

COMMUNICATION- FOCUSED THERAPY (CFT) FOR AUTISM AND ASPERGER SYNDROME

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Communication-Focused Therapy (CFT) is a psychotherapy developed by the author for the treatment of several mental health conditions. This article focuses on its application to autism and Asperger syndrome.

Keywords: depression, communication-focused therapy, CFT, communication, psychotherapy, treatment

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Introduction

Autism spectrum disorders (ASD) include autism and Asperger's syndrome. What they have in common is the difficulty in reading other people's emotions and understanding social cues. However, where someone with high functioning autism usually develops language abilities later, patients with Asperger's show here an essentially normal development.

Autism is a neurodevelopmental disorder characterized by impaired social interaction, impaired verbal and non-verbal communication, and restricted and repetitive behavior. Parents usually notice signs in the first two years of their child's life. These signs often develop gradually, though some children with autism reach their developmental milestones at a normal pace and then regress. The diagnostic criteria require that symptoms become apparent in early childhood, typically before age three.

Autism is caused by a combination of genetic and environmental factors. Some cases are strongly associated with certain infections during pregnancy including rubella and use of alcohol or cocaine. Autism affects information processing in the brain by altering how nerve cells and their synapses connect and organize. In the DSM V, autism is included within the autism spectrum (ASDs), as is Asperger syndrome, which lacks delays in cognitive development and language, and pervasive developmental disorder, not otherwise specified (commonly abbreviated as PDD-NOS), which was diagnosed when the full set of criteria for autism or Asperger syndrome were not met. Autism is defined in terms of abnormalities in social and communication development, in the presence of marked repetitive behavior and limited imagination (American Psychiatric Association [APA], 1994).

Premature mortality was markedly increased in ASD owing to a multitude of medical conditions. (Hirvikoski et al., 2016) In 2010 there were an estimated 52 million cases of ASDs, equating to a prevalence

of 7.6 per 1000 or one in 132 persons, but there was no clear evidence of a change in prevalence for autistic disorder or other ASDs between 1990 and 2010. Worldwide, there was little regional variation in the prevalence of ASDs. Globally, autistic disorders accounted for more than 58 life-years (DALYs) lost per 100 000 population and other ASDs accounted for 53 life-years lost per 100 000. (Baxter et al., 2015)

Asperger Syndrome

Asperger syndrome is defined in the ICD-10 in terms of the individual meeting the same criteria for autism but with no history of cognitive or language delay, and not meeting the criteria for Pervasive Development Disorder (PDD) (Organization, 1992) There is also an assumption, still under debate, that autism and Asperger syndrome lie on a continuum of social-communication disability, with the latter as the bridge between autism and normality (Happé & Frith, 1995). Asperger Syndrome is, for example, no longer a separate diagnosis in the DSM-V, which has led to significant debate and opposition (Parsloe & Babrow, 2016). The continuum view shifts us away from categorical diagnosis and towards a quantitative approach. This is an interesting perspective, especially from a communication focused view.

Prevalence

Using data provided by the Autism and Developmental Disabilities Monitoring (ADDM) Network in several US states, the overall prevalence of ASD among the 11 ADDM sites was 16.8 per 1,000 (one in 59) children aged 8 years in 2014. ASD prevalence estimates varied by sex and race/ethnicity. Males were four times more likely than females to be identified with ASD. Prevalence estimates were higher for non-Hispanic white children compared with non-Hispanic black children, and both groups were more likely to be identified with ASD compared with Hispanic children. (Baio et al., 2018) The median age of earliest known ASD diagnosis was 52 months. Interestingly, in the study by Baio and colleagues, 44% had IQ scores in the average to above average range (i.e., IQ >85). (Baio et al., 2018)

Communication and Meaning

Communication is the transmission of meaningful messages. Seeing meaning requires being able to understand and see relevance in a message. If an autistic individual is not able to understand a message with regards to a social interaction, he or she cannot see the relevance of the message and cannot consider it meaningful to the own person. This, in turn, may, however, lead to frustration and social withdrawal, rather than learning how to identify and decode messages from other people, and as a consequence oneself.

Communication is particularly affected in areas that play a significant role in social interactions. All the impairments that are unique to autism concern the use of language for the purpose of intentional (but not instrumental) communication. Intentional communication is the display of communicative signals that are sensitive to the state of the receiver. The specific communication failure can be identified with a limitation in the computing of relevance and as a lack of taking account of mental states. (Frith, 1989) This means that an individual has difficulties imputing and identifying beliefs and intentions into another person, what is often termed as second-order representations.

Perceiving the World

Sensory symptoms have been observed since early reports of autism spectrum conditions but historically were thought to represent secondary consequences of differences in social-cognitive processing. Developmental research suggests that sensory symptoms manifest early in development and contribute unique variance to the diagnostic criteria of autism. Neuroimaging evidence suggests that sensory symptoms originate from differences in low-level processing in sensory-dedicated regions in the autistic brain and offer insight into circuit-level alterations. Although common behavioural paradigms are not yet in place, sensory-processing differences are evident in genetic animal models of the condition and may represent promising translatable biomarkers of autism. (Robertson & Baron-Cohen, 2017)

Support

Especially in lighter forms of autism, such as in Asperger syndrome, there is the potential to understand more, if the individual is encouraged and supported in the learning process. At the same time, it is

important to help the person with Asperger syndrome to recognize more meaning in oneself and the world around. This also requires learning more about oneself, one's values, interests and aspirations, because these parameters determine what one finds relevant and meaningful, which motivates to learn more about and use communication in novel ways.

Communication Patterns

Everyone uses communication patterns to communicate with oneself and others. The neural networks of every organism, including an individual with autism, receive, process and send large quantities information all the time. Some basic communication patterns are hard wired, while many others are learned early and later in life. In children with autism, there seems to be a greater difficulty in learning new communication patterns, or at least in using them. This can have several causes, but it is important to remember that an individual can process information, and it is more a question of how.

Classic autism and Asperger syndrome both share three core diagnostic features: (a) difficulties in social development, (b) the development of communication, and (c) unusually strong, narrow interests and repetitive behavior (APA, 1994). Since communication is always social, it might be more fruitful to think of autism and Asperger syndrome as sharing features in two broad areas: social communication and narrow interests/repetitive actions. As for distinguishing features, a diagnosis of Asperger syndrome requires that the child spoke on time and has an average IQ or above. (Baron-Cohen, 2016)

Language Delay

Language delay itself is defined as not using single words by two years of age, and/or phrase speech by three years of age. For autism, twin and behavioral genetic family studies have shown genetic origins (Bailey et al., 1995; Bolton & Rutter, 1990; Folstein & Rutter, 1977, 1988). Family pedigrees of AS also implicate heritability (Gillberg, 1991). Early speech or behavioral interventions can help children with autism gain self-care, social, and communication skills.

Genetics

As in many other conditions, a predisposition for autism spectrum disorder (ASD) can be transmitted by polygenic variation. However, de novo mutations seem to play a larger role in ASD than in many other mental health conditions. The genetic basis of autism spectrum disorder (ASD) is known to consist of contributions from de novo mutations in variant-intolerant genes. (Brandler et al., 2018)

Multiple Genes and Diverse Pathways

The genetic influences on ASD are additive and seem to increase risk through at least partially distinct etiologic pathways. Using a novel approach called the polygenic transmission disequilibrium test and data from 6,454 families with a child with ASD, Weiner and colleagues showed that polygenic risk for ASD, schizophrenia, and greater educational attainment is over-transmitted to children with ASD. These findings hold independent of proband IQ. They found that polygenic variation contributes additively to risk in ASD cases who carry a strongly acting de novo variant. Lastly, we show that elements of polygenic risk are independent and differ in their relationship with phenotype. (Weiner et al., 2017)

Synaptic Plasticity

The connectivity within the neural network is largely determined by the connection patterns and strength of this connectivity of synapses, the connection points between one nerve fiber and another. Genetic studies of autism spectrum disorder (ASD) have identified several risk genes that are key regulators of synaptic plasticity, proteins that can change synaptic strength or number, such as synaptic scaffolding proteins, receptors, cell adhesion molecules or proteins that are involved in chromatin remodeling, transcription, protein synthesis or degradation, or actin cytoskeleton dynamics. In addition, when deleterious mutations occur, inefficient genetic buffering and impaired synaptic homeostasis may increase an individual's risk for ASD. (Bourgeron, 2015)

Increase in Gene Disrupting Mutations

The most successful efforts in gene discovery so far have identified rare protein- disrupting genetic variants in the affected child that are not found in the healthy parents, which represent new, or de novo, copy-number variants (CNVs)^{33–41} or single–base pair mutations (single-nucleotide variants; SNVs) that have arisen in the germline. These studies have shown that there is an overall enrichment in ‘likely gene-

disrupting' mutations (LGDs; nonsense, frameshift and splice site mutations that often result in production of truncated proteins) in individuals with ASD as compared to their healthy relatives or to other unaffected individuals. (de la Torre-Ubieta, Won, Stein, & Geschwind, 2016)

Communication-Focused Therapy (CFT)

Current therapeutic options are predominantly restricted to behavioral interventions, which can be highly successful in a subset of patients, and, as such, early intervention is warranted. The only FDA-approved drugs, risperidone, which is effective in treating aggressive and repetitive behaviors, and aripiprazole, which reduces irritability, are not directed at the core social deficits. (de la Torre-Ubieta et al., 2016)

Communication-Focused Therapy (CFT) was developed by the author to focus more specifically on the communication process between patient and therapist. The central piece is that the sending and receiving of meaningful messages is at the heart of any change process. CBT, psychodynamic psychotherapy and IPT help because they define a format in which communication processes take place that can bring about change. However, they do not work directly with the communication processes. CFT does so.

Current Communication Patterns

The first step is to get a sense for how the patient communicates with himself or herself and the world around, which is necessary to use communication in a therapy session exactly. It is first important to determine how the patient at the moment communicates about own emotions, needs and wishes, and reacts to messages from a therapist and others. This gives clues about thought patterns, beliefs and more which affect how messages from others are interpreted and how own messages are assembled or not sent. What someone sees as meaningful and relevant is largely determined by past experiences with others and with oneself.

Taking stock of various communication patterns has been described by the author elsewhere (Haverkamp, 2019b). The process of creating greater awareness for different communication patterns is an important step towards working with them. Since patients with autism can respond quite well to structure, imparting

the notion that communication has rules, patterns and structures can help significantly. Of course, this would have to be adapted to the level of communication functioning of the patient.

As already mentioned before, for someone with autism it appears more difficult to extract meaning from formal communication elements (Haverkamp, 2017a). For example, language in autism appears to be best characterized by a selective deficit in applying language forms for purposes of functional communication (Wilkinson, 1998). This pattern of selective deficit has been called the “form/function dissociation.”

Communication Style

Communication style is a more global concept, describing how people interact with each other and exchange information. It is about the communication patterns they use in certain situations (Haverkamp, 2010a, 2019b). Adapting a communication style with the patient to the condition, such as autism, and to the patient’s level of functioning can help to make it easier for the patient to accept and value communication for the possibilities it offers. Simple adaptations to environment and style can make communication easier for patients with autism. The visual pathway, which can include pictures or video clips, is usually the preferred sensory pathway for children with ASD and visual adaptations can facilitate better understanding and make it easier to learn from a role model.

Children with autism have shown to respond with enhanced communicative and social development to a style of parent communication adapted to their impairments. In a study by Green and colleagues, Pre-School Autism Communication Trial (PACT) intervention targeted social interactive and communication impairments in autism. The intervention consisted of one-to-one clinic sessions between therapist and parent with the child present. The aim of the intervention was first to increase parental sensitivity and responsiveness to child communication and reduce mistimed parental responses by working with the parent and using video-feedback methods to address parent-child interaction. Second, further incremental development of the child's communication was helped by promotion of a range of strategies such as action routines, familiar repetitive language, and pauses. The intervention was manualized and staged to represent the developmental progression of prelinguistic and early language skills. (Green et al., 2010)

Keeping the Flow of Information Straightforward

Focusing on one topic and organizing information in a straightforward way helps in the communication with an individual with autism. This does not mean that the content cannot be complex, as higher functioning individuals can show higher than average intelligence.

However, in less highly functioning individuals, language patterns that rely on a high degree of social meaning, such as open-ended questions, metaphors, analogies, irony, the use of phrases and idioms and so forth, may have to be reformulated in clearer ways.

Working with Attention and Relevance

Demonstrating by example can be part of the interactions with a patient with autism. Building awareness for and reflecting on the use of eye contact, for example, if done in a non-overwhelming way, can help to overcome fears and anxieties. Communicating with a patient with a more severe form of autism requires being fully engaged during the interaction and carefully listening to words and observing for behaviors that may be attempts to communicate.

Responding to Communication Breaks

If a break in an information flow occurs, children with autism are less likely to use repair strategies than other children. Such repair strategies may include repeating, modifying, or recasting a message. Important is to help a patient with autism, whether child or adult, to bridge information deficits and communication failures more easily. This is something that can be learned, and there are processes that can be used which require less on social cues from others.

Shaping New Communication Patterns

The second step is to use this insight in helping the patient to deal with various issues and everyday situations. Often, the two steps run in parallel in an exchange between therapist and patient. In the therapeutic session, the patient can start experimenting with different communication patterns and get a sense for the effect they have in the real world. This often requires reducing the fear to communicate

own needs and wishes but working with the patient gently in the therapeutic session, without pressure, often raises the interest and motivation for the work and reduces fears.

Internal communication is an important part of therapy, because communication styles and patterns should match the interests, values and personality of the individual. Miscommunication and a lack of understanding often contributes to the isolation in someone with a condition on the autism spectrum, which makes it important that the individual basic parameters are considered as well.

Understanding Autism and Asperger syndrome

Both have in common that there are communication difficulties, both reading other people and reading oneself. People with Asperger syndrome can often work and even excel at it, but interpersonal communication, especially on the emotional level, remains more or less a mystery to them. It is important to convey to a patient the important that emotions can play by working with experiences that seemed encouraging or disturbing and try to identify the own emotions. This also helps identify emotions in others and in oneself.

I and the Other: Theory of Mind (ToM)

Acknowledging the separateness between oneself and another person, while also seeing similarities and differences between oneself and others, is an important prerequisite for affective communication that gets one's needs, values and aspirations met. Only if I have a sense of an I, can there be a You. This also applies to the concept of mind, which as the author has shown elsewhere requires a sense of self as an experience and awareness of communication flows within oneself and between oneself and others (Haverkampf, 2010a, 2010b, 2017c, 2017b, 2018b). A concept of mind in oneself and others and an understanding of its uniqueness in oneself and others facilitates to be understood and to understand, as well as to recognize the boundaries that exist between oneself and others. The ability of normal children and adults to attribute independent mental states to self and others in order to explain and predict

behavior ("theory of mind") has been a focus of much recent research. Autism is a biologically based disorder which appears to be characterized by a specific impairment in this "mentalizing" process.

The connection between theory of mind and language abilities is potentially an interesting one, as both are required for effective communication (Haverkamp, 2010a, 2018b). Both can be a limiting factor, but in very different ways. In a study by Peterson and colleagues, the typically developing hearing children and deaf children alike, theory of mind understanding independently predicted peer social skills over and above age, gender, language ability, and, for deaf children, status as native- or late-signer. However, for those with autism spectrum disorders the pattern was different. The apparent link of theory of mind to peer competence was not a direct one but instead was significantly mediated by language ability. (Peterson, Slaughter, Moore, & Wellman, 2016)

For the theory of mind, several sets of information and the ability to process them accurately seems important, such as facial expressions and the spatial information about oneself and others. Reduced connectivity in these areas may be significant in the development of autism. Cheng and colleagues analyzed whole-brain voxel-based unbiased resting state functional connectivity in 418 subjects with autism and 509 matched typically developing individuals. They identified a system in the middle temporal gyrus/superior temporal sulcus region that has reduced cortical functional connectivity (and increased with the medial thalamus), which is implicated in face expression processing involved in social behavior. This system has reduced functional connectivity with the ventromedial prefrontal cortex, which is implicated in emotion and social communication. The middle temporal gyrus system is also implicated in theory of mind processing. They also identified in autism a second key system in the precuneus/superior parietal lobule region with reduced functional connectivity, which is implicated in spatial functions including of oneself, and of the spatial environment. (Cheng, Rolls, Gu, Zhang, & Feng, 2015)

Learning Communication

A basic infrastructure in the brain for communication is hardwired but given the high plasticity of the brain much can be learned, including some more basic functions, which are then carried out, at least in part, in other center of the brain. Learning to communicate and about communication is helpful (Haverkamp, 2010a), but it should be adapted to the individual circumstances, such as autism or Asperger's. In severe

cases of autism communication may be non-verbal, but every living being is designed to communicate, and, whatever communication channels or interaction patterns are use, helping another human being engage in communication usually benefits him or her, particularly if the environment does not engage in much communication or does not know how to communicate with the patient.

Emotions

Difficulties in understanding emotion by people with autism seem most apparent when emotion interacts with false belief. Baron-Cohen described an experiment that tests whether people with autism understand some causes of 2 basic emotions (happiness and sadness). The causes of emotion tested were situations, desires, and beliefs. Results showed that, relative to normal and mentally handicapped subjects of an equivalent mental age, people with autism alone showed severe deficits in comprehension of emotion caused by beliefs. Their understanding of emotion caused by situations and desires was no different than the non-autistic mentally handicapped group. (Baron-Cohen, 1991)

Related to this question is whether different emotions are most effectively conveyed through specific, nonverbal channels of communication. App and colleagues found that participants favored the body for embarrassment, guilt, pride, and shame; the face for anger, disgust, fear, happiness, and sadness; and touch for love and sympathy. When restricted to a single channel, participants were most confident about their communication when production was limited to the emotion's preferred channel. In a second experiment using videos of emotions, they found that identification in restricted conditions. The social function of an emotion predicts its primary channel: The body channel promotes social-status emotions, the face channel supports survival emotions, and touch supports intimate emotions. (App, McIntosh, Reed, & Hertenstein, 2011)

Social Sensitivity

Social sensitivity describes the proficiency at which an individual can identify, perceive, and understand cues and contexts in social interactions. This is an important social skill and having high levels of social sensitivity can make one more well-liked and successful in social and business relationships. But what are

social cues and contexts? They are again information which can be decoded and analyzed for meaning. A social cue may contain less information than a context, but to distill the meaning from the information provided by a cue, one has to also know and understand the contextual information in which the cue occurs. Individuals on the autistic spectrum have greater difficulties in distilling meaning from external information within information, or they may have difficulties selecting and focusing on the relevant information. In Communication-Focused Therapy, greater awareness for meaning within the information provided by perceptions also leads to a greater understanding of the wider interpersonal dynamics, while working therapeutically with the latter can in practice also strengthen the former (Haverkampf, 2018b).

Social sensitivity can be measured. Baron and Cohen in 1997 explored the “Reading the Mind in the Eyes” Test, as a measure of adult “mentalizing”. In this test, the eye region of different people is presented, and participants are asked what these people are thinking and feeling. Whilst that test succeeded in discriminating a group of adults with Asperger syndrome (AS) or high-functioning autism (HFA) from controls. In a follow-up study, in both the clinical and control groups the Eyes Test was inversely correlated with the Autism Spectrum Quotient (AQ), a measure of autistic traits in adults of normal intelligence. (Baron-Cohen, Wheelwright, Hill, Raste, & Plumb, 2001)

Competence and Confidence

Becoming more competent in communication also raises the confidence of the patient. Often, autism can be associated with depression or anxiety, which is also a result of the lack of meaningful communication between the patient and his or her environment. Working on communication and supporting the patient in interacting in everyday life can build a greater sense of competence and confidence and improve the symptoms of depression and anxiety that may be associated with the withdrawal, self-doubts and lack of meaningful interaction individuals with autism experience. A greater awareness of and constructively working with communication patterns within a therapeutic session can also lead to greater confidence in using communication overall. Work with communication patterns includes all levels of communication, including the selection, encoding, transmitting, decoding and further processing it, such as to extract meaning from a message or communicated information in general. As has been described by the author elsewhere (Haverkampf, 2019b), communication patterns are quite easily to work with if they can be subdivided in individual communication elements. So, in a therapeutic session with a patient suffering

from a more severe form of autism, it helps to work with relatively simple communication patterns before moving to more complex ones. A simple question how the other person is doing contains a very general communication pattern in the form of a question, which is made up of a string of communication elements, such as a physical focus on the other or the characteristic change in voice towards the end of the question. However, the information that is requested must be derived internally by the other person, which includes awareness for and the ability to decode feeling states. Interestingly, in autism not only the communication with the outside world is affected by the condition, but very much so also the internal communication. In more severe cases of autism, it may appear more difficult to use the external communication to work on the internal communication, but that is largely wrong. The sense of a wall mentioned above that seems to more strongly separate internal from outside communication is really a result of an altered processing of information rather than an actual decrease in the amount of information that flows between the outside and inside worlds. This also creates a window for psychotherapy, as in other non-autistic people.

Livingston and colleagues proposed that some individuals with Autism Spectrum Disorder can 'compensate' for their underlying difficulties, such as in the area of theory of mind, thus demonstrating relatively few behavioral symptoms, despite continued core cognitive deficits. The mechanisms underpinning compensation are largely unexplored, as is its potential impact on mental health. This study aimed to estimate compensation patterns in ASD, by contrasting overt social behavior with theory of mind task performance, in order to compare the characteristics of 'Low' and 'High' Compensators. High Compensators demonstrated better IQ and executive function, but greater self-reported anxiety, compared with Low Compensators. Such differences were not found when comparing individuals who had good versus poor ADOS scores, when theory of mind performance was good. Other core autistic characteristics (weak central coherence, nonsocial symptoms) did not differentiate the High and Low Compensators. (Livingston, Colvert, Team, Bolton, & Happé, 2019)

Meaning

Meaning is that substrate of information that can lead to change, whether in a perspective, an emotion, or a behavior, provided it is decoded and processed by the recipient (Haverkamp, 2010a, 2018f, 2018c,

2019a). Recognizing meaning helps to focus on things, develop proficiency in them and see more relevance in the world, which also increases motivation and the initiative to engage. Seeing meaning and relevance in something depends on being able to decode a message and to find some resonance with things that are important to oneself. This also applies to social interactions. The better one is at decoding messages in an interaction, including also the social cues, the more meaningful and seemingly relevant the interaction will be. Autism spectrum disorders reduce the benefit of a social interaction, its meaning and sense of relevance, because impairments in social cognition reduce the level of meaning than can be distilled from an interaction.

Social Cognition

Children with ADHD have impaired social cognition, which also implies that their ability to distill certain forms of meaning may be impaired. In a study by Caillies and colleagues, children with ADHD displayed impaired recursive theory of mind and irony comprehension. The groups differed significantly on second-order theory of mind, irony comprehension and executive functions. (Caillies, Bertot, Motte, Raynaud, & Abely, 2014)

Reading Skills

Reading uses printed words as a communication channel. This channel is quite limited in the information capacity. Visual perception in general transmits much more information per time interval than the words read in the same interval. However, words can be very meaning dense, which can make it more enjoyable to read a page than look around one's room, for example. Children with autism spectrum disorder tend to demonstrate well-developed word recognition skills in the absence of corresponding skills in constructing meaning (Randi, Newman, & Grigorenko, 2010). There is evidence that poor comprehenders in both the typically developing and atypically developing populations have difficulty shifting their attention from word-level reading to text comprehension (Oakhill et al. 2003; Yuill and Oakhill 1991). Overdeveloped word recognition skills in advance of reading comprehension is called hyperlexia, which is associated with autism (Grigorenko et al. 2002, 2003).

In addition to decoding skills, skills such as text integration, metacognitive monitoring, inference making, and working memory have all been found to contribute to variability in reading comprehension ability. Word recognition skills and comprehension skills, although highly correlated, develop independently. For

example, some children with dyslexia who have difficulty decoding are good comprehenders and conversely, some children who have well-developed decoding skills are poor at comprehending

Linguistic Meaning

Some theories of linguistic meaning, such as those of Paul Grice and David Lewis, make appeal to higher-order thoughts: thoughts about thoughts. Because of this, such theories run the risk of being empirically refuted by the existence of speakers who lack, completely or to a high degree, the capacity of thinking about thoughts. Research on autism during the past 15 years provides strong evidence for the existence of such speakers. Some persons with autism have linguistic abilities that qualify them as speakers, but manifest a severely impaired capacity to understand what it is to have beliefs. (Glüer & Pagin, 2003)

More able individuals with autism and Asperger syndrome have been shown to pass relatively high level theory of mind tasks without displaying commensurate levels of social adaptation in naturalistic settings. Klin used the Social Attribution Task asking participants to provide narratives describing Heider and Simmel's (1944) silent cartoon animation in which geometric shapes enact a social plot. These narratives were coded in terms of the participants' abilities to attribute social meaning to the geometric cartoon. Results revealed marked deficits in both clinical groups across all indices. These deficits were not related to verbal IQ or level of metalinguistic skills. Individuals with autism and AS identified about a quarter of the social elements in the story, a third of their attributions were irrelevant to the social plot, and they used pertinent theory of mind terms very infrequently. They were also unable to derive psychologically based personality features from the shapes' movements. When provided with more explicit verbal information on the nature of the cartoon, individuals with Asperger syndrome improved their performance slightly more than those with autism, but not significantly so. (Klin, 2000)

Children with autism show delays and deficits in the acquisition of language that range from the almost complete absence of functional communication to adequate linguistic knowledge, but impairments in the use of that knowledge in conversation or other discourse contexts. The voice quality and intonation patterns of children with autism have been shown to be strikingly atypical and these problems appear to persist through adulthood. Prosodic deficits may also be related to the difficulties in planning and producing complex utterances that require the integration of phonological, morphosyntactic, semantic, and discourse-level information. The findings suggest that for the child with autism word meanings are acquired in a highly systematic and constrained way. The data are consistent with the view that lexical

development in autism, as in typically developing and other children with developmental disorders, is constrained by a set of developmental operating principles. (Tager-Flusberg, 2000)

Dapretton and colleagues examined mirror neuron abnormalities in autism, high-functioning children with autism and matched controls underwent fMRI while imitating and observing emotional expressions. Although both groups performed the tasks equally well, children with autism showed no mirror neuron activity in the inferior frontal gyrus (pars opercularis). Notably, activity in this area was inversely related to symptom severity in the social domain, suggesting that a dysfunctional 'mirror neuron system' may underlie the social deficits observed in autism. (Dapretto et al., 2006)

Communication Training

Communication training means experimenting with communication and then reflecting on it. Communication with another human being means that meaningful messages are exchanged, information that is relevant to be recipient and can be understood by him or her. On the other hand, it also means being able send a message that can be understood by and is relevant to the other. Most species have a combination of hardwired communication programs as well as those that are learned early, but also later, in life. Humans have this combination, too, but with a larger brain area which is freely programmable there is more room to learn communication, and what is probably specific to humans, to learn about communication.

Motivation

One needs to see relevance to oneself and meaning in something to be motivated to engage in it. Especially in patients with autism and ADHD experiencing and feeling that something is relevant to oneself is important. This is not about being selfish, but even being altruistic has to feel good to oneself to be sustainable and have meaning.

One can find relevance and meaning in many things, if the connections between an activity and one's own values and interests is pointed out. In patients with autism, building motivation is no different. One needs

to illustrate why learning about communication can help them feel better lives. Unfortunately, often not much time is spent on this absolutely crucial element of therapy.

Koegel and Koegel discussed the motivation to communicate with others as a pivotal treatment goal in the habilitation of autism (Koegel & Koegel, 1995). Once motivation to attempt to communicate with others is improved, a marked melioration occurs not only in language directly, but also in a number of other symptoms of autism (R. Koegel & Frea, 1993; R. Koegel, L. Koegel, & Surratt, 1993).

Observing

To learn about something means having the tools to observe it. Trying to look at cells without a microscope is quite pointless. For an autism patient learning about communication requires some basic structure about what to look for, it requires breaking down communication into its components. This is not only helpful in autism, but also in social anxiety, OCD, and several other conditions.

A first step is to identify what one wants from the interaction, another to explore how messages can be sent and received, and what information they can contain. Another unit may deal with how to interpret messages and what they can mean, and what they say about the other person's intentions. A unit on how to respond to messages helps the patient to express own needs and wants in an effective way and imparts a sense of being in control and able to steer the conversation. This can relieve the helplessness and pressure from being unable to communicate one's emotions, needs and wants.

Reflecting

In the therapeutic sessions the link should be built between an interaction that is observed and one's own communication and the result this leads to in the real world. For an individual with autism it is important to understand that there is a boundary between the outside and in the inside world, while using communication internal needs and wishes can be met in the outside world.

Engaging in Communication and Using it

Once one has observed and reflected on something, the fear to engage in it, should decrease. The next step is then to practice communication. New patterns should be developed, which can be practiced in the therapeutic session and then in the outside world. Often it also helps to develop new communication channels and see how they work. Working with communication is more than learning social skills, it is an awareness of communication patterns and to understand how one works with and communicates meaning.

To help someone communicate better requires first and foremost to pick up on what the other person is trying to communicate. Focusing on nonverbal and verbal behaviors of another helps to decode what that person might be communicating, and by doing so one also sets an example. Trying to develop understanding is important, because it also helps the patient to develop better understanding for how they communicate and the communication patterns they use. Specific work with the communication patterns is the practical correlate of becoming better in pursuing the own needs, values and aspirations with the help of communication (Haverkampf, 2018d)

Social Skills

Social skills are not communication patterns, but strategies of using certain patterns in certain situations. A study by Ozonoff and Miller examined the effectiveness of a social skills training program for normal-IQ adolescents with autism. They taught teaching specific interactional and conversational skills and provided explicit and systematic instruction in the underlying social-cognitive principles necessary to infer the mental states of others, that is to work with a theory of mind. Pre- and post-intervention assessment demonstrated meaningful change in the treatment group's performance on several false belief tasks, but no improvement in the control sample. Interestingly, however, no changes were demonstrated on general parent and teacher ratings of social competence for either group. (Ozonoff & Miller, 1995)

Distinguishing Communication Channels and Sources

The brain tries to label information in terms of where it likely came from. Particularly the distinction between an inside communication, such as a thought or information retrieved from memory, and outside

communication, such as a perception or sensory input from the outside world, is important to function in the world. While this ability is lost in psychosis, it may even be more extreme in the case of autism. Especially in more severe cases, one cannot avoid the thought that a patient is caught on the other side of a wall, that reduces the information exchange between the world inside the patient and the shared world on the outside. There may not be much motivation for the patient to tear down these walls if there is a fear of outside information and what it could trigger inside oneself. In this respect there is a certain similarity to socially anxious hypersensitive people, but while the latter is able to process social information if the exposure to social flows of information is increased, in the case of autism, the ability to extract meaning from the information contained in a message has to be increased.

A New Perspective on Communication

A patient with autism essentially has to learn a new way to look at communication and to understand it as an important tool in life. To be able to acquire this understanding of communication, it is first important to be able to observe it, reflect on it and use it.

Observation

Before one can learn a language, it is important to be able to observe the flow of messages. Infants, for example, spend a lot of time watching and observing. However, there seems to be a connection between understanding what is observed and how one observes it (Haverkamp, 2018a, 2018d). For example, the latency of correct gaze shifts in children towards the toy, which is being attended to, seems related to verbal intelligence (Falck-Ytter, Fernell, Hedvall, von Hofsten, & Gillberg, 2012). In autism, this could lead to a vicious cycle, that being more easily lost in communication can lead to a reduced ability to observe it, which does not help to improve the situation.

Overcoming the Fears of Communication

As mentioned above, finding something, such as communication, more enigmatic and overwhelming, can often lead to a fear of it. Generally, people use communication to meet their needs, interests, values and aspirations (Haverkamp, 2018e), which can increase the levels of happiness. For a patient with autism, noticing that it is more difficult to communicate with the world than with others leads to negative feelings

about oneself and reduces the confidence in oneself. It helps to discuss with the patient that people communicate in different ways, and there is no universally best way. It just has to fit the needs, values, wants and aspirations, and the personality, of the individual. Everyone has to discover, work out and shape communication patterns and communication styles that work for oneself. This process begins in the therapeutic session, but should then extend to everyday life and increasingly important situations and events in life.

Values, Needs and Aspirations

The basic parameters, including an individual's values, needs and aspirations can help to get a patient with autism to feel more stable. It should also make it less fearful to communicate with the environment, because recognizing that other people also have their needs, wants and aspirations helps bridge the divide to the other person. Recognizing that values are something that people hold in common also helps bridge the divide.

Communication is how individual organisms can fulfill their needs and wants. A patient suffering from autism may also suffer because he or she sees that one is less competent in using this tool. Important is therefore to also help the patient to realize communication can to a large extent be learned and that the patient has all the tools which are necessary to be able to communicate with oneself and the environment. Lowering the anxiety about engaging in communication, can make it easier to communicate.

The Loop

Values, needs, interests and aspirations shape communication patterns, which in turn help the individual to meet these values, needs, interests and aspirations. A patient with autism is in danger to get lost in this loop, which then fails as an autoregulatory feedback system. To resolve this requires two basic steps, first, identifying the own values, needs, interests and aspirations and, secondly, to shape communication patterns and styles that work for the individual.

Meaningful Messages as the Instrument of Change

Communication is the vehicle of change, the instruments are meaningful messages which are generated and received by the people who take part in these interactions. In autism, it is important to help the patient see communication as a helpful instrument, which can be used to get things one needs and wants, and thereby to reduce the urge and the pain from not getting them.

As discussed above, an important step in the treatment of autism is to lower the anxiety when it comes to communication, to make the patient understand that experimentation is safe and does not lead to breaks in relationships with other people. In general, it is important for a patient suffering from autism to understand that relationships are stronger than it seems, and that the appearance fragility in relationships is also a result of the anxiety surrounding communication. Lowering this anxiety through practice, experimenting, reflection and insight vastly increases the communication radius and lowers the fears of the patient.



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References

- App, B., McIntosh, D. N., Reed, C. L., & Hertenstein, M. J. (2011). Nonverbal channel use in communication of emotion: How may depend on why. *Emotion, 11*(3), 603.
- Baio, J., Wiggins, L., Christensen, D. L., Maenner, M. J., Daniels, J., Warren, Z., ... White, T. (2018). Prevalence of autism spectrum disorder among children aged 8 years—autism and developmental disabilities monitoring network, 11 sites, United States, 2014. *MMWR Surveillance Summaries, 67*(6), 1.
- Baron-Cohen, S. (2016). Autism and the Empathizing–Systemizing (ES) theory. In *Developmental social cognitive neuroscience* (pp. 139–152). Psychology Press.
- Baron-Cohen, S., Wheelwright, S., Hill, J., Raste, Y., & Plumb, I. (2001). The “Reading the Mind in the Eyes” Test revised version: a study with normal adults, and adults with Asperger syndrome or high-functioning autism. *The Journal of Child Psychology and Psychiatry and Allied Disciplines, 42*(2), 241–251.
- Baron-Cohen, S. (1991). Do people with autism understand what causes emotion? *Child Development, 62*(2), 385–395.
- Baxter, A. J., Brugha, T. S., Erskine, H. E., Scheurer, R. W., Vos, T., & Scott, J. G. (2015). The epidemiology and global burden of autism spectrum disorders. *Psychological Medicine, 45*(3), 601–613.
- Bourgeron, T. (2015). From the genetic architecture to synaptic plasticity in autism spectrum disorder. *Nature Reviews Neuroscience, 16*(9), 551.
- Brandler, W. M., Antaki, D., Gujral, M., Kleiber, M. L., Whitney, J., Maile, M. S., ... Tandon, P. (2018). Paternally inherited cis-regulatory structural variants are associated with autism. *Science, 360*(6386), 327–331.
- Caillies, S., Bertot, V., Motte, J., Raynaud, C., & Abely, M. (2014). Social cognition in ADHD: irony understanding and recursive theory of mind. *Research in Developmental Disabilities, 35*(11), 3191–3198.
- Cheng, W., Rolls, E. T., Gu, H., Zhang, J., & Feng, J. (2015). Autism: reduced connectivity between cortical areas involved in face expression, theory of mind, and the sense of self. *Brain, 138*(5), 1382–1393.
- Dapretto, M., Davies, M. S., Pfeifer, J. H., Scott, A. A., Sigman, M., Bookheimer, S. Y., & Iacoboni, M. (2006). Understanding emotions in others: mirror neuron dysfunction in children with autism spectrum disorders.

Nature Neuroscience, 9(1), 28.

de la Torre-Ubieta, L., Won, H., Stein, J. L., & Geschwind, D. H. (2016). Advancing the understanding of autism disease mechanisms through genetics. *Nature Medicine*, 22(4), 345.

Falck-Ytter, T., Fernell, E., Hedvall, Å. L., von Hofsten, C., & Gillberg, C. (2012). Gaze performance in children with autism spectrum disorder when observing communicative actions. *Journal of Autism and Developmental Disorders*, 42(10), 2236–2245.

Frith, U. (1989). A new look at language and communication in autism. *International Journal of Language & Communication Disorders*, 24(2), 123–150.

Glüer, K., & Pagin, P. (2003). Meaning theory and autistic speakers. *Mind & Language*, 18(1), 23–51.

Green, J., Charman, T., McConachie, H., Aldred, C., Slonims, V., Howlin, P., ... Byford, S. (2010). Parent-mediated communication-focused treatment in children with autism (PACT): a randomised controlled trial. *The Lancet*, 375(9732), 2152–2160.

Happé, F., & Frith, U. (1995). Theory of mind in autism. In *Learning and cognition in autism* (pp. 177–197). Springer.

Haverkamp, C. J. (2010a). *A Primer on Interpersonal Communication* (3rd ed.). Dublin: Psychiatry Psychotherapy Communication Publishing Ltd.

Haverkamp, C. J. (2010b). *Communication and Therapy* (3rd ed.). Dublin: Psychiatry Psychotherapy Communication Publishing Ltd.

Haverkamp, C. J. (2017a). *Autism and Psychotherapy (2)*. Retrieved from <http://www.jonathanhaverkampf.com/>

Haverkamp, C. J. (2017b). *Communication-Focused Therapy (CFT)* (2nd ed.). Dublin: Psychiatry Psychotherapy Communication Publishing Ltd.

Haverkamp, C. J. (2017c). *Self-Discovery*.

Haverkamp, C. J. (2018a). *A Primer on Communication Theory*.

Haverkamp, C. J. (2018b). *Beginning to Communicate* (3rd ed.). Dublin: Psychiatry Psychotherapy Communication Publishing Ltd.

Haverkamp, C. J. (2018c). *Building Meaning - Communication and Creativity* (3rd ed.). Dublin: Psychiatry Psychotherapy Communication Publishing Ltd.

Haverkamp, C. J. (2018d). *Communication Patterns and Structures*.

- Haverkampf, C. J. (2018e). *The Basic Parameters* (3rd ed.). Dublin: Psychiatry Psychotherapy Communication Publishing Ltd.
- Haverkampf, C. J. (2018f). *The Power of Meaning* (1st ed.). Dublin: Psychiatry Psychotherapy Communication Publishing Ltd.
- Haverkampf, C. J. (2019a). *Across the Seven Seas - Exploration as Therapy*.
- Haverkampf, C. J. (2019b). *Communication Patterns and Structures*.
- Hirvikoski, T., Mittendorfer-Rutz, E., Boman, M., Larsson, H., Lichtenstein, P., & Bölte, S. (2016). Premature mortality in autism spectrum disorder. *The British Journal of Psychiatry*, *208*(3), 232–238.
- Klin, A. (2000). Attributing social meaning to ambiguous visual stimuli in higher-functioning autism and Asperger syndrome: The social attribution task. *The Journal of Child Psychology and Psychiatry and Allied Disciplines*, *41*(7), 831–846.
- Koegel, L. K., & Koegel, R. L. (1995). Motivating communication in children with autism. In *Learning and cognition in autism* (pp. 73–87). Springer.
- Livingston, L. A., Colvert, E., Team, S. R. S., Bolton, P., & Happé, F. (2019). Good social skills despite poor theory of mind: exploring compensation in autism spectrum disorder. *Journal of Child Psychology and Psychiatry*, *60*(1), 102–110.
- Organization, W. H. (1992). *The ICD-10 classification of mental and behavioural disorders: clinical descriptions and diagnostic guidelines*. Geneva: World Health Organization.
- Ozonoff, S., & Miller, J. N. (1995). Teaching theory of mind: A new approach to social skills training for individuals with autism. *Journal of Autism and Developmental Disorders*, *25*(4), 415–433.
- Parsloe, S. M., & Babrow, A. S. (2016). Removal of Asperger’s syndrome from the DSM V: Community response to uncertainty. *Health Communication*, *31*(4), 485–494.
- Peterson, C., Slaughter, V., Moore, C., & Wellman, H. M. (2016). Peer social skills and theory of mind in children with autism, deafness, or typical development. *Developmental Psychology*, *52*(1), 46.
- Randi, J., Newman, T., & Grigorenko, E. L. (2010). Teaching children with autism to read for meaning: Challenges and possibilities. *Journal of Autism and Developmental Disorders*, *40*(7), 890–902.
- Robertson, C. E., & Baron-Cohen, S. (2017). Sensory perception in autism. *Nature Reviews Neuroscience*, *18*(11), 671.

- Tager-Flusberg, H. (2000). Understanding the language and communicative impairments in autism. In *International review of research in mental retardation* (Vol. 23, pp. 185–205). Elsevier.
- Weiner, D. J., Wigdor, E. M., Ripke, S., Walters, R. K., Kosmicki, J. A., Grove, J., ... Bybjerg-Grauholm, J. (2017). Polygenic transmission disequilibrium confirms that common and rare variation act additively to create risk for autism spectrum disorders. *Nature Genetics*, 49(7), 978.
- Wilkinson, K. M. (1998). Profiles of language and communication skills in autism. *Mental Retardation and Developmental Disabilities Research Reviews*, 4(2), 73–79.

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