, which could be applied in a primary school setting for enhancing social skills and communication in young children with SEN, initially prioritising students with ASD.

RESEARCH METHODS

Participants

Five pupils in fifth and sixth class, who had been identified as benefitting from a social skills and communication intervention, were selected. The initial group comprised of students with ASD, however later groups included students with various SENs, such as mild general learning difficulties, speech and language impairment, ADHD, dyspraxia and behavioural, social and emotional difficulties.

Procedures

The intervention ran from September to Easter and each child in the intervention had an Individualised Education Plan (IEP) that prioritised learning goals in the areas of social communication and social skills. The group met each week, for 50 minutes, working together to follow a selected recipe with a focus on shared attention on set tasks. The school staff modelled and scaffolded the required social/communication skills to help the students work together in a group to get the task completed, focusing on social strengths, turn-taking and promoting positive interactions.

The session was split into three phases that could be successfully completed in an easy-going atmosphere. The introductory phase allowed the students to meet and greet each other and engage in spontaneous conversations that were scaffolded by the teacher and special needs assistant (SNA) who were also able to model appropriate interactions. The central phase was the shared activity of following that day's recipe. The pupils were guided through the procedures, taking turns to carry out the instructions and complete different required tasks, such as weighing, mixing, pouring or sieving. The role of staff was to discretely direct procedures, attend to health and safety and model positive social interactions. When appropriate and safe to do so, the children took photographs of the different steps required to complete the task. These were then used to make picture scripts and slideshows that the students could access at home so they could participate in cooking with family members. After the recipe was completed, the session moved to the review stage. The group sat down together to celebrate, discuss and enjoy the meal that they had produced.

RESEARCH FINDINGS

The author and colleagues felt there had been improvements in the social skills and communication abilities of the participants. The sessions allowed the pupils to practise essential life skills, as well as combining key curriculum areas such as Health, Language, Maths, Science, Social Studies, Muscle Control/Coordination and Social Skills. The children were observed applying the social rules and successfully using the verbal and non-verbal aspects of communication. The collaborative nature of the sessions displayed a significant growth in the children's confidence and in their independent ability to communicate verbally with their peers.

IMPLICATIONS FOR PRACTICE
(by the authors)

- Sessions allowed successful modelling, teaching and practising of skills including organisational skills, turn taking, safety awareness and practice with the children.
- The fundamental tools for any practitioner working in the area of education are a sound knowledge and understanding of the core elements of an identified SEN and a child centred, creative appropriate and enjoyable approach to implementing interventions.

Full Reference

Macnamara, R. (2015). A Group Based Intervention for Children with Special Educational Needs: Promoting Social Skills and Communication through Shared Cooking Activities in a Mainstream Primary School. *REACH Journal of Special Needs Education in Ireland*, 28, p. 3-20.
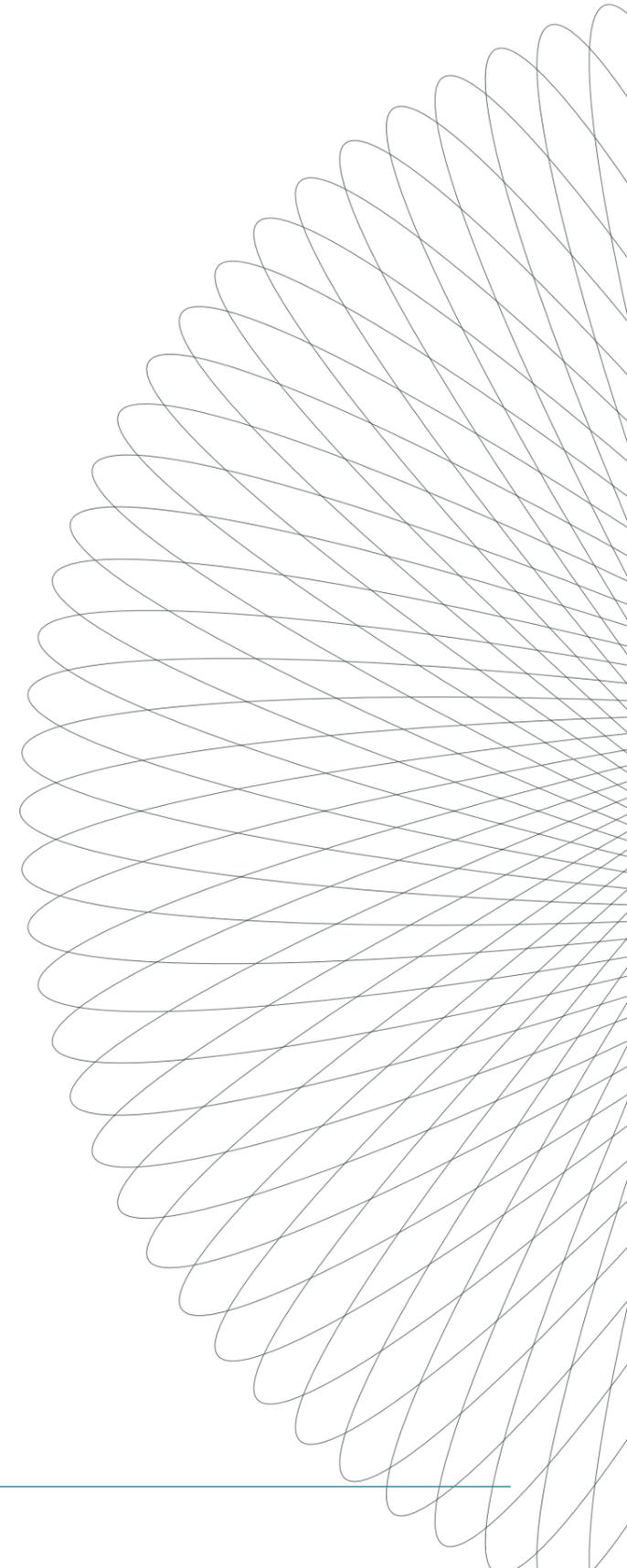
TEACHING LEISURE SKILLS TO DEVELOPMENTAL DISABLED CHILDREN AND FACILITATING INTERACTION WITH TYPICALLY DEVELOPING PEERS THROUGH PLAYING HOCKEY

BACKGROUND

A research review was conducted to highlight the difficulties children with disabilities have in relating to others socially. Previous studies suggest that children with disabilities may often need to be provided with direct intervention to acquire the skills for social interaction. Another study emphasises that children who have not acquired these social skills are less likely to be accepted by their peers. It also proposes that it is essential that children have experiences outside their immediate family to form relationships and have the opportunities for social integration.

Research suggests that the social skills needed to participate in social groups can be developed through leisure education. Other studies have demonstrated that children with disabilities can be taught to play games with typically developing peers using modified rules.

This research review forms the basis for the hypotheses for this study which is that is the experience of ice hockey can have a positive impact on the lives of young people with developmental disabilities and their parents.

RESEARCH AIMS

There are two main goals, first to provide an opportunity to participate in the game of ice hockey to individuals with autism and other developmental disabilities. The players were eventually integrated with typically developing players during the ice hockey play.

The second goal involved college students with an interest in hockey providing a service learning component to the participants i.e. they demonstrated and taught the individuals how to play hockey.

The aim of the research was to prove the hypotheses that a match in interest with typically developing peers could increase interaction, specifically in participation in a recreational activity and have an overall positive effect on the lives of the participants. The measurements for this were achieved by surveys carried out on a weekly basis throughout the programme.

RESEARCH METHODS

The research method involved a study of eleven children age seven to eighteen years with a diagnosis of autism along with six hockey players from the Gonzaga Hockey club. The children attended an ice arena on a weekly basis where the hockey players participated as therapists for 60 minutes at each session. Each session consisted of direct teaching and demonstration of the game where the children practiced new skills with the therapists. In the last four sessions typically developing peers were brought in to play the game with the participants. The research was carried out via a survey of each of the weekly sessions from Spring 2009 to Spring 2010. The data collection for this survey was in the form of a questionnaire which the parents took home and asked their children throughout the process. A copy was also given to parents to pass on to teachers to be filled out during a school day. The parents filled out how often each day the children talked about hockey. The parents also asked the children three questions each week. If they enjoyed their lesson, if they would go back next week and how much they liked hockey.

A survey was also carried out with the therapists who were hockey players from the hockey club. This data was also collated as a response to a questionnaire given to them on the last day of practice. It asked how they felt about teaching children with disabilities and whether they would come back again the following year.

It also asked if the Gonzaga club staff communicated information about the hockey in a clear manner.

As well as the research with the eleven children a further study was carried out with two children who had severe communication deficits and who displayed challenging behaviour to different degrees. They had limited opportunity before the study to interact with other peers or typically developing peers. Therapist and peer interaction were measured individually for these two participants of the programme.

RESEARCH FINDINGS

The research findings according to the parent reports indicated the study had a positive impact on each of the participants. Parents reported that the study provided an opportunity for their children to engage in an activity with others that was normally not accessible for them. The pupils, for example, had the opportunity to play hockey as well as integrate with typically developing peers in a functional and meaningful manner. The service providers were also given an opportunity to experience teaching children with a disability.

IMPLICATIONS FOR PRACTICE (by the Reviewer)

- The study highlights that more research needs to be carried out on the impact of developmentally disabled children interacting with typically developing peers in a leisure setting such as hockey.

- The study suggests that when these children are given direct teaching for leisure activities they are provided with an opportunity for positively interacting with peers socially in a way that may not have been available to them previously.

Full Reference

Mortensen, S., Derby, K. M. and McLaughlin, T. F. (2015). Teaching Leisure Skills to Developmental Disabled Children and Facilitating Interaction with Typically Developing Peers Through Playing Hockey. *International Journal of Multidisciplinary Research and Development*, 2(1), p. 106-117.
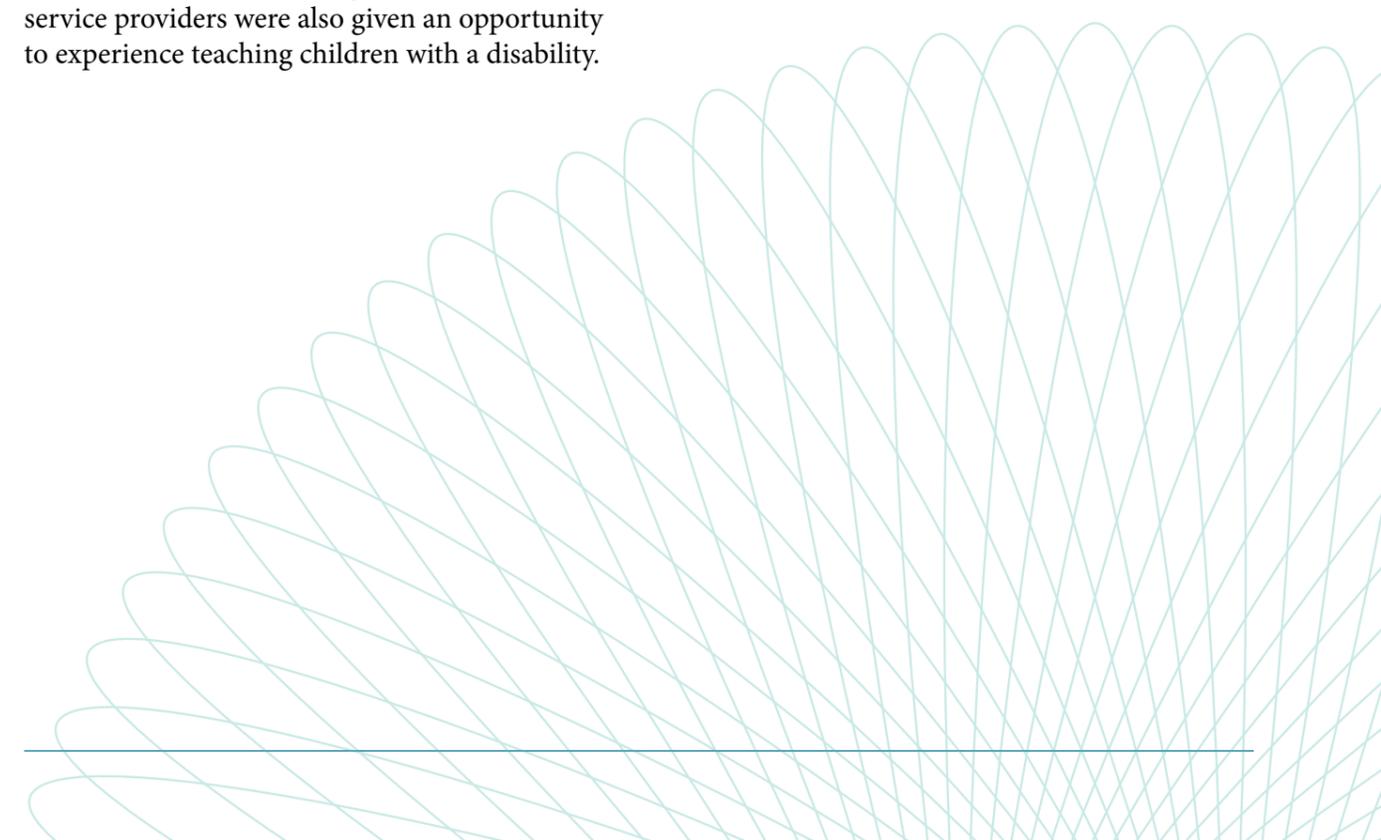
SCHOOL-BASED SOCIAL SKILLS TRAINING FOR CHILDREN WITH AUTISM SPECTRUM DISORDER

BACKGROUND

The study aimed to evaluate the effects of the Superheroes Social Skills programme, a social skills curriculum for children with ASD. Previous research had shown this curriculum to improve social engagements of children with ASD during unstructured recess periods, but had been limited in research data and lack of maintenance data. Five elementary aged (5-11 years) participants with inclusive placements in public school settings were included in the study.

RESEARCH AIMS

The aim of this study was to further evaluate the efficacy of the Superheroes Social Skills programme when implemented within a school setting. Four research questions were generated to guide the investigation:

1. Is there evidence of a functional relationship between the implementation of the Superheroes Social Skills programme and an increase in social engagement of the participants during recess periods?

2. Is there a change in the socio-metric standing of participants with ASD following participation in the programme?

3. Do teachers describe an improvement in the participants' social skills, following the programme?

4. Do participants with ASD describe the Superheroes Social Skills programme as an acceptable intervention?

RESEARCH METHODS

Participants

Participants were recruited from three public schools in the south-eastern United States – both participants with ASD and typically developing peers were selected for the study.

Inclusion criteria for the typically developing participants consisted of teacher nomination due to demonstration of appropriate social skills and a neutral or positive history of interaction with the pupils with ASD.

Procedures

The study consisted of three phases: baseline, intervention and follow up. During the baseline phase, the teachers conducted the ASSP for each participant with ASD to identify skills to be taught and provide a pre-intervention measure of social functioning. In addition, a friendship survey was administered to pupils with ASD and their classmates. Pupils were also observed during recess periods to assess levels of social engagement.

Intervention – sessions were conducted in small groups facilitated by trained graduate students. Sessions were weekly and approximately 30 minutes in length. Four social skills from the programme were taught – "Participation", "Body Basics", "Turn Taking" and "Conversation/Topic Maintenance". The target social skill was introduced by DVD and then the participants were provided with self-monitoring cards and engaged in three to four role plays using the target skill with peers. Facilitator praise and encouragement was used to encourage use of the self-monitoring card. During the intervention, direct observation of the participants during recess period was carried out by trained graduates.

Follow up – Data was collected five weeks after the intervention. A minimum of three follow up observations of social engagements during recess period was carried out for each participant with ASD. After these observations, participants with ASD and their peers once again completed the friendship survey.

RESEARCH FINDINGS

Results from the study supported the efficacy of the Superheroes Social Skills programme, and showed an increase in the levels of social engagement from pupils with ASD that are generalised to non-training settings. In addition to the generalisation, effects of the participation in the programme were observed at the five week follow up. Although further research should address the limitations of the study, results indicate that the programme may promote social skill use in children with ASD in inclusion classrooms.

IMPLICATIONS FOR PRACTICE
(by the authors)

- School personnel need manualised curricula that address social deficits of children with ASD.

- Social skills programmes, if utilised, in a school setting may result in increases in social engagement of children with ASD that are generalised to non-training settings.

Full Reference

Radley, K. C., McHugh, M. B., Taber, T., Battaglia, A. A. and Ford, W. B. (2015). School-Based Social Skills Training for Children with Autism Spectrum Disorder. *Focus on Autism and Other Developmental Disabilities*, p. 1-13.

COMPARING SIMULTANEOUS PROMPTING AND CONSTANT TIME DELAY TO TEACH LEISURE SKILLS TO STUDENTS WITH MODERATE INTELLECTUAL DISABILITY

BACKGROUND

Recreation and leisure are important to the quality of life of most people, including individuals with disabilities. Often, individuals with disabilities have large blocks of free time that may be used inappropriately because the opportunities and skills needed for leisure activities are not present. Most leisure skills are chained tasks (requiring a number of individual behaviours which are sequenced together to form a more complex skill). Two response prompting procedures that have shown promise in teaching chained skills to students with various disabilities are constant time delay (CTD) and simultaneous prompting (SP). Both CTD and SP can be considered errorless learning strategies, but the manner in which the prompts are faded differ. CTD is a method for transferring stimulus control by systematically inserting an interval of time between the target stimulus and the controlling prompt. In the initial trials, the target stimulus is immediately followed (i.e. 0 second delay) with presentation of the controlling prompt. In subsequent trials an interval of time (e.g. 4 seconds) is inserted between delivery of the target stimulus and the prompt until stimulus control is transferring from the prompt to the target stimulus. SP is a systematic form of antecedent prompt and test used to transfer stimulus control. On all trials, the presentation of the target stimulus is immediately followed by the controlling prompt.

RESEARCH AIMS

This study sought to answer the following research questions:

a) Is CTD an effective way to teach a chained leisure skill i.e. solitaire card games, to high school students with moderate intellectual disability?

b) Is SP an effective way to teach a chained leisure skill i.e. solitaire card games, to high school students with moderate intellectual disability?

c) Which procedure is more efficient on measures of procedural fidelity, and sessions, errors, and time through criterion?

d) Do CTD and SP produce skill maintenance?

e) Do CTD and SP produce skill generalisation across settings?

f) Which procedure is more efficient in terms of maintenance and generalisation?

RESEARCH FINDINGS

Participants

Five students enrolled in a self-contained classroom for students with moderate and severe disability in a public high school in America. The students ranged in age from 15 to 20 years. All students had a history of systematic instruction with CTD and SP.

Intervention

The trainer developed task analyses of two functionally independent card games (clock solitaire and row solitaire) which the trainer noted had similar topography, reinforcement value, total number of steps and number of steps that demanded a functional order. Each of the tasks analyses had 13 essential steps.

The study required a variety (e.g. novelty cards, different fonts/numeral sizes) of standard sized decks of playing cards, a laminated adaptive device (game layout template) for each game, task analyses of both card games, data sheets, timer and a box of tangible reinforcers for one participant who did not respond strongly to verbal praise. Sessions occurred in the students' self-contained classroom in a one to one arrangement.

The following sequence of experimental conditions was followed for each student:

a) Screening procedures.

b) Baseline probe sessions for both tasks: To demonstrate baseline performance, each student completed a total task, multiple opportunity baseline probe session on both skills for three consecutive days or until data were stable.

c) Generalisation pre-tests for both tasks: A probe session was carried out in a novel setting (library).

d) Intervention phase for both tasks: On each day of intervention, participants received SP with one task and CTD with the other task. Both the SP and CTD conditions included a probe session immediately before it. The training sessions were separated by at least two hours. The tasks and procedures and time of day the session was conducted were counterbalanced across students. Criteria for mastery was based on student performance on the daily probe sessions and consisted of 100% correct responses during one session with a continuous reinforcement schedule (CRF) of verbal praise, one session with praise delivered after every second step (FR2), one session with praise on a variable ratio of every third step (VR3), and one session with praise only at the end of the session (FR21 or FR25).

e) Generalisation post-tests for both tasks: A probe session was carried out in the same novel setting as before (library). Programming for generalisation was built into the study by using different decks of cards. Each student also made his or her own adaptive poster (personalised template layout for each game) and completed a generalised probe session using this.

f) Maintenance probe sessions for both tasks: To encourage maintenance, the schedule of verbal praise during daily probe sessions was faded from CRF to FR2 to VR3 to FR21 or FR25. The trainer also assessed maintenance by conducting at least one probe session with each student at two week intervals after skill mastery (apart from one student who only reached mastery at the end of the school year).

Inter-observer agreement and procedural fidelity

An independent observer collected reliability data on student responses and procedural fidelity during at least 20% of all sessions. Inter-observer agreement on student responses was above 99% for all types of sessions. Procedural fidelity for CTD ranged from 98 to 100% accuracy during probe sessions and 97% to 100% accuracy during training sessions. Procedural fidelity for SP ranged from 98% to 100% accuracy during probe sessions and 97% to 100% accuracy during training sessions.

Data analysis

While intervention data were collected the daily probe data were graphed and determined criterion level performance of the students.

RESEARCH FINDINGS

Efficacy

All participants demonstrated 0% correct responding during baseline conditions. Four of the five students achieved mastery on both games and one student achieved mastery on one game. The student who achieved mastery on just one game (taught by SP) only did so when the criterion was changed to exclude her dealing the cards to begin the session. Overall, results indicate that both procedures were effective.

Maintenance and generalisation

Due to time constraints, one student completed no maintenance probe sessions. For skills taught with SP, all four students maintained 100% mastery for time frames ranging from two to four weeks after mastery. For skills taught with CTD, two students maintained the skill with 100% accuracy two weeks after mastery. The remaining student maintained the skill with 92% accuracy two weeks after mastery and with 100% accuracy 18 calendar days after mastery. Students responded with 100% accuracy during generalisation post-tests in the library. Students also generalised the acquired skills with 100% correct responding to their own personalised adaptive devices. There were no substantial differences in skill maintenance and generalisation between SP and CTD. The study did not assess long-term maintenance.

Efficiency

SP appeared to be more efficient in terms of sessions and percentage training errors through criterion, whereas CTD was more efficient in terms of training time, probe time and probe errors through criterion. All students acquired the skills taught using SP; four of the five students acquired those taught using CTD.

Three of the four students acquired the skills in fewer sessions with SP than with CTD. One student acquired only the skill taught using SP.

IMPLICATIONS FOR PRACTICE
(by the authors)

- Teachers may have two effective procedures from which to choose when teaching chained tasks to students with moderate disability.
- Both CTD and SP offer unique advantages and disadvantages. These specific advantages and disadvantages may match individual student characteristics. For example, CTD requires a wait response, and students without this behaviour may learn more efficiently with SP since a wait response is not required.
- CTD requires a wider range of responses and changes in teacher behaviour, therefore SP may be easier for some teachers to implement. However, SP requires a daily probe session which adds time and opportunities for errors while CTD does not.
- Teachers may use the assistive devices described in this study as examples from which to create similar boards for other popular card games or leisure skills.
- Further research is needed to investigate the long-term maintenance of skills, whether students choose to play the taught games in their free time, possibilities for group instruction, and the use with different leisure skills / trainers e.g. parents.

Full Reference

Seward, J., Schuster, J. W., Jones Ault, M., Collins, B. C. and Hall, M. (2014). Comparing Simultaneous Prompting and Constant Time Delay to Teach Leisure Skills to Students with Moderate Intellectual Disability. *Education and Training in Autism and Developmental Disabilities*, 49(3), p. 381-395.
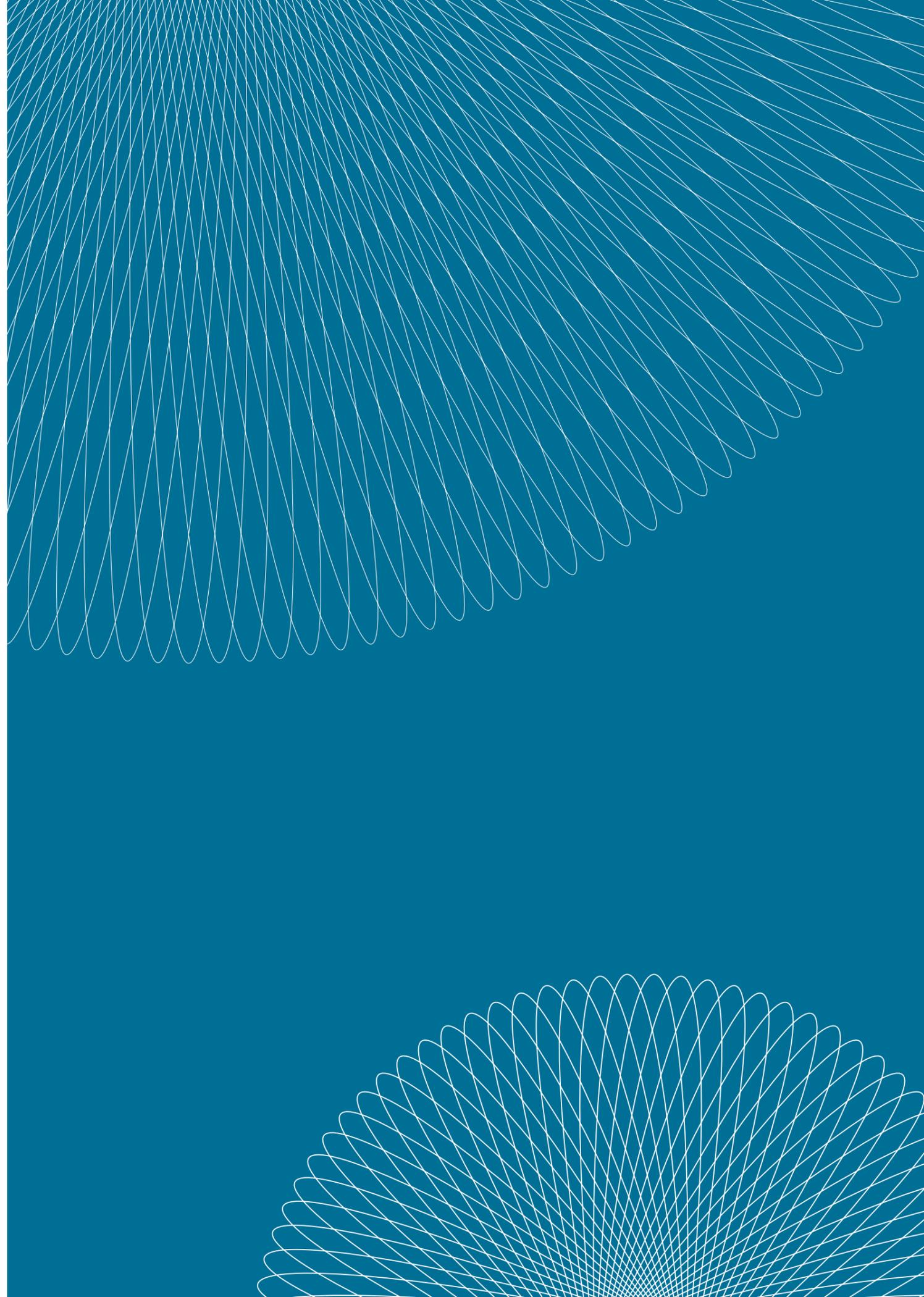
GROUP SOCIAL SKILLS INSTRUCTION FOR ADOLESCENTS WITH HIGH-FUNCTIONING AUTISM SPECTRUM DISORDERS

BACKGROUND

Individuals with ASD have socialisation impairments that can contribute to mood and anxiety problems later in adolescence. Interventions that utilise cognitive, behavioural and social learning techniques have been reported to be effective in reducing childhood social phobia and specific learning disabilities. Other approaches such as parent-directed interventions, video modelling and social stories™ have been reported to improve social skills in youth with ASD. Few structured interventions that focus specifically on young adolescents with ASD have been developed. Group based social skills training for young people with ASD provides a new opportunity to practice new skills with peers in a semi-structured format with adult assistance.

RESEARCH AIMS

The aim of this research was to examine the feasibility and preliminary efficacy of a structured, group social skills training programme for high functioning youth with ASD.

RESEARCH METHODS

Fifteen participants (14 boys and one girl) completed a 16-week outpatient group-based intervention at a university-affiliated outpatient clinic that specialised in ASD. Average age was 12.55 years. Participants had to meet various study criteria to be included: between age 11 and 14, have an IQ greater than or equal to 70 and have a DSM-IV-TR diagnosis of Autistic Disorder, Asperger Syndrome or Pervasive Developmental Disorder – Not Otherwise Specified (PDD-NOS). Participants were allocated to be in one of four groups. Treatment plans included two or three prosocial target behaviours and one or more problem behaviours that interfered with prosocial functioning.

Data on social functioning was collected before treatment (baseline), immediately after completion of the treatment (endpoint) and three months after the end of the group intervention (follow-up). Changes from baseline to endpoint and from baseline to follow-up were analysed using paired t-tests and individual change significance.

RESEARCH FINDINGS

The structured treatment was acceptable to families based on session attendance (89%) and post-group satisfaction ratings. Parents of 14 participants completed the Parent Satisfaction Survey and responses showed they were satisfied with most aspects of the programme. Treatment integrity was acceptable (96%). Nine participants demonstrated significant improvement based on reliable change indices. Both teachers and parents later reported that the group intervention programme produced significant improvement in teens' social initiation and willingness to participate in social activities. Gains were not, however, uniform across school and home, nor were they consistently maintained following treatment.

IMPLICATIONS FOR PRACTICE
(by the authors)

- Prior to conducting a larger, randomised trial to evaluate efficacy for group-based social skills training for youth with ASD, further research may be useful to identify valid and sensitive measures of change.
- Future researchers need to address the perceived conflict between the call for manual-based interventions and the need to be flexible in treatment planning to meet the individual needs of the youth with ASD.

- Given the variability in treatment response, qualitative parent feedback and lack of sustained gains over time, it is hypothesised that many youth with ASD will continue to face obstacles to appropriate social functioning, despite interventions targeting social skills development. Addressing mediating mechanisms such as anxiety reduction may yield more lasting improvement in social skills. Such an approach would allow more communication between intervention therapists and parents and would also facilitate more immediate feedback on teens' progress.

Full Reference

White, S. W., Koenig, K. and Scahill, L. (2010). Group Social Skills Instruction for Adolescents with High-Functioning Autism Spectrum Disorders. *Focus on Autism and Other Developmental Disabilities,* 25(4), p. 209-219.
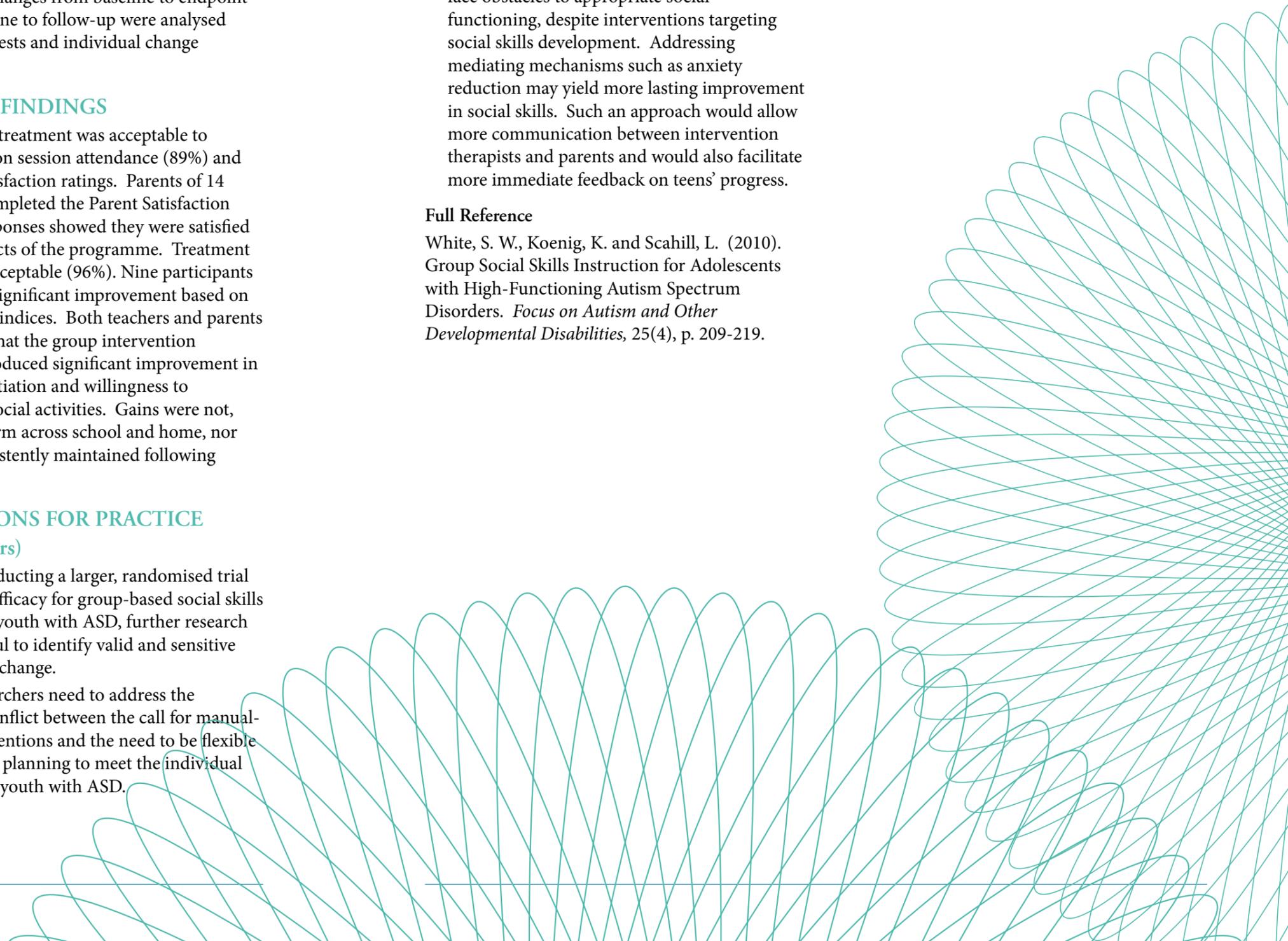
EXAMINING THE IMPACT OF A MULTI-SPORT CAMP FOR GIRLS AGED 8-11 WITH AUTISM SPECTRUM DISORDER

BACKGROUND

Fundamental motor skills (FMS) are essential skills that develop throughout childhood and are crucial for developing more complex skills, which enable participation in sport, recreation and leisure activities. Greater motor skills proficiency and physical function have been linked with greater social skills; psychological, physiological, and behavioural outcomes; as well as cognitive learning in children with ASD; which is beneficial in improving daily living skills. Girls with ASD are more likely to have less proficient motor skills than both their peers with typical development and boys with and without ASD. This discourages participation in sport, recreation, and leisure activities and deprives them of the opportunity to develop social skills among peers.

RESEARCH AIMS

The aim of this study was to examine the impact of participation in a multi-sport skills day camp on motor skills, social skills, physical self-perceptions and adaptive behaviour of girls ages 8-11 with ASD.

RESEARCH METHODS

This study followed a pre-test, post-test quasi-experimental design with an eight-week follow-up assessment.

Participants

Thirteen girls aged 8-11 years participated in the study.

Measures

The following measures were used by the authors:

Motor proficiency

- The Test of Gross Motor Development (TGMD-2): A standardised assessment that measures FMS consisting of a score on 12 motor skills within two subscales: locomotor (run, gallop, hop, leap, horizontal jump, and slide) and object control (stationary ball strike, stationary dribble, kick, catch, overhand throw and underhand roll).

- Physical Activity (PA): A time-stamped pedometer (Omron Pocket Pedometer Model Number HJ-729ITCCAN) was used to measure PA for seven consecutive days. Participants and their parents were instructed to clip the pedometer onto their right hip when they woke up and to take if off at night.

Physical self-perceptions

- The Children and Youth Physical Self-Perception Profile (CY-PSPP). A 36-item questionnaire used with children and youth to study how self-perceptions influence PA and other psychosocial constructs.

- The Children's Self-Perceptions of Adequacy in and Predilection for Physical Activity (CSAPPA). A 20-item scale that provides information regarding children's adequacy, predilection and enjoyment toward PA.

- A four-item feedback questionnaire was completed by the parents/guardians at the first post-test, immediately following the camp. Questions included:

  o Do you think this multi-sport camp helped your daughter make any improvements in her motor skills? Please explain using an example(s).

  o Do you think this camp helped your daughter gain confidence? Please explain using an example(s).

  o Do you think that your daughter has taken more interest in being physically active since the camp ended? If yes, will she likely join a new or return to a physical recreational activity or sport in the future?

  o Would you recommend this camp to other parents with a daughter with an intellectual/developmental disability? Please explain why.

Social and adaptive behaviour

- The Social Skills Improvement System (SSIS; measuring social skills, problem behaviours and academic competence) and the Vineland Adaptive Behaviour Scales (VABS-2; measuring communication, daily living skills and socialisation) were completed by parents at the pre-test and again the eight-week follow-up test.

Intervention

The five full-day Multi-Sport Camp took place during the summer. The camp curriculum was inspired by the Special Olympics FUNdamentals programme, which falls within the Long-term Athlete Development Model to target the development of FMS in children with intellectual and developmental disabilities. Skills taught at the camp included locomotor and object control skills with skills progressing in difficulty throughout the week and slowly incorporated into everyday games and activities for functional play.

RESEARCH FINDINGS

Motor skills proficiency

There were significant group changes at all three assessment periods (pre-test, post-test, eight-week follow-up test) for all gross motor variables measured by the TGMD-2. No significant differences were found between the post-test results to the eight-week follow up; however, there was no significant regression, suggesting a retention of learned motor skills. There were no significant changes within the pedometer data. The participants accumulated considerably less than the recommended daily steps for children.

Physical self-perceptions

There were no significant group changes at all three assessments for all variables of the CSAPPA. Significant group improvements were found for the total score on the CY-PSPP, as well as Sport/Athletic Competence. The Global Self-Worth variable of the CY-PSPP also significantly improved between the pre-test and the eight-week follow up test.

Social and adaptive behaviour

No significant group improvements in social skills were found using the SSIS however there were small increases among social skills, cooperation, empathy and self-control. There were significant improvements among the Social Skills Domain of the VABS-2 including interpersonal adaptive level, coping raw score and all overall social domain scores between the pre-test and eight-week follow-up test. There were significant positive correlations between the TGMD-2 gross motor quotient and CSAPPA adequacy, enjoyment and total score at the eight-week follow-up test.

Four-Item Parent Questionnaire

Parents responded positively when asked if there were any notable improvements in motor skills at home. Functional benefits were also noted e.g. taking part in more sports at school gym class without being self-conscious. Parents also noted improvements in anxiety regarding going to new environments, confidence when speaking with other girls, making new friends, and following instructions.

IMPLICATIONS FOR PRACTICE
(by the authors)

- Health care providers, recreation instructors, and therapeutic recreation professionals should consider motor skills to be an area of primary concern that warrants intervention for all children with ASD, particularly girls with ASD.

- The low level of PA observed in this study is consistent with previous research. Further research is needed to explore ways to measure and increase PA levels among girls with ASD. PA is likely to be influenced by factors such as sensory issues, short attention span, fear and anxiety in new situations etc, in this population.

- Children who learn refined motor skills are likely to have greater confidence in their abilities and be more inclined to participate in activities involving rigorous physical activity. Increased participation in sport, recreation and leisure, and free play will increase opportunities for inclusion and overall participation with peers.

- Therapeutic Recreation Specialists would benefit from using the TDMD-2 and other tools that were used in this study in programmes focusing on improving gross motor function and self-perceptions to track individual improvements.

- More therapeutic recreation summer camps should be designed to focus on motor skills and increasing PA not only for children with ASD but all children.

- The curriculum used for this study could be incorporated into therapeutic recreation programmes involving motor skills and physical activity.

- Collaboration among health science researchers and therapeutic recreation researchers is important so that expertise and best practices can be shared.

- Additional research is required in longer intervention durations, greater volume intensity interventions and in larger samples of girls with ASD with a control group.

Full Reference

Guest, L., Balogh, R., Dogra, S. and Lloyd, M. (2017). Examining the Impact of a Multi-Sport Camp for Girls Ages 8-11 with Autism Spectrum Disorder. *Therapeutic Recreation Journal*, 51(2), p. 109-126.
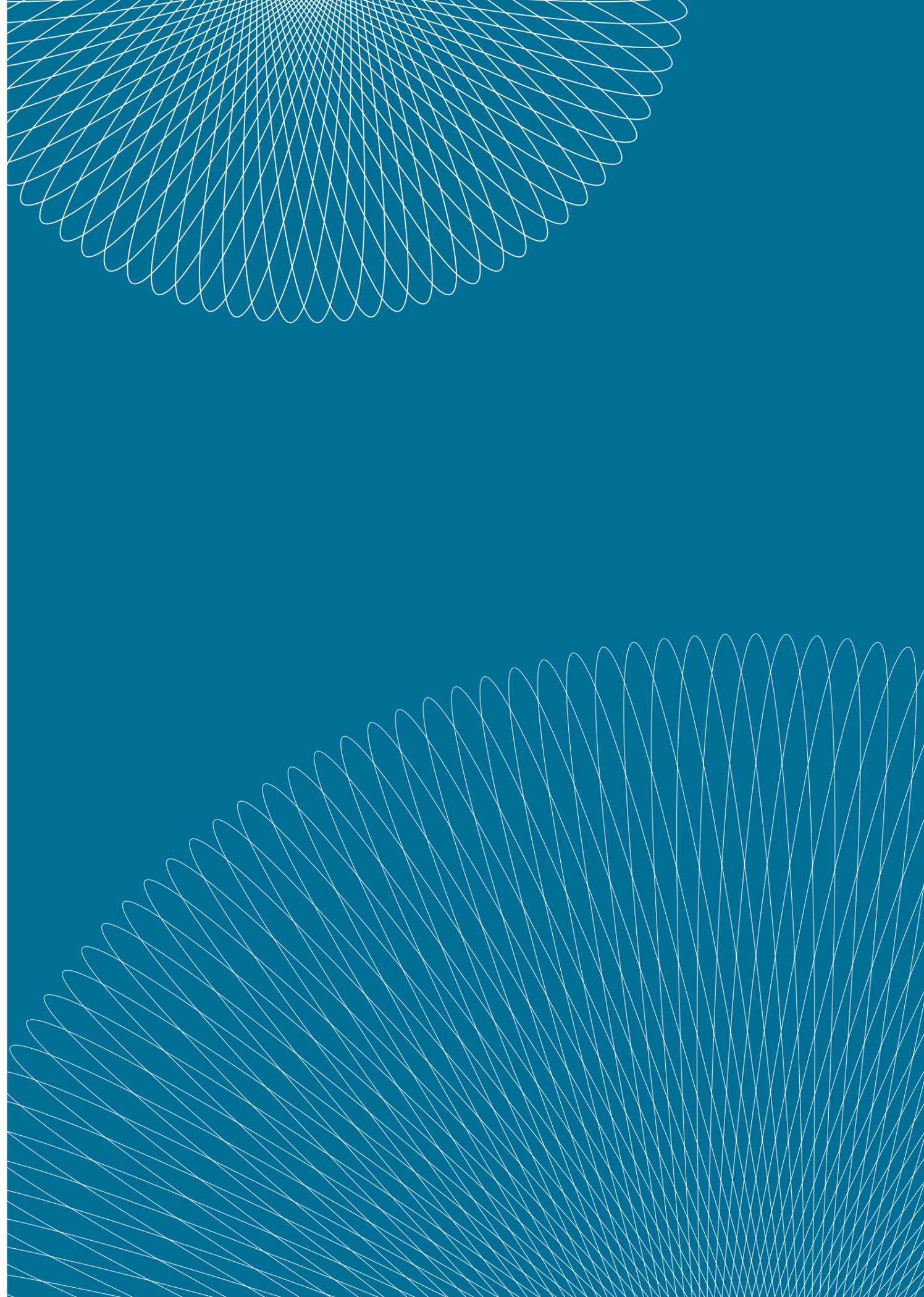
CONCLUSION

This Bulletin contains summaries from 15 articles relating to the promotion of social and leisure skills in children and young people with autism.

The articles detail a range of useful strategies that can be used to promote social and leisure skills through the home, school and community environments.

Examples of these strategies are:

- Use of video modelling and IPAD visuals to promote leisure skills; these can be used both as a video task analysis or as a series of photographs. These act both as a model and as visual supports for community based activities such as shopping.

- Use of sports, superheroes and casual language (cool / uncool) to promote social skills; research summarised utilised a range of activities in order to model, motivate and reinforce useful social and leisure skills and also to alleviate anxiety.

- School based approaches can also be useful; the most successful school based programmes used technology, peers, parents, interests and the creative deployment of teaching and support staff within a supportive school culture.

- For younger children, parents and professionals should recognise the importance of early language and perspective taking skills.

Overall, the research summaries detail that a child centered integrative approach is the most effective. Such approaches utilise a range of approaches e.g. school staff, peers and technology that works on the child's interests and strengths.

YOUR OPINION

The Centre trusts that you have found this Research Bulletin informative. It would be appreciated if you would take a few minutes to provide the Centre with feedback in relation to this bulletin by clicking on the survey link below.

Survey for Autism and Play Volume 2

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