

Cognitive Theories in Autism

Marion Rutherford and Lorna Johnston

National Autism Implementation Team

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Cognitive Theories: Autism

Introduction

This summary of cognitive theories relevant to autism, arose as part of the development of an autism training programme for early years staff and staff supporting children in schools. The purpose of the document is to share practical knowledge to support those delivering and receiving autism training, with links for those who wish to read more widely. In the training we reinforce the messages that:

- a) There is no behaviour that is only displayed by people with autism
- b) All autistic people are individuals. 'When you've met one person with autism, you've met one person with autism.'
- c) Diagnostic criteria outline what we observe and the combination of signs that lead to an autism diagnosis. However these descriptors do not take account of the underlying reasons we see the behaviours listed
- d) Autism is now thought to commonly occur alongside a range of neurodevelopmental differences or diagnosed conditions affecting language and communication, motor skills, sensory processing, learning, attention and adaptive skills. Cognitive theories are not unique to autism. They can help with understanding an individual's particular neurodevelopmental profile

Cognitive theories help us to develop a deeper understanding of how an individual might experience the world and respond in the way that they do when they have autism or related support needs. They help us to think 'why' challenges might happen and then how we might best make adaptations for autistic individuals, which reduce anxiety and support participation and learning. All of the 'behaviours' in the diagnostic criteria can also occur in individuals without autism. The theories overlap and are not mutually exclusive but each of them has a useful contribution to understanding autistic people.

References

Silberman, S. (2015). *Neurotribes: The legacy of autism and the future of neurodiversity*. Penguin.

Prizant, B. M., & Fields-Meyer, T. (2015). *Uniquely human: A different way of seeing autism*. Simon and Schuster.

Cognitive Theories: Autism

Theory of Mind

- Develops from Joint attention
- Understanding other people's thoughts feelings, beliefs and experiences
- Taking account of this understanding in your own actions

Executive Function

- The ability to:
- Plan, organise and sequence thoughts and actions
- Control our impulses

Weak Central Coherence

- The tendency to focus on details, rather than the 'big picture' which affects the person's ability to consider context

Context Blindness

- Challenge in processing or using all of the information from visual, auditory, Historical and social contexts to make sense of experiences in the moment
- Missing the 'obvious'

Double Empathy Problem

- A mutual challenge of misunderstanding intentions, motivations or communication between autistic and non-autistic people

Monotropism

- A tendency to focus attention on one thing at a time, with difficulty shifting attention and processing multiple stimuli which might support understanding

Theory	Summary	Further reading and resources
<p>Theory of Mind</p>	<p>Using Theory of Mind (ToM), we understand other people’s thoughts, feelings, beliefs and experiences. It was first described by Uta Frith in 1989 and since then our understanding of it has developed considerably.</p> <p>This skill is underpinned by early Joint Attention (commonly delayed in autism).</p> <p>ToM continues to develop into adulthood, as we continue to try to understand other people’s perspectives and actions in social settings.</p> <p>Around the age of 5 typically developing children have first order ToM and can understand and use words which show they are developing an awareness that other people have thoughts, feelings, beliefs, perspectives and experiences which are different to their own and they realise that these explain their responses and actions.</p> <p>As children get older they realise that people can think one thing but say another and that there are non-literal interpretations to things people say. This can be conveyed verbally and non-verbally and through prosody (or intonation, pitch and stress in the voice). For example people might use sarcasm, white lies and jokes.</p> <p>Often in autistic people, ToM does not develop in the same way, which can lead to difficulties in using and understanding social communication, being over-literal, misinterpretations of what others think and say and appearing rude or saying and doing things unexpected to others – ‘in the moment’ and having difficulty imagining how else they could do things in future.</p>	<p>Theory of Mind</p> <p>Frith, U., & Happé, F. (1994). Autism: Beyond “theory of mind”. <i>Cognition</i>, 50(1-3), 115-132.</p> <p>Happé, F. G. (1994). An advanced test of theory of mind: Understanding of story characters' thoughts and feelings by able autistic, mentally handicapped, and normal children and adults. <i>Journal of autism and Developmental disorders</i>, 24(2), 129-154.</p> <p>Fletcher-Watson, S., McConnell, F., Manola, E., & McConachie, H. (2014). Interventions based on the Theory of Mind cognitive model for autism spectrum disorder (ASD). <i>Cochrane Database of Systematic Reviews</i>, (3).</p> <p>Sussman, F. (2006). <i>TalkAbility: People Skills for Verbal Children on the Autism Spectrum</i>; a</p>

Rather than focussing on teaching theory of mind – current research suggests this is something we should take account of in understanding autistic people and in designing relevant support strategies.

What we might see:

- Might try to tell other people what to do
- Thinks they are the teacher or ‘polices’ others
- Seems ‘cheeky’ or selfish
- Pushes to the front of the line (not thinking about others)
- Does not follow instructions for ‘everyone’ – needs to learn this or have an individual instruction
- If you don’t use their name they don’t know you are talking to them
- May not seek approval (what you think is not registering)

What we can do:

- Cue the child by name
- Explain ‘everyone’
- Create a predictable environment (where there’s less ‘in the moment’ working out to do)
- Use visual prompts to support words
- Exaggerate emotional responses
- Tell the child what you are thinking
- Find out what motivates them
- Join them in their interests
- Avoid using restorative practices with autistic learners
- Teach ‘Inside Thoughts and Outside Thoughts’

- Social Stories and Social Thinking can be useful in supporting theory of mind. The PEERS programme can support teenagers and adults with making sense of social expectations and making friendships.

Guide for Parent. Hanen Program.

<https://www.socialthinking.com/Articles?name=social-behavior-starts-social-thought-perspective-taking>

Laugeson, E. A., & Frankel, F. (2011). Social skills for teenagers with developmental and autism spectrum disorders: The PEERS treatment manual. Routledge.

Joint Attention

Sussman, F., & Lewis, R. B. (1999). More than words: A guide to helping parents promote communication and social skills in children with autism spectrum disorder. Toronto: Hanen Centre.

Murza, K. A., Schwartz, J. B., Hahs-Vaughn, D. L., & Nye, C. (2016). Joint attention interventions for children with autism spectrum disorder: a systematic review and meta-analysis. International journal of language & communication disorders, 51(3), 236-251.

		<p>Charman, T. (2003). Why is joint attention a pivotal skill in autism? Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences, 358(1430), 315-324.</p> <p>Sima Gerber https://www.youtube.com/playlist?list=PL25410923E953E679</p>
<p>Executive Function</p>	<p>Our executive function is our ability to plan, organise and sequence thoughts and actions and to control impulses. It can affect our ability to be aware of and understand the passage of time. Working memory is an important aspect of Executive Function. This allows us to hold one piece of information in our mind as we think about another.</p> <p>What we might see:</p> <ul style="list-style-type: none"> • Inconsistency in learning – they can do it one day but not the next • Clumsiness – walking over things or not seeming to notice people and things around them, or being ‘in a rush’ • May ‘flit’ from one thing to another • Difficulty moving from one activity to another • Reluctance to try new things • Particular difficulty sequencing tasks (e.g. dressing, organising their schoolbag) • Impulsive behaviour that they may later regret <p>What we can do:</p> <ul style="list-style-type: none"> • Break down tasks into clear steps 	<p>Meltzer, L. (Ed.). (2018). Executive function in education: From theory to practice. Guilford Publications.</p> <p>Meltzer, L. (2010). Promoting executive function in the classroom. Guilford Press.</p> <p>Crooke, P. J., Winner, M. G., & Olswang, L. B. (2016). Thinking socially. Topics in Language Disorders, 36(3), 284-298. https://www.socialthinking.com/Articles?name=social-thinking-executive-functioning-mental-health</p>

	<ul style="list-style-type: none"> • Chunk tasks • Create routines • Give thinking time • Sequence activities and routines • Use timers • Support understanding of time by using visuals, e.g. photos • Use 'line up feet', 'a 'rope with knots to hold while we line up' or numbers at different work stations • Give instructions in the order things are to happen • Think DIRM – 'Does it really matter?' <p>When we become anxious our ability to use these skills reduces.</p>	
<p>Weak Central Coherence</p>	<p>Our central coherence ability enables us to see 'the big picture', to understand context and to use context to draw meaning. Autistic people tend to focus on the detail rather than the whole context.</p> <p>What we might see:</p> <ul style="list-style-type: none"> • Avoid making choices • Seem to understand everything you say • Seem to miss the point • Focus on 'irrelevant' details • Read fluently but don't always pick up the meaning • Rote learn maths but struggle as it gets more complicated <p>What we can do:</p> <ul style="list-style-type: none"> • Support choices (forced alternatives or visual prompts) • Identify the main idea in new information • Identify key learning points • Make links explicit (why are we doing this) • Forewarn of changes and events • Change only one element of the day/ class at a time 	<p>Morgan, B., Maybery, M., & Durkin, K. (2003). Weak central coherence, poor joint attention, and low verbal ability: Independent deficits in early autism. <i>Developmental psychology</i>, 39(4), 646.</p> <p>Happé, F., & Frith, U. (2006). The weak coherence account: detail-focused cognitive style in autism spectrum disorders. <i>Journal of autism and developmental disorders</i>, 36(1), 5-25.</p>

	<ul style="list-style-type: none"> • Rehearse and practice for new or different events • Use Social Stories 	
<p>Context Blindness</p>	<p>Context blindness described by Peter Vermeulen, presents a challenge in using visual, auditory, historical and social context in making sense of experiences in the moment. It is thought that people with this difficulty cannot respond to more than one stimulus at a time, therefore sometimes missing ‘the obvious’.</p> <p>What we might see:</p> <ul style="list-style-type: none"> • Perform well in tests (e.g. of social skills or emotion recognition) but not in real life • Not using seemingly obvious contextual information (e.g. knowing that the toilets in a bathroom showroom are not real toilets and should not be used!) • ‘Over literal’ or ‘concrete’ thinking • Being overly formal or over familiar • Being overwhelmed by new people or places • Oversharing of personal information • Difficulty processing ambiguity (e.g. when someone says one thing but means another) • Finding it hard to see things from other people’s perspective • Difficulty adapting rules to changing social contexts – might ‘police’ others or just behave unexpectedly <p>What we can do:</p> <ul style="list-style-type: none"> • Teach about expected and unexpected actions and thoughts • Use Social Stories and reference the social context • Avoid teaching emotion vocabulary out with natural social experiences – teach in the moment • Use social skills approaches which focus on teaching sensitivity to context (e.g. Social Thinking, PEERS programme) 	<p>Vermeulen, P., & PhD, P. (2012). Autism as context blindness. Shawnee, KS: AAPC Publishing.</p> <p>Vermeulen, P. (2015). Context blindness in autism spectrum disorder: Not using the forest to see the trees as trees. Focus on autism and other developmental disabilities, 30(3), 182-192.</p> <p>https://www.autism.net/services/services-for-youth-and-adults/pdp/additional-resources/1934-context-blindness.html</p>

	<ul style="list-style-type: none"> • Use timetables and increase predictability (reduce need for processing in the moment) • Practice and prepare for unfamiliar situations • Teach and refer to 'public' and 'private' (places, behaviours, etc.) • Explicitly teach implicit rules (e.g. which urinal to use) • Teach about personal safety, relevant to current need and developmental stage • Teach how to stay safe online 	
<p>Double Empathy Problem</p>	<p>The theory of the double empathy problem, described by Damian Milton, suggests that when people with very different experiences of the world interact with one another, they will struggle to empathise with each other.</p> <p>Through this theory we recognise that as well as autistic people having social communication challenges, non-autistic people can equally have difficulties understanding the intentions and communication of the autistic person and that the problem is a dynamic one, which does not lie solely with the autistic person.</p> <p>What we might see</p> <ul style="list-style-type: none"> • Miscommunication between autistic and non-autistic people <p>What we might do</p> <ul style="list-style-type: none"> • Avoid placing 'blame' for the miscommunication • Accept a shared responsibility to see things from the other person's perspective • See autism as a difference not a deficit 	<p>https://network.autism.org.uk/knowledge/insight-opinion/double-empathy-problem</p>
<p>Monotropism</p>	<p>Monotropism is described as 'being in an attention tunnel'. It is the tendency to focus on one thing at a time and therefore miss contextual information. In order to perform a task, any individual needs to:</p>	<p>Murray, D., Lesser, M., & Lawson, W. (2005). Attention, monotropism and the diagnostic</p>

- See the point of the task – understand the goal
- Value the point of the task – be motivated by it
- See how to perform that task – understand precisely what task it is,
- Know what steps must be taken to carry it out
- Know how to take the identified steps

Monotropic individuals are likely to have problems with each of these.

What we might see:

- Preference for sameness
- Restricted, repetitive and stereotyped behaviours (e.g. repeatedly spinning the wheels on a car; talking about the same topic repetitively; having a specific interest in washing machines or only eating beige food)
- Difficulty shifting attention from one thing to another
- Good attention focus for some things and not others
- A lack of preparedness for change - feeling like things that happen are unexpected because they have not focussed attention on signs others use for predictability – leading to anxiety or distress
- Focusing on detail rather than the whole picture
- Uneven skills profile – related to areas of attention focus or areas not focussed on
- Being ‘unable to move on’ or getting stuck – and becoming prompt dependent (e.g. only putting their jacket on when the adult tells them to)
- Reduced initiation
- A need for order, familiarity and reassurance
- Reduced awareness of others
- Difficulty when people change their minds (inflexibility)
- If something doesn’t work out as expected – they don’t see any alternatives

criteria for autism. Autism, 9(2), 139-156.

<https://thepsychologist.bps.org.uk/volume-32/august-2019/me-and-monotropism-unified-theory-autism>

What we can do:

- Join the child before you expect them to join you - 'Start where the child is'
- Call the person by name, wait until they respond and focus before asking a question or giving instructions
- Prepare explicitly for change
- Be predictable
- Wait and give adequate time to process attention shifts
- Allow time to focus on preferred interests
- Understand that repetitive sensory behaviours are calming (e.g. stimming, rocking, humming)
- Point out others, to help the child focus on things they haven't noticed (e.g. 'Look John's behind you waiting for a turn')
- Reduce task demands in complexity, time pressure and irrelevant stimuli
- Make tasks meaningful: if tasks and ideas are conveyed in small portions, ensure that the overall relatedness of the parts is understood