



CENTRE FOR AUTISM
MIDDLETOWN

Social Communication



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Supporting the promotion of excellence throughout Northern Ireland and
Ireland in the education of children and young people with autism.



Social Communication

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This is the seventh Research Bulletin produced by Middletown Centre for Autism; the aim of the Centre's Research Bulletins is to provide accessible summaries of relevant peer-reviewed research articles and literature reviews.

The current bulletin contains 11 summaries of articles related to social communication and commences with an interview with Emily Rubin.

Emily Rubin MS, CCC-SLP is the Director of Communication Crossroads, a private practice in Carmel, California. She is a speech-language pathologist specialising in autism, Asperger's syndrome and related social learning disabilities. As an adjunct faculty member and lecturer at Yale University, she has served as a member of its Autism and Developmental Disabilities Clinic. Emily has also served as an instructor for the Communication Sciences and Disorders Department of Emerson College in Boston, Massachusetts where she has developed courses to prepare graduate level students for addressing the needs of children with autism and their families. Her publications have focused on early identification of autism, contemporary intervention models and programming guidelines for high functioning autism and Asperger's syndrome. She recently participated as a member of the American Speech-Language-Hearing Association's Ad Hoc Committee on Autism Spectrum Disorders (ASD), a committee charged with developing guidelines related to the role of speech-language pathologists in the diagnosis, assessment and treatment of ASD. She lectures internationally and provides consultation to educational programmes serving children and adolescents with autism and related developmental disorders.

AN INTERVIEW WITH EMILY RUBIN

1. Please explain what the Social Communication Emotional Regulation and Transactional Support (SCERTS) programme is and your role in its development?

The SCERTS programme was designed to provide a comprehensive, multidisciplinary educational framework for children with Autism Spectrum Disorders (ASD) and their families. It provides specific guidelines for helping children progress through the stages of becoming a competent social communicator. Families and educational teams learn about essential interpersonal modifications, environmental arrangement and visual supports and how they can be embedded in natural, functional and meaningful contexts to foster social communication skills. There is a strong emphasis on preventing problem behaviours that interfere with learning and the development of relationships.

SCERTS is an acronym that refers to our focus on the most significant challenges faced by children with ASD and their families. “SC” stands for social communication, which relates to the development of functional, spontaneous communication, emotionally satisfying relationships and an understanding of social conventions. “ER” refers to emotional regulation, which relates to the development of an ability to maintain a well-regulated emotional state, to cope with everyday stress and to be available for learning and interacting. “TS” refers to transactional support which relates to the development and implementation of supports to ensure partners are highly responsive to an individual’s needs and interests, modifying and adapting the environment and providing evidence-based tools to enhance learning. Specific plans are developed with each of these domains in mind to provide educational and emotional support to families and to foster collaboration across service providers.

2. How does the SCERTS model work with other autism specific interventions?

Interventions for children with ASD can be described at two different levels, either *focused* approaches or *comprehensive* approaches. Focused approaches utilise evidence-based strategies directed at particular difficulties. Examples include, but are not limited to, focused interventions aimed at improving speech and expressive language skills, improving play skills and fostering communication with peers. These strategies are essential for supporting children with ASD in relation to particular areas of need.

In contrast, an approach that is more comprehensive in nature has a broader scope, is designed to improve overall functioning and is focused on producing positive long-term outcomes into adulthood. In developing SCERTS, the collaborators sought to provide a *comprehensive* framework that embraces a range of methodologies and focused strategies that are evidence-based, allowing families and service providers to draw from a wide range of effective practices in developing an individualised educational program for a child.

3. The focus of this bulletin is social communication. How does the SCERTS model address social communication issues?

The SCERTS model collaborators believe that social communication is of primary importance. This is due to the strong correlations with social communicative competence and positive outcomes for children with ASD. Social communication skills are addressed within the domain of social communication (SC) by enabling educational teams to select developmentally sensible goals focused on helping children make key transitions from pre-symbolic communication, to emerging language, to more advanced conversational language. At each stage, the focus is not only on *how* a child

communicates, but also *why* a child communicates i.e., functional communication. Goals are written to promote more social communication.

Social communication is also addressed by focusing on the domain of emotional regulation (ER). As children are more able to cope with making transitions between activities, expressing emotion and using coping strategies sensitive to the context, their social communication skills improve. Goals are written in the capacity of *self-regulation* to enhance the use of more conventional coping strategies from those that are sensory-motor in nature to those that involve higher-level executive functioning. Goals are also written in the capacity of *mutual regulation* to enhance a child's ability to both respond to and ask for assistance from others in regulating emotions and coping with demands. Lastly, these goals are realised by training educational teams and families to implement developmentally appropriate transactional supports (TS), such as evidence-based interpersonal supports and learning supports.

4. What do you consider to have been a major development in our understanding of social communication issues and autism?

While the population of ASD is heterogeneous, contemporary neuroscience has brought awareness to the notion that social communication challenges are a result of different “wiring” and the impact that this has on development. In particular, we have learned that children with ASD process social information in regions of the brain less efficient at processing social information and more typically used for processing non-biological stimuli. The primary impact of these differences is that children with ASD struggle with predicting the actions, intentions and thoughts of others. When a child finds interpreting what another is thinking a challenge, the following abilities tend to be the

most compromised:

- Predicting that others are a source of assistance, engagement or pleasure.
- Predicting the sequence of activities and the steps within each activity.
- Predicting how to communicate and regulate emotions in a manner sensitive to others.
- Predicting how to engage in activities.
- Predicting the purpose of academic and social activities.

5. What is the most common misunderstanding about this aspect of autism?

As children with ASD have difficulty understanding the intentions of others, their rate of spontaneous communication with others is often quite low and they may have difficulty responding to bids for interaction. As a result, there is a common misunderstanding that, in autism, there is limited innate desire to interact with others. Yet, it is clear that when children with ASD learn that others are a predictable source of assistance, a predictable source of pleasure and comfort and a predictable source of information, their desire to engage can be enhanced. Similarly, when the “demands” we place on children with ASD are supported with accommodations that help the child understand “why” these demands are being placed on them, they are more likely to respond and share attention.

6. Is Speech and Language therapy for children and young people with autism different to traditional therapy and if so why and in what ways is it different?

In more traditional therapy, children and young people with autism are often placed in a

respondent role and are rewarded for following adult-directives. Speech and language therapy in autism, in contrast, promotes child-initiated communication. Research focused on the acquisition of speech and language skills shows that children with higher rates of *spontaneous* communication are more likely to acquire speech and language, to maintain those skills and to generalise these skills across contexts and settings. Additionally, speech and language therapy often incorporates a range of evidence-based strategies including, but not limited to, augmentative and alternative communication (AAC) supports.

7. How can parents and professionals assist non-verbal children and young people with difficulties with social communication skills?

For children and young people with ASD who are not yet verbal or using other forms of symbolic language such as pictures or sign language, the focus is literally on helping children get “hooked” on communication in general. If predicting what others are thinking is a challenge, a child with ASD may not realise that we are a source of assistance, a source of engagement, or a source of comfort. Therefore, his or her rate of spontaneous communication for these functions can be quite reduced. While we are often tempted to “jump in” to try to encourage first words, the most important starting point is ensuring that the child has a strong motivation to engage with others and a high rate of spontaneous communication using their body language, gestures and facial expressions. Once the child is frequently approaching others, pulling others to a desired location and communicating non-verbally for a variety of functions, the shift toward more symbolic and/or verbal language is more likely.

Helping children to get “hooked” begins with ensuring that the partners interacting with that child are responding in a predictable manner to the child’s communicative behaviours, even those

behaviours that do not include vocalisations or gaze. For very early communicators, for example, we may be responding to signals such as a child standing near a toy cabinet as an “intentional” act, by opening the cabinet. If we do this repeatedly, the child is more likely to associate that caregiver with communicative success and, when that individual is not there, or ultimately “holds out” very briefly, the child may look for or pull that individual toward the cabinet. Too often, we “hold out” prior to establishing a predictable pattern. That child will not be able to predict our usefulness and will likely attempt to take care of his or her needs independently. Our aim should *not be* to discourage the child or “violate” their attempts to communicate, rather our aim should be to encourage and praise the child’s efforts as a communicator. A competent and self-confident social communicator is the ultimate goal.

8. How can parents and professionals assist children and young people with ASD with language address difficulties with social communication skills?

The earliest forms of language in children and young people with ASD are often object labels (i.e., nouns), while the most challenging symbols for children with ASD at emerging language stages are subjects (i.e., people’s names) and verbs (e.g., action words). This is likely due to a limited appreciation of the intentions of others and limited gaze shifting toward people and between people and objects. This subtle challenge can significantly compromise language development, as subject + verb word combinations are predictive of creative language acquisition. Limitations in this semantic relationship lead to a reliance on single words and rote sentence structures memorised from previous contexts.

One of the most essential ways we can assist children at this stage is to model and provide visual supports for not only nouns, but subjects

and verbs. As children and young people with ASD develop more creative language, social communicative competence can be enhanced by ensuring that intervention is focused on expanding a wide range of communicative functions. Early functions of communication for children with ASD tend to predominantly fall into the categories of requesting and protesting. Next steps would be to ensure that children are encouraged to communicate for social functions such as requesting social routines, greetings, sharing emotion and requesting comfort. Additional functions include, but are not limited to, comment about action and events, requesting information and sharing experiences in conversation.

The Impact of Social Scripts and Visual Cues on Verbal Communication in Three Children with Autism Spectrum Disorder.

RESEARCH AIMS

The researchers were seeking to establish if the provision of written scripts and visual reminders to three children with autism and associated communication difficulties would increase the children's scripted communication, unscripted communication and reduce perseverative communication. The research questions were:

1. Do written and pictorial scripts increase context appropriate conversation?
2. Do written and pictorial scripts have collateral effects on unscripted statements?
3. Do visual reminders decrease perseverative speech?

RESEARCH METHOD

The researchers identified a series of three five minute activities that the children enjoyed and provided them with three sets of 10 context appropriate phrases with line drawings accompanying them.

The children's scripted and un-scripted communications were then recorded across a series of conditions. These conditions were:

- Engaging in five minute activity with no intervention from researcher.
- Engaging in same activity but with intervention in the form of scripts and visual reminders.
- Fading out of scripts and visual reminders.
- Engaging in five minute activity with no intervention from researcher.

RESEARCH FINDINGS

The researchers indicate that the use of written and pictorial scripts increased scripted communication in all three children however, this increase was conditional on specific intervention from the researchers. The use of scripted communication did not increase without active intervention from the researchers and fell to pre-intervention levels without intervention. Although the literature discussed in the research indicates that the use of scripts did increase the frequency of unscripted communication in children with autism, in the current research this finding was not replicated as only one of the three children engaged in unscripted communication as a result of the intervention.

The researchers report that the use of the visual to reduce the incidence of perseverative speech did result in a reduction of perseveration in all three children in the research.

IMPLICATIONS FOR PRACTICE

(by the authors)

The use of scripted communication has been shown to increase the incidence of both scripted and unscripted social communication in children with autism. The current research provides practitioners with further evidence that this is the case. Children and young people with autism can benefit from the introduction of social scripts to help promote social communication in their interaction with others.

The research also indicates that the use of visuals can help in reducing perseverative communication and the introduction of a visual resulted in consistent reduction in perseveration in all of the children in the current research.

The Impact of Social Scripts and Visual Cues on Verbal Communication in Three Children with Autism Spectrum Disorder. CONTINUED

Professionals working with children with autism are reminded that the use of social scripts and visuals can be highly effective in the promotion of social communication and are also non intrusive for the child and for the class.

Full Reference

Ganz, J., Kaylor, M., Bourgeois, B. & Hadden, K. (2008). The Impact of Social Scripts and Visual Cues on Verbal Communication in Three Children with Autism Spectrum Disorder. *Focus on Autism and Other Developmental Disabilities*, 23, p.79-94.

To What Extent do Joint Attention, Imitation and Object Play Behaviours in Infancy Predict Later Communication and Intellectual Functioning in ASD?

RESEARCH AIM

Research has consistently identified functional language use and better intellectual functioning in young children with ASD as robust predictors of positive outcomes in later childhood, adolescence and adulthood. Despite this established link, little is known about the specific developmental mechanisms by which these indicators impact positively across time. Later outcomes may help clarify the mechanisms and processes involved. This knowledge may also guide early intervention by suggesting pivotal behaviours to target for early intervention to optimise outcomes. Specifically, the aims were to measure overall levels and rates of change, in joint attention, imitation and object play from early infancy (9-12 months) to later infancy (15-18 months) in children who are later diagnosed with ASD and also to determine the extent to which overall levels and rates of change across these three pre-linguistic social-communicative behaviours during infancy predict later language and intellectual functioning in children with ASD in the 3-7 year old range.

RESEARCH METHOD

Retrospective video methods were used to investigate the longitudinal trajectories of social and communicative behaviours, as well as their associations with later developmental outcomes. Home videos were collected from parents of 29 children with ASD. Research staff interviewed parents, assessed children and parents were asked to provide all home videos of children from birth to two years. Video scenes were coded for content regarding child's age, number of people present, social nature of scene, amount of structure provided and situational content. The presence or non-presence of target behaviours was also coded.

RESEARCH FINDINGS

The results of this study support the important role of three social-communicative behaviours during infancy as predictors of later developmental outcomes in children with ASD. Specifically, children with ASD who display higher levels of joint attention, imitation and object play in infancy are more likely to have stronger communication and intellectual skills in the pre-school and early school age years. The findings of the study also suggest that it is by the age of 9-12 months of age that these three key behaviours play an important role in predicting later communication and intellectual outcomes for children with ASD.

Main points:

- The *combination* of the three social-communicative behaviours, as opposed to them *individually*, predicting both communication and intellectual functioning, requires further investigation.
- The findings may point to a more global impairment as opposed to one of a more specific nature, at least from 9-12 and 15-18 months.
- The study also recommends the examination of links between neurological developmental and those early social-communication behaviours and further research into the neurological development of children with ASD.

Full Reference

Poon, K., Watson, L., Baranek, G. & Poe, M. (2011). To What Extent do Joint Attention, Imitation and Object Play Behaviours in Infancy Predict Later Communication and Intellectual Functioning in ASD? *Journal of Autism and Developmental Disorders*. Published online 20 August 2011.

Evaluating the Effectiveness of Video Instruction on Social and Communication Skills Training for Children with Autism Spectrum Disorders: A Review of the Literature.

RESEARCH AIMS

Video Instruction as an intervention for teaching skills to children with ASD and encouraging generalisation of these skills, is gaining momentum in applied settings. This instruction usually comprises several techniques including Video Modelling (VM), Video Self-Modelling (VSM) and Point-of-View Video Modelling (PVM). Research has demonstrated promising outcomes, however there is a need to a) delineate taxonomy of video instruction based upon the specific intervention components involved and b) evaluate the effectiveness of video instruction for social and communication skills training based upon technically sound research designs and procedures.

RESEARCH METHOD

The focus of the literature review was on video instruction in the last three decades. Twenty-six studies were included in the literature review.

REVIEW FINDINGS

The literature review allowed for the formulation of the following guidelines for effective video instruction:

1. The use of instructional prompts appears to be more effective for promoting acquisition, maintenance and generalisation of target behaviours. In some studies the addition of reinforcement of prompting and feedback were necessary to improve the frequency of target behaviours.
2. It is necessary to evaluate the child's / student's skills in attending, imitation, visual processing and comprehension, matching-to-sample and spatial ability in order to determine the amount of content and the length of the video.
3. Children who are able to attend to the video for at least one minute are more likely to benefit from this approach than more distractible students.
4. Video clips should be between 3-5 minutes duration, as this is effective in sustaining the attention of students.
5. The type of model (peer, familiar, unfamiliar) did not appear to affect student learning.

RECOMMENDATIONS FOR FURTHER RESEARCH

1. The method of implementation of intervention was not always consistent across studies with respect to: length of video clips, time lapse between video viewing and opportunity to respond, number of video viewings per session and similarity between the real environment and the one depicted in the video. Clear delineation of these aspects is needed to consider whether video instruction could be an evidence-based intervention.
2. The specific effect of instructional procedures including prompting, error correction and reinforcers relative to video instruction is needed, to determine whether VM alone or with other components is more effective.
3. Further research is needed to enable professionals to make better decisions about which specific video instruction strategy would be a good fit for students with ASD based on their varied behavioural characteristics.
4. There is a need to study the effectiveness of video instruction strategies with older

Evaluating the Effectiveness of Video Instruction on Social and Communication Skills Training for Children with Autism Spectrum Disorders: A Review of the Literature. CONTINUED

children and adults as well as students with ASD who are culturally and linguistically diverse.

Full Reference

Shukla-Mehta, S., Miller, T. & Callahan, K. (2010). Evaluating the Effectiveness of Video Instruction on Social and Communication Skills Training for Children with Autism Spectrum Disorders: a Review of the Literature. *Focus on Autism and other Development Disabilities*, 25 (1), p.23-36.

Research Review: What is the Association between the Social-Communication Element of Autism and Repetitive Interests, Behaviours and Activities?

RESEARCH AIMS

This review examines the hypothesis that autism is a collection of shared difficulties, including social communication impairments and repetitive interests, behaviours and activities (RIBAs) and if the correlation between social-communication impairments and RIBAs has been exaggerated.

RESEARCH METHOD

The researchers examined three studies directly addressing the issue of syndrome analysis using independent measures of social-communication and non-social autistic behaviour in a sample that has not been selected to meet full criteria for autism. Due to the limited number of appropriate studies available, the researchers also drew on other types of autism literature including:

- Historical information about the validation of the syndrome.
- Studies employing statistical methods such as factor analysis and structural equation modelling to characterise clinical and non-clinical populations.
- Quantitative and molecular genetic studies.

RESEARCH FINDINGS

The researchers found little evidence to support the consensus that autism and the RIBAs have a shared underlying abnormality. The researchers suggest a spectrum of possible positions. At one end, a strong “traditionalist” position stating that social and non-social deficits are highly correlated and that RIBAs are virtually universal in people with autistic social-communication impairment. At the other end is a strong “revisionist” position suggesting that there is no meaningful association

between social-communication impairment and RIBAs. They caution that:

- The debate has not been resolved conclusively.
- The suggestion of only a moderate correlation between social-communication and non-social behaviours is not the same as there being no association at all.
- Further research is needed in this area as this study had a small sample size.

IMPLICATIONS FOR PRACTICE

Much research highlights the links between social communication and RIBAs and these are seen as inherent in the deficits of autism. This consensus may not always serve those living and working with autism well. It is always advisable to get to know the child or young person and develop a child centred approach based on assessed deficits rather than make assumptions with regard to a range of deficits.

Full Reference

Mandy, W. P. L., & Skuse, D. H. (2008). Research Review: What is the Association between the Social-Communication Element of Autism and Repetitive Interests, Behaviours and Activities? *Journal of Child Psychology and Psychiatry*, 49(8), p. 795-808.

The SCERTS Model: Implementation and Evaluation in a Primary Special School.

RESEARCH AIM

This paper provides an evaluation of the Social Communication Emotional Regulation and Transactional Support (SCERTS) model with four pupils with ASD in a primary special school.

RESEARCH METHOD

The researchers linked observational assessment and target setting to one of three partner stages, which are identified in the SCERTS model. Two of the children were at Social Partner stage (child using fewer than three words or phrases referentially, regularly and with communicative intent) and two at Language Partner stage (child uses more than three words or phrases referentially, regularly and with communicative intent). Initial observations across a range of settings were conducted. These involved transitioning from one activity to another and in consultation with the family. Baseline assessments used the SCERTS framework and the Vineland Adaptive Behaviour Scales II (Sparrow, Cicchetti and Balla, 2005). Members of the multidisciplinary team completed a semi structured questionnaire on their views and a reflective analysis activity was conducted with the whole staff.

RESEARCH FINDINGS

The assessments indicated that all four children made significant gains in the four skill areas; Joint Attention, Symbol Use, Mutual and Self Regulation domains. The greatest gains were in Joint Attention and Symbol Use. Similarly, all children showed gains in the Communication and Socialisation domain of the Vineland Adaptive Behaviour Scales II. Overall, using the SCERTS model resulted in greater awareness of the need to respond to a pupil's spontaneous bid for interaction.

Staff understanding: Several staff spoke about increased understanding of the concept of emotional regulation and the importance of their role in supporting children when they were dysregulated. There was also a greater awareness of sensory issues and a greater shared understanding across all disciplines. Some comments made included:

Changes in practice: All staff identified changes in their practice and for some this resulted in training and liaison with professional colleagues.

Issues identified in using SCERTS: Staff spoke about time constraints, increased use of resources needed for a team approach. They felt the model needed to be whole school and that it involved a mind shift in thinking about behaviour and ASD. It also raised awareness of the shortcomings of the curriculum.

Impact of SCERTS: Strategies which worked well in the classroom included allowing children to emotionally regulate themselves, use of within task schedules for more verbal children, generally more symbols available, children were allowed to move around the classroom more, greater use of visual props, the OT and awareness of sensory issues. At whole school level, more accepting of behaviours, more appropriate expectations, change in teaching style, more patience, access to different areas of the school and classes trying to meet the individual needs of children more.

Changes observed in children: The children seemed calmer, more focussed and ready to learn. They appeared more aware of their own needs and using regulations when required. Some were seeking out adults to make more requests, were picking up on their own and others' emotions more frequently and there was greater

The SCERTS Model: Implementation and Evaluation in a Primary Special School. CONTINUED

communication from non-verbal children.

IMPLICATIONS FOR PRACTICE

(by the authors)

- Implementation of the SCERTS model provides a framework for encouraging reflective analysis and practice within a school setting.
- The use of video clips of children for the SCERTS assessment process provides a relatively non-threatening means of engaging professionals in reflective enquiry as to their own role as mediators.
- SCERTS actively encourages development of positive multi agency working within the school. A whole school development.
- It enabled the school to collect more specific data about pupil progress in relation to specific skill areas which relate to social difficulties seen in autism.
- More meaningful collaboration with families and carers.
- As a framework the model aims to support inclusion of specific targets into all areas of the curriculum and is not dependent on specific activities or approaches.

Full Reference

O'Neill, J., Bergstrand, L., Bowman, K., Elliott, K., Mavin, L., Stephenson, S. & Wayman, C. (2010). The SCERTS Model: Implementation and Evaluation in a Primary Special School. *Good Autism Practice*, 11 (1), p 7–15.

Using Computer-Presented Social Stories and Video Models to Increase the Social Communication Skills of Children with High-Functioning Autism Spectrum Disorders.

RESEARCH AIMS

The study aimed to ascertain whether the use of computer presented Social Stories and video models, which the authors referred to as solid treatment approaches to teach social skills, promoted the frequency of use of communication and interaction skills when used with students with High Functioning Autism/Asperger syndrome (HFA/AS). Social Stories and video models, effective teaching strategies capitalising on the visual learning style of students with HFA/AS, were seen as a more unobtrusive and less stigmatising teaching format, which could prove inclusionary, allowing greater acceptance by educators to assist with the teaching of social interaction behaviours, pragmatic communication and self-help and functional living skills. Validity of the two interventions was given as well as reasons for the use of technology through computers.

RESEARCH METHOD

Three boys, aged between 6:6 years and 10:6 years, with HFA/AS, who had demonstrable communicative skills and all included in a mainstream setting were the focus of the study. From baseline observations and interviews two boys (boys one and two), displayed difficulty initiating communication with their peers, while the other boy's (boy three) efforts to communicate were perceived as socially and developmentally inappropriate. It was decided that the social stories and video models, through the medium of computer generated activities, would be taught and introduced and then gradually over a period of time, these would be faded to examine if the child had acquired the skills and was using them. All observations were carried out during break or lunch, the less structured part of any school day. For success to

be measured, after the intervention was implemented, each boy was observed for 15-20 minutes, twice a week, at 15-second partial intervals. Boys one and two were required to join in, actively initiate or participate in a preferred play activity or conversation with one or more children. With boy three, the criteria was stated as the maintenance of conversation related to him actively contributing to a reciprocal conversation or attending to a peer driven conversation.

RESEARCH FINDINGS

Boys one and two made significant gains in respect to rates of joining in, with boy one displaying similar levels and frequency of joining in behaviour as his peers at the intervention and at the follow up observations, which may demonstrate a successful acquisition of this skill. He also displayed these skills across a variety of activity, leading to the assumption that he had generalised the skills.

Boy two displayed greater parity with his peers during intervention when prompts from the education staff were introduced as a teaching tool. On post intervention observation boy two maintained this increased ability to interact, which may be indicating that he has generalised this skill. In terms of generalisation of skills, boy three continued to experience difficulty initiating activities but his teachers regularly see signs that this skill is continuing to develop.

Boy three immediately displayed skills that maintained a conversation with his peers and this was sustained throughout intervention and at post intervention. This may indicate that he has assimilated and accommodated the learning from the intervention and uses it as part of his skill set.

Using Computer-Presented Social Stories and Video Models to Increase the Social Communication Skills of Children with High-Functioning Autism Spectrum Disorders. CONTINUED

IMPLICATIONS FOR PRACTICE

- The use of Social Stories and video models, through the computer medium, can offer support to and encourage development for children with autism.
- The use of Social Stories can be beneficial when teaching and illustrating socially acceptable behaviours.
- Video modelling has a place within the toolkit of professionals when devising education plans for children with HFA/AS.
- It may also be noted that the multimedia approach was not the only factor when analysing the acquisition of social skills; however a degree of expertise in the use of all equipment by the educator is necessary for all aspects of observation of the intervention.
- The intervention may have to be differentiated and individually tailored, as some children may need greater encouragement and support from their educators to attempt social interaction.
- Success for each child must be individually measured and it may be beneficial to allow time for the child to learn, practice, rehearse, use, refresh and reuse the skill.
- Greater research in this area is recommended.

Full Reference

Sansosti, F. J. & Powell-Smith, K. A. (2008). Using Computer-Presented Social Stories and Video Models to Increase the Social Communication Skills of Children with High-Functioning Autism Spectrum Disorders. *Journal of Positive Behavior Interventions*, 10 (3), p. 162-78.

Power Cards to Improve Conversational Skills in Adolescents with Asperger Syndrome.

RESEARCH AIMS

This study aimed to examine whether Power Cards, as an empowering strategy, had a beneficial impact on the initiation and maintenance of conversational skills with students with Asperger syndrome (AS). Conversational activities must be taught and learned using a consistent and predictable approach, favoured by students with AS, cognisant that difficulties in this social arena can impact negatively on personal, emotional and psychological well being and development. The authors pointed out that there are many aspects to communication including:

- Understanding non verbal cues.
- Command of tone of voice.
- Command of facial expressions.
- Understanding different purposes of conversation.
- Sense of humour.
- Familiarity with social courtesies.
- Making the abstract concrete.
- Visual structure and predictable routines.
- Activities that provide support for language abilities.
- Interactions that provide focus on peers and self awareness.
- Generalisations.

RESEARCH METHOD

This research focused on three male students with AS between the ages of 16:3 and 17:4 years, who had expressed interest in improving their interaction skills within their mainstream setting, their parents and 20 carefully selected conversational partners (CP), who were each studying advanced psychology. Each student (AS), although having received social skills training, experienced difficulty with the social pragmatic use of language rather than displaying any language difficulties. All participants, those with AS and the CP group, were afforded individual instruction on the use and function of Power Cards and Power Card Scripts, which were based on their hero and hero's interest, with the advice being that during the sessions, each student could discuss his or her topic of special interest as a means of initiating and maintaining a conversation. The students with AS personalised their Power Scripts and Power Cards to their area of special interest. Each Script reinforced the socially appropriate and acceptable means of interaction, which the student was to replicate, or use as motivation, while the Power Card summarised how their hero communicated. The interaction was noted and timed from initiation, where each student used the taught procedure, with specific behaviours regarded as worthy, saying the name of the partner, presenting a question or comment about the partner's interest or listening to the other's interest while maintaining eye contact, all deemed socially appropriate means of interaction.

RESEARCH FINDINGS

Those with AS demonstrated between 141% and 352% increase in their interactions, when using the Power Cards and Scripts, to aid interactions with their peer group in a range of settings within

Power Cards to Improve Conversational Skills in Adolescents with Asperger Syndrome. CONTINUED

the school environment. The students with AS, during self-reflection, felt that they now understood the nuances of conversation, knowing how to talk with people, knowing how to have a casual conversation with classmates, wanting to increase the frequency of these conversations, liking to talk about their interests and listening to others talk about their interests. The CP group agreed with these findings, however, felt that they might have benefited from further detailed instructions in the use of the strategy. They would have valued concrete means of discriminating between what is and is not a good conversation.

IMPLICATIONS FOR PRACTICE

(by the authors)

After the introduction of Power Cards and Power Scripts, those with AS were able to:

- Engage more frequently in others-focused conversations, where the special interest area was the focus and in environments where they felt comfortable.
- Review and replay the instructions of the strategy prior to using it to allow the students with AS to practice how they were going to use this strategy most effectively.
- Two out of three of the students with AS were able to generalise their conversational skills using the Power Cards and Scripts.
- Engage with the process as they were using a visual strategy, which is recommended for students with AS.
- Attain structure from the interaction and the use of their special interest allowed for greater confidence when interacting.

However, several limitations to the study were recognised.

- One student did not recognise that he had difficulty in interacting across the school setting.
- The strategy was dependent on the use of Power Cards and Power Scripts as well as the time taken to teach all participants the rules of the interaction, thus making the implementation a huge undertaking by all involved.
- It did not take into account the social anxiety experienced by many individuals with AS.

However, the outcomes would suggest that the use of Power Cards and Power Scripts is a worthy addition to the toolkit supporting students with AS to interact and worthy of more detailed research.

Full Reference

Davis, K. M., Boon, R. T., Cihak, D. F. & Fore (III), C. (2010). Power Cards to Improve Conversational Skills in Adolescents with Asperger Syndrome. *Focus on Autism and Other Developmental Disabilities*, 25 (1), p. 12-22.

When Asking Questions is Not Enough: An Observational Study of Social Communication Differences in High Functioning Children with Autism.

RESEARCH AIM

To examine the communication patterns between high functioning children with ASD and typically developing children and their families within traditional dinner time conversation. The questions posed were:

1. Do children with ASD differ from typically developing children in:
 - Both the quantity and form of their bids for communication with family members?
 - The quantity and pattern of initiating and maintaining interactions with family members?
 - The pattern and frequency of their responses to family members' bids for communication?
2. If children with ASD do respond to family bids differently, are there particular bids that children with ASD are more responsive to?

RESEARCH METHOD

Twenty families with a child with ASD and ten families with typically developing children were video recorded during dinner time and their interactions were coded. All children with ASD were receiving integrated school services and were in mainstream classrooms. Inclusion criteria were: if they ate together as a family at least three times per week, if the target child's ASD did not interfere with their ability to eat normally with the rest of the family and if the family did not watch television during dinner time. In addition, there had to be six or less people in the family and the child had to be aged between three and

seven, able to speak clearly enough to communicate wants and needs and the primary language in the family was English. Inclusion criteria for the "typical" group was the same. Children in the "typical" group were matched according to age, gender, ethnicity and approximate family size. School records were consulted for all children with ASD to confirm their diagnosis. The Expressive One Word Picture Vocabulary Test-Revised (EOWPVT-R; Gardner 1990) was administered in the family home and used to determine whether the children with ASD were at or near age level for expressive vocabulary and as a rough measure of their functioning level. The scores of 17 of the 20 children with ASD indicated average to above average expressive vocabulary. While three of the children with ASD displayed expressive vocabularies more than one standard deviation below the mean for their chronological age they did not show clinically significant deficits in expressive vocabulary. To maintain as natural a context for family behaviour as possible, the families were asked to schedule a night when they would typically eat together as a family and to conduct dinner as they normally would. The researchers were not present at the recording.

RESEARCH FINDINGS

Families of typically developing children engaged in dinnertimes that were significantly longer than families of children with ASD. The amount of time spent engaged in interaction during dinner did not differ significantly between groups. Families of children with ASD spent an average of 45% of the time engaged in interactions with the target child compared to 51% of the time for families of typically developing children. However, the results indicated that children with ASD initiated fewer bids for interactions,

When Asking Questions is Not Enough: An Observational Study of Social Communication Differences in High Functioning Children with Autism. CONTINUED

commented less often, continued on-going interactions through fewer conversational turns and responded less often to family member communication bids. There was a significant main effect of bid type that was rejected by the target child with ASD. Children with ASD ignored/rejected significantly more family comments than either questions or directives. The results support indications that social communication deficits in young children with ASD do not diminish once they get older or acquire more advanced verbal abilities. More likely, older and higher functioning children with ASD may express social communication deficits in different ways. This finding has important implications for both intervention and future research in this area.

IMPLICATIONS FOR PRACTICE

(by the authors)

- Asking questions may be sufficient to gain the attentional focus of verbal ASD children with high expressive vocabulary, however, they do not facilitate the social nature of communication. A discrete answer to a question from the child with ASD often ends the interaction.
- To increase turn taking we may need to focus more on creating greater opportunities to respond to comments paired with direct instruction on how to respond and slowly fade the instruction out. Children with ASD may need to explicitly be taught how to respond to non-obligatory communicative bids usually responded to by competent social partners.
- Children with high functioning ASD who score within the normal range on expressive vocabulary tests and are succeeding in integrated classrooms may still demonstrate

major deficits in social communication.

- Social communication should not be broken into separate isolated skill sets. There is a need for a sequence for social communication skills similar to what there is for other complex skills such as imitation or object permanence.
- High level social communication skills need to be taught directly at school and supported at home and community settings.
- There is a need for solutions based on assessment techniques such as observations of family videos in addition to more standardised tools such as the Early Social Communication Scales (Mundy et al. 2003).
- Future research should focus on more precise techniques of interaction such as the use of eye contact during discourse.
- We need to realise the wide spectrum of abilities of children with ASD and how they vary in manifestation.
- Dinner time is an interesting and important time for studying family interactions.

Full Reference

Jones, C.D. & Schwartz, I.S. (2009). When Asking Questions is Not Enough: An Observational Study of Social Communication Differences in High Functioning Children with Autism. *Journal of Autism and Developmental Disorders*, 39, p. 432-443

Integrating Family Capacity-Building and Child Outcomes to Support Social Communication Development in Young Children with Autism Spectrum Disorder (ASD).

RESEARCH AIMS

The focus of this article is on the transactional relationship of research and practice for Speech and Language Therapists (SLT) serving infants and toddlers with and at risk for autism spectrum disorder in early intervention programmes. Information is provided on:

- a) The relationship between parent-implemented social communication interventions for young children with ASD and family-centred practice.
- b) The importance of family-centred practice to capacity building with families within their natural environments.
- c) Adult learning principles that build on a family's capacity to meet their child's social communication needs.

RESEARCH FINDINGS

Parent-implemented social communication interventions. These interventions have consistently been found to promote gains in children's social communication skills. Within a variety of approaches, the parents' role varied from being trained to implement a scripted intervention to being a team member in collaborative family-centred interventions, individualised on the basis of identified activities and priorities.

Using social communication to increase participation and engagement. To support the use of interactional exchanges, communication and engagement, parents can be helped to identify outcomes for their children and also taught a combination of behavioural and developmental strategies to support their child's

development in everyday activities. Significant change has been identified in children's ability to both initiate and respond to joint attention following this type of intervention.

Family and child outcomes within daily routines and activities. There is evidence to suggest that naturalistic teaching strategies lead to improvements in core social communication deficits in children with ASD. Parents of children with ASD can learn multiple strategies to synchronise with the child's attentional focus and generalise use of these strategies across routines in natural environments. Parent-implemented strategies can have a high impact on communication outcomes for children with ASD. When parents use a variety of daily routines, as opposed to being taught to use them exclusively in play interactions, it is logical that the children's opportunities for practice increase. In such contexts, families are accomplishing their life chores and are participating with their children in meaningful contexts that facilitate generalisations.

This involves increasing the parents' competence in implementing strategies to enhance their child's development while increasing their confidence that they are able to do so. The SLT must emphasise the caregiver's deeper knowledge of why the intervention works and how to support generalisation across other settings. The SLT should also develop the caregiver's ability to generate learning opportunities throughout the day.

Adult learning principles that build family capacity. When caregivers gain confidence through informational and resource supports and competence through active practice with coaching, including specific feedback and

Integrating Family Capacity-Building and Child Outcomes to Support Social Communication Development in Young Children with Autism Spectrum Disorder (ASD). CONTINUED

reflection on supporting their child's social communication development, the child's outcomes improve. SLTs should offer a steady and consistent approach to information sharing, based on an investigation of the caregiver's expectations and understanding of the early intervention process. This can be done by embedding intervention into everyday settings and contexts, engaging the parents as active participants and supporting the caregiver's reflections and self-evaluation.

IMPLICATIONS FOR FURTHER RESEARCH

Additional research is needed on methods of coaching parents within collaborative approaches. It is a time to examine research supported practices and to integrate that information into planning services and supports in collaboration with families to achieve outcomes that build the capacity of both child and family for the future.

Full Reference

Woods, J. & Brown, J. (2011). Integrating Family Capacity-Building and Child Outcomes to Support Social Communication Development in Young Children with Autism Spectrum Disorder (ASD). *Topics in Language Disorders*, 31, p. 235-246.

Teaching Social Communication: A Comparison of Naturalistic Behavioural and Developmental, Social Pragmatic (DSP) Approaches for Children with Autism Spectrum Disorders (ASD).

RESEARCH AIMS

There is a variety of effective treatments designed for increasing social communication in children with ASD. Two such treatments are naturalistic behavioural and developmental intervention and social-pragmatic relationship-based intervention. Both differ in underlying philosophy; both share many similarities in their implementation. They both also exhibit critical differences which may affect their effectiveness with children with ASD. This article discusses these similarities and differences.

RESEARCH FINDINGS

Naturalistic Behavioural Approaches

These approaches share the following basic components:

- a) Teaching occurs in the natural environment during on-going interactions between child and adult, typically during play or daily routines.
- b) The child initiates the teaching episode by indicating interest in an item or activity, then teaching occurs around the child's expressed interest.
- c) The adult explicitly prompts the child to produce the target behaviour.
- d) The child's production of the target behaviour is reinforced with the item or activity of interest.
- e) The adult loosely shapes the child's response into a more complex response, providing reinforcement for attempts to respond.

Developmental Social Pragmatic Approaches

- a) Social-communication skills are learned in a similar developmental sequence by all children, regardless of abilities, therefore typical development is used to guide intervention targets for children with delays.
- b) Children learn through affect-laden interactions with responsive caregivers.
- c) Teaching follows the child's lead or interest.
- d) All communicative attempts including unconventional and pre-intentional communication are responded to.
- e) Emotional expressions and effect sharing are emphasised by the adult.
- f) Language and social input are adjusted to facilitate communicative growth.

Similarities

Both are focused on primarily increasing social-communication skills. The intervention is conducted within meaningful activities in the natural environment. Parents are taught to be the primary intervention provider. Both approaches follow the child's lead in child-initiated teaching episodes. Both use natural reinforcement and loose reinforcement contingencies.

Differences

Direct prompting is a defined component of all naturalistic behavioural interventions. They use a variety of prompt strategies to elicit desired behaviours. This is not a defined component of DSP interventions and is, in some ways, considered antithetical to DSP philosophy. Prompting is considered a directive approach and

Teaching Social Communication: A Comparison of Naturalistic Behavioural and Development, Social Pragmatic (DSP) Approaches for Children with Autism Spectrum Disorders (ASD). CONTINUED

therefore incompatible with adult responsiveness to the child's lead.

DSP interventions use facilitative strategies, drawn from typical development literature and associated with a responsive interaction style of caregiving. These strategies include heightened animation, indirect language stimulation and balanced turns. Individuals using a DSP approach use these strategies at a significantly higher rate than individuals using a naturalistic behavioural approach.

IMPLICATIONS FOR RESEARCH

Increasing familiarisation with each other's literature and developing a common language between approaches would facilitate collaboration and promote research on individual treatment techniques rather than the comprehensive treatment models. Research could also examine whether combining important elements of both approaches leads to better outcomes than either approach can provide on their own.

Full Reference

Ingersoll, Brooke R. (2010). Teaching Social Communication: A Comparison of Naturalistic Behavioural and Development, Social Pragmatic (DSP) Approaches for Children with Autism Spectrum Disorders (ASD). *Journal of Positive Behaviour Interventions*. 12 (1), p. 33-43.

Perspectives: A Process Approach to Social Communication for Adolescents with Asperger's Syndrome using Radio Interviewing.

RESEARCH AIMS

Facilitators used radio interviews as the vehicle to explicitly teach the process of social communication and give young people multiple opportunities for social communication practice. Social skill objectives were addressed through this process approach, adapted from the framework of Social Thinking. The facilitator explicitly taught the young people methods for interpreting situational cues to a social partner's motivations and intentions and for responding correctly. The young person would be expected to achieve an understanding of the entire process and increased proficiency in its use only over a substantial amount of time.

RESEARCH METHODS

Six adolescents with Asperger's Syndrome (AS) were recruited using flyers, offering the opportunity to learn about the technical aspects of radio programming, while they developed interviewing and communication skills with the support of graduates. All participants were verbal and had average to above average cognition, according to parental report. The four steps of perspective taking and communication from Social Thinking were simplified into "The Four Steps of Interviewing".

1. I have thoughts about you and you have thoughts about me.
2. I talk with my eyes and my body.
3. I listen with my ears and my brain.
4. I use language to relate.

RESEARCH FINDINGS

Participants varied in the amount of progress made. Positive changes in individuals were observed by facilitators and family, including the development of friendships, a reduction in social anxiety and increased use of questions in conversation.

IMPLICATIONS FOR PRACTICE

(by the authors)

Approaches that explicitly teach the process of social communication, setting specific skills and objectives within the context of that process, may support adolescents beyond gains in social skills knowledge towards greater social skill performance and generalisation.

The project made the following recommendations:

- Adequate staffing to support students within large and small groups, pairs and individual conferencing.
- Initial activities to build relationships between young people and facilitators.
- Early emphasis on the foundational concept that through our own actions we can change others' perceptions about us.
- Self-assessment of social communication strengths and difficulties with support.
- Active participation of the young person and their family in development of their objective.
- Variety in the methods of explanations, demonstrations and engagement activities.

Perspectives: A Process Approach to Social Communication for Adolescents with Asperger's Syndrome using Radio Interviewing. CONTINUED

- A balance of structured and unstructured social opportunities.
- Frequent inclusion of activities, materials and breaks that address young peoples' individual self-regulation needs.
- Practical and reliable methods of data collection.
- A need for the following:
 - a. A functional system for frequent communication across professionals, schools, families and the young person for the purposes of education about and joint development of the approach,
 - b. Consistency in the use of language when talking about the process of social communication.
 - c. Identification of opportunities for the social communication objective across multiple settings.
 - d. Consistent use of an individualised cueing system.
 - e. Generalisation opportunities outside in novel situations and with same-age peers.

Full Reference

Thrasher, A., Wilger, J., Goldman, M. & Whitlatch, C. (2011). Perspectives: A Process Approach to Social Communication for Adolescents with Asperger's Syndrome using Radio Interviewing. *Perspectives on School-Based Issues*. 12, p. 110-120.

Social Communication Impairments in Children and Adolescents with Asperger Syndrome: Slow Response Time and the Impact of Prompting

RESEARCH AIM

The researchers aimed to determine if a group of children and adolescents with Asperger syndrome (AS) would respond differently than typically developing peers to a test involving social judgement. The literature suggests that the group of children and adolescents with AS would need more prompting and take longer to answer questions involving social judgement on a series of scenarios that involve characters engaging in a range of behaviours e.g. lying, sarcasm, irony.

RESEARCH METHOD

Thirteen males with AS were age matched with typically developing (TD) controls, the average age of the AS group was 16.4 years and the average age of the TD group was 15.4 years.

Both groups were tested with 26 different scenarios in the form of short stories which described people engaging in social and communicative behaviours e.g. dealing with irony or sarcasm or telling a lie to manipulate a situation. The participant would then be asked questions on the stories e.g. what does the person really want to know? / What does the person really mean by this? A short example of the kinds of scenarios involved would be the story of a builder telling an architect that he '...is building castles in the sky'.

The researchers noted the number of prompts both groups needed to understand what was happening in the stories and also the response time that both groups recorded responding to specific questions about the stories.

RESEARCH FINDINGS

The AS group needed more prompts and had a longer response time to the questions than the TD group; they also recorded more incorrect

answers to the situations and demonstrated higher levels of no or poor understanding of the scenarios posed to them. The impairments were particularly pronounced in scenarios involving the understanding of intentions, irony, and figures of speech. The AS group would be unable to understand and would respond with inaccurate or idiosyncratic interpretations of intentions, irony and figures of speech. The researchers note that while most of the AS group demonstrated some ability in Theory of Mind tasks, their abilities in understanding situations that involved a lot of context were very limited and the processes involved were unstable.

IMPLICATIONS FOR PRACTICE

(by reviewer)

The current research confirms many common beliefs about the social abilities of people with autism. The participants in the study did not have a diagnosed learning difficulty and demonstrated significant difficulty with social understanding and contextualisation.

The research reminds professionals to be mindful of the social impairments experienced by children and young people with autism and to provide support in situations that have demanding or changing social contexts. Professionals should also be aware of the language that they use and not assume that good language skills are congruent with the ability to understand and appropriately contextualise social situations and dialogue.

Full Reference

Kaland, N., Mortensen, E.L. & Smith, L. (2011). Social Communication Impairments in Children and Adolescents with Asperger Syndrome: Slow Response Time and the Impact of Prompting. *Research in Autism Spectrum Disorders*, 5, p. 1129-1137

Difficulties with social communication are key deficits in autism. The current publication addresses social communication from a number of perspectives. Articles included examine aspects of social communication and its relationship with other deficits in autism and also aspects of social communication that may be important predictors of future communicative ability. Articles exploring a range of interventions to promote and support social communication are also included.

The articles exploring the relationships between aspects of social communication not surprisingly indicate that much further research needs to be conducted into these areas. The emergence of a relationship between future communication skills, joint attention, imitation and object play is significant for parents and professionals working to promote these skills.

The intervention articles cross a broad range of strategies to promote social communication; from the use of IT based supports, to radio interviews and the use of more traditional flash cards and social scripts. There are salient points to be noted across the strategies. A selection of these is:

- Each intervention needs to start with the child; innovation and IT only work when the child or young person is cognitively and developmentally suited to the approach.
- The use of Social Stories and social scripts can be effective in supporting social communication; they can also be useful in limiting perseveration.
- Skills amassed using strategies can be generalised when the intervention is suitable for the child and the child is clear on the instruction.
- Qualitative differences in the nature of social communication in families with children with autism is observable; this may not be a negative observation but it underscores the importance of involving the family and parents as much as possible when working on social communication.

Middletown's Research Bulletin series is aimed at Education professionals who wish to keep up to date with the world of research but who may not have the time or resources to access whole articles. All articles are summarised by the Centre's multi-disciplinary team and invited reviewers. If you wish to contribute to the Centre's Research Bulletin series please contact research@middletownautism.com.

The Centre's next Research Bulletin is on the subject of Emotional Regulation.

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
Social Communication](#)





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to: research@middletownautism.com**

Middletown Centre for Autism

35 Church Street, Middletown, Co. Armagh BT60 4HZ

T. +44 (0)28 3751 5750 E. research@middletownautism.com W. www.middletownautism.com

Chief Executive: J G Cooper Registered in Northern Ireland, No. NI063661