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Chapter 5

The Intertwining of Language Impairment and Autism Spectrum Disorders — Highlighting the Need of Long Term Interdisciplinary Collaboration

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Additional information is available at the end of the chapter

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1. Introduction

This chapter highlights the importance of adopting a broader as well as longer perspective in screening for problems of language and communication in children prospectively as well as in adults retrospectively. As coauthors we represent a wide range of professional experience covering different disciplines: speech and language pathology, pediatrics, child psychiatry and adult psychiatry. We have several years of experience of working in teams for assessment and diagnostics as well as of performing interventions for children, youth and adults with complex developmental disorders.

2. Language Impairment (LI) and Specific Language Impairment (SLI)

One of the most common worries in parents of young children concern their children's language and communication development and these are thus among the first aspects that parents as well as nurses at the Child Health Care (CHC) centers focus on in developmental screening procedures. Language delays are fairly common although there is a huge variation in typical early language development, in particular in expressive language, i.e. language production. Language impairment (LI) might be an early sign of a severe developmental disorder such as an intellectual disability and/or an autism spectrum disorder [36], although commonly it is only a question about problems of language development. Specific language impairment (SLI) is used as a diagnosis for markedly impaired expressive language when

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nonverbal intelligence has been tested and found to be within the normal range and if there are no apparent sensory or neurological dysfunctions. As [38] points out, SLI is not used if there is an autism-related disorder, but [38] also comment on the fact that "a notable minority of individuals with SLI move across subtypes throughout development" (p. 944). These authors made a review of possible links between different language impairments and autism spectrum disorders and ended up with the recommendation to "concentrate on those aspects of language impairment that predominate in each disorder rather than on those comparatively small areas of potential overlap" (p. 944). There are also several, but rare genetic disorders that cause both problems with language acquisition and autistic traits. Therefore, children with language problems should always be evaluated broadly as [13] pointed out in his formulation of Early Symptomatic Syndromes Eliciting Neurodevelopmental Clinical Examinations, ESSENCE. The speech and language therapist have a central role in the teamwork that scaffolds families with preschool children. However, in line with the ESSENCE thinking, the team must include disciplines representing child development as well as clinical psychologists, physiotherapists and social workers. The team must have access to several other consultant services-child neurologists, child psychiatrists and sometimes even adult psychiatrists. The latter should preferably have experience of developmental disorders in adults, as parents sometimes realize that they have or have had similar problems as their children have.

In line with the ESSENCE thinking, the child is often presented to the pediatrician as a child with a delayed gross motor function, especially delayed walking ability, often before two years of age. It is of great importance for the pediatrician not only to analyze and possibly exclude any neurological pathology behind this, but also to, in collaboration with the physiotherapist, instruct the parents how to stimulate the child´s development of gross motor function during everyday activities. It is also important to assess the level of the child´s development in all aspects including language production as well as comprehension, vision and hearing ability and social interaction. As the parents often at the first visit mainly are aware of the child's gross motor function and language production, the child must be observed and the parents must be asked to describe the level of other abilities. It is highly recommended to see the child regularly during the following years in order to, by watchful expectancy, observe development in all functions and, in case of delays in any ability, to consult other specialists.

Language and communication problems occur in different disorders and vary in symptomatology. Language is a complex skill covering perception as well as production of language and comprises both structural aspects such as phonology, morphology, syntax, and functional aspects, such as use of language in different social contexts, often referred to as pragmatic skill or ability of social communication. Another language skill reflects the meaning of words, the content of language, both in order to understand and interpret, and to retrieve words in narration, a skill which has many labels, i.e. semantic, lexical or vocabulary skill. For these reasons language problems often tend to coexist and be intertwined with other problems, and furthermore they tend to be persistent over time [34] although there is a large heterogeneity of causes as well as symptomatology.

Expressive language problems often elicit early concerns in parents. One reason is that expressive language is fairly easy for parents to notice and possibly take notes of. Another

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reason is that parents tend to compare with the development of siblings and peers. However, language skills, in particular language production, not only reflect how far the child has developed language skills, but also his/her interests and personality, which all are revealed by how much s/he is engaged in a topic and talks.

Language comprehension skills, often referred to as receptive language skills, however, are most often identified indirectly, for example by misunderstandings or by the child notably not paying attention. A consequence of this might be that language comprehension problems neither early nor easily are detected in small children. Another reason why language comprehension problems tend to be ignored is that parents and those who know the child well intuitively facilitate for the child by sharing the same context with its referential objects, and thereby offer a redundancy of contextual information scaffolding the information given by words. Sometimes they almost "mind-read" the child and render the support the child needs in order to understand. This tendency to be "hidden" makes language comprehension problems particularly detrimental, especially since they are closely associated with generic learning skills with a long term negative effect on academic skills [6].

Another important aspect of language development is the ability to participate in social communication, often referred to as pragmatic skill. It is not easy for parents to neither describe nor evaluate the pragmatic skill of their children – the parents are themselves part of the communication and instinctively compensate the child in case of problems. For an early detection of pragmatic problems it is therefore necessary to ask teachers at preschool and school and use a questionnaire for example the Children's Communication Checklist [3], which focus on different aspects of social communication in a more neutral and descriptive way.

3. Autism Spectrum Disorders (ASD)

As described above, problems with social communication can, in children with language impairment, be either the main problem or a possible consequence of the weak and vulnerable language. To make the picture even more complex, communication problems are one of the core characteristics in autism spectrum disorders. Although less frequently occurring, problems with structural language, often recognized in specific language impairment, SLI, can also be seen in children with ASD, something that Williams, Botting and Boucher referred to as ASD-LI (2008). Cognitive, communication and language problems are commonly found to co-occur, although in different combinations and levels of severity, which reflects their nature of being complex and heterogeneous. Family studies that found a relation between genetic vulnerability to autism and language impairment revived the interest to more thoroughly study aspects of language in autism [35]. Diagnoses based on mainly communication and language problems are therefore difficult to discriminate and differentiate between [38]. Many trials have been performed with psychometric as well as language tests (i.e. [10]. When the concept of pragmatic language impairment was introduced [5], it became particularly tricky to delineate this kind of language impairment from autism spectrum disorder, in particular in individuals with average or high intellectual functioning. Furthermore these problems not

seldom change picture over time [11]. However, it is important to try to discriminate between different symptoms since they might require different types of intervention.

The parents may have worries and questions concerning long time prognosis for their child. When there is a severe developmental problem, as an autism spectrum disorder with intellectual disability, it is necessary to plan very well in advance for the child's transition into adulthood and adult services [17]. The complete puzzle is laid when child and youth psychiatrists, pediatricians, psychologists and speech and language therapist collaborate with adult psychiatrists. Also in adult patients it has been shown that those with developmental problems often had shown the ESSENCE deviances in childhood [31]. Persistent language problems have been shown in long-term follow-ups [12, 19, 24, 34]. [9] made a follow-up of children with developmental language disorders in later adult life and found severe literacy impairments as well as phonological processing problems. Furthermore, they reported unemployment and social problems, i.e. very few close friends.

The prognosis, or the functioning in adulthood is of course depending not only on the degree of communication difficulties, but also on several other factors. Foremost is the individual's general cognitive functioning, or IQ. An intellectual disability, at least in the range of moderate or severe, is generally accompanied by severe language and communication problems, especially in the many cases where there is also an autism spectrum disorder [29]. In these cases, the prognosis is poor, and the individual will need constant support, supervision and augmentative communication also in adult life [2, 26]. As Noens and Van Berckelaer-Onnes highlight, the comprehension problems, including the strong tendency to attend to details rather than, and instead of, "seeing the whole picture" is supposed to be at the core of the communication difficulties.

The same can be said about individuals with autism spectrum disorders and intellectual abilities within the normal range. Many authors have described the so-called weak central coherence as an autism-specific cognitive style, which causes dysfunction and impairment in most situations [15]. This is especially the case in social situations, where the quick and intuitive grasping of the whole situation and thus the meaning in the ongoing communication is essential. Even in cases with good over-all cognitive skills, adults with autism spectrum disorders find it difficult to find work and to keep up relationships [1, 14, 23] since their pragmatic communication skills are not on par with their intellectual level. It can be speculated that the communication difficulties contribute to the vulnerability to psychiatric disorder, which is often seen in these cases [16, 32]. Even when an adult with autism spectrum disorder seeks help in adult psychiatry, communication problems in association with receptive language problems [22], may be an obstacle to diagnosis and treatment.

4. Connections and coexistence between LI, SLI and ASD

In order to prevent negative – and perhaps additional and secondary-consequences of the language delay, e.g. problems with social communication and learning, it is important to identify persistent problems and differentiate them from transient ones. This requires valid

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and reliable methods of prediction, which seems to be easier at a later age when the variation is not any longer so large. Botting, Faragher, Simkin, Knox and [11] found that narrative skills and expressive syntax were the strongest predictors of future outcome.

This scenario of complexity and variability both on presentation and longitudinally highlights the importance of working in multidisciplinary teams that include professionals from different clinical disciplines and with focus on a longer perspective from childhood to adulthood. Such early soft signs or symptoms of vulnerability as are understood by the term ESSENCE might reflect developmental problems as well as persistent impairments. The symptoms vary between individuals, and dynamically shift in different contexts as well as over time, i.e. they are heterogeneous and dynamically changing. As described above, one dilemma is that comprehension problems and social communication problems are difficult to identify for parents who are part of the communication themselves. Another dilemma occurs when young children are referred to see different professionals one at a time; this practice makes it difficult to grasp the whole picture, for both the specialists and the parents.

Individuals with language and communication delays require different intervention principles in different ages and contexts. Therefore language and communication impairments as well as autism spectrum disorders can be regarded as relational and contextual.

5. Anna — A child with early identified language problems

Anna was referred to a speech and language therapist after screening at the Child Health Care center at the age of four. Her parents had elicited concern and asked for a referral to a speech and language specialist. Her preschool teachers had pointed out that Anna had difficulties when asked to tell about things that had happened at home, but also when referring to activities at preschool, telling and retelling stories. She almost never asked questions and actually did not manage to participate actively in simple everyday conversations. The CHC nurse had been a little sceptic about her having a developmental problem since Anna had for a long time demonstrated fully intelligible expressive language skills with almost perfect pronunciation. However, the nurse pointed out that she had experienced some difficulties in chatting with Anna, whose answers and comments were found to be quite odd and irrelevant. This was not something Anna herself seemed to worry about; she continued to speak even if others were not following and responding properly.

At preschool it was pointed out that it was difficult to understand what Anna wanted although her pronunciation was pretty clear. It was also difficult to calm her when she was upset. Communication with Anna was tricky and there was a feeling of frustration from both parts. Misunderstandings and conflicts were commonly occurring during play. However, the nurse at the CHC-center did not seem to find the situation problematic, she underlined that Anna since early age had a fully intelligible spoken language. Eventually the nurse also noticed that it was a little difficult to get answers from Anna to simple questions and that she sometimes gave a bit odd answers to trivial, simple questions.

When Anna was about to start preschool classes, make new friends and have a new preschool teacher, her mother was worried. She pictured Anna ending up to be excluded from the peer group, short of play mates and a lonely girl. She was also afraid that new playmates would make fun of her, tease and cheat her.

The pre-school year proved to be a challenge for Anna herself. Almost every day there were misunderstandings and conflicts. Anna was not aware of her own role in the communication problems, as is usually the case with pragmatic problems. In addition, neither preschool teachers nor parents or peers could point out or articulate what the problem was. There were often conflicts, chaos and confusion. However, it became a little easier as the months went by and everyone got to know each other. This was particularly true in structured and teacher-led activities and thematic work where the topic was well defined and known.

The first years of elementary school went quite well. The teacher got to know Anna and more or less intuitively she adapted the teaching to Anna's needs. For example, she repeated instructions, she explained with other and easier words and simplified grammar and asked for feed-back to make certain that Anna had understood. A special needs teacher gave Anna individual teaching and introduced her in a social communication-training group. In this group the communication itself was highlighted in a metacognitive way. This means that the participants of the group explicitly talked about what was said, how different conversational participants interpreted it and what the speaker intended to say. Altogether this was very helpful for Anna, who became more aware of what was going on in conversations. She also got some help in narrative skill by visualization of story grammar, which scaffolds the construction of meaning and chronology in a story. Sometimes, Anna's associations went too far away for the listener to be able to follow, i.e. topic drifts and abrupt topic shifts. Although Anna had learnt to use some communicative strategies, e.g. repetitions and reformulations, there was often a risk of misunderstanding. The time outside the classroom was much more of a challenge. All peer conversations were rapid and there were no adults participating and scaffolding.

The following years at school turned out to be an even bigger challenge for Anna-as well as for her teachers and parents who suffered seeing Anna withdrawing from active participations in social communication, predominantly at school but also after school at home. Anna became introvert and dropped her assertiveness and spontaneity and spent less time with peers. She completely avoided situations with demands on social communication, but since she had no expressive language difficulties it was not obvious for anybody that she had hidden language vulnerability with at least former language comprehension problems. Instead the teachers perceived her behavior as a teenage problem and as a sign of lack of motivation for school.

What can we learn from this story? First, developmental language problems do not necessarily involve expressive language problems. Therefore they might be more subtle and difficult for the environment to discover although they have a bad prognosis and are challenging for the child to cope with. Such problems have been referred to as pragmatic language impairment [5], but has been renamed as social communication disorder in the updated diagnostic manual DSM-5 (http://www.psychiatry.org/dsm5). The diagnosis of social communication disorder is

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hereby more precisely defined and seen as a distinct language problem rather than a variant of autism spectrum disorder [28].

In a study by [19] the symptoms of earlier diagnosed language impairment commonly persist at age 11 years, although they are no longer specific language problems, but problems of general learning skill and/or social communication. With increasing age the demands on language skills both in academic literacy and in social communication are accentuated. As a teenager and young adult one is expected to make new acquaintances, to listen, understand and respond to what people say, both in more spontaneous conversations and while reading and writing academic texts. The more one is engaged into broader perspectives and new subjects, the more ones world is widened and the more concepts and language one needs to develop. The single most important factor for school success is a wide and well organized vocabulary [37], a skill that is continously being challenged and stimulated in all contexts during a persons whole life. [33] underline the importance of teaching children wordlearning principles explicitly, stressing associations and morphologic as well as semantic relationships between known and new words with focus on meningfulness and usability. The better a person's vocabulary is organized and structured, the more fast and easy it is to retrieve words when narrating stories. This is an important argument for the need of interdisciplinary collaboration in a long time perspective [11].

One question is if Anna's language problems could have been compensated for at an early age and thereby prevented or proactively been scaffolded? A predictive symptom was her early reluctance to tell and retell stories. Narrative skill has been found to predict the later language development [8]. Story telling is an important activity that is continuously performed and thereby stimulated and challenged in preschool activities, which makes is possible to scaffold narrative skill from early childhood.

Another symptom regards language comprehension focusing the ability to engage in social communication, i.e. pragmatic skill. Can such problems be identified and compensated for at an early age? There is not one straightforward answer on this question. At an early age there is a huge tolerance for breaking social rules and expectations. Explicit comments on social behavior e.g. politeness or the absence of it, are commonly given by parents and other adults. Anna's language problems affecting the functional aspects of language rather than the structural ones, made social interactions based on verbal conversation difficult. This in turn affected her status as a playmate during childhood and she often preferred playing with adults [21]. As she grew older Anna became less and less assertive and she had few close friends of her age [5, 7]. As a child becomes older both these parameters are changed: the tolerance for differences decreases – at least in similar age groups – and explicit comments on behavior are not expected. On the other hand being practiced in a variety of contexts and social meetings pragmatic skill is developed in an emergent way [30]. One way of stimulating pragmatics is therefore to involve and engage the child during social communication with different people, possibly representing different roles in play. Such imaginative play stimulates the ability to take different perspectives from different points of view, which means a kind of decontextualisation and mindreading, often referred to as theory of mind [25].

6. Anders — A young adult diagnosed with autism spectrum disorder

Anders, 26 years old, was referred to psychiatry for depression after having tried sixteen different training jobs without success. He was living alone in his own apartment, which his mother helped him to clean every week. He had a friend, but kept in touch by e-mail and had not met the friend for 4 years. He had never had a girlfriend, and, when asked, said "I don't want a girlfriend-it would be too time-consuming since I would have to be with her in my leisure time". He had no idea why the jobs he had tried had been failures, but he remembered one of them going well for several months, whereafter he was asked to leave. He described that in the job that went well, he had a written detailed description of his assignments which he had followed precisely. However, after three months his supervisor took away the instruction, assuming that Anders now knew what he was supposed to do. But since there was no description any more, Anders did nothing. His supervisors in this and other jobs were contacted, and they described why Anders had been asked to leave. In the workplaces he had behaved oddly in many ways – not greeting his colleagues, taking the biggest pieces of cake first in the coffee room but without socializing, intruding on others' workspace and many other things. Consistently were described misunderstandings and misinterpretations – Anders had a tendency to interpret literally and to say things that were considered rude or offensive.

Anders and his parents described that he had been quite clumsy as a small child, but the parents did not worry since he started walking at 15 months of age. He was quite late to speak, but soon developed a large vocabulary that impressed the parents. He preferred to play by himself or with his 3 years younger sister, and had no special friends at school. He disliked surprises, and became upset when routines were changed, and the family had adapted to this by e. g. never going on trips overnight until Anders was 15. The teachers had expressed some worry since Anders was always by himself, but since he did not seem unhappy, and since the father thought of himself as a "happy loner", nothing was done. Anders got fairly good grades, especially in science subjects but had relatively more difficulties in subjects where more of a social or coherent understanding was required. He was never bullied, and he liked going to school. However, after finishing high school he did not know what to do. His most intense interest was in bird-watching, especially night-active birds and he had collected large amounts of facts and observations concerning these birds.

The jobs that Anders was assigned were mostly low-skilled work in offices, food shops or stockrooms. The assignments were below his intellectual skills, but he failed since he did not have any intuitive understanding of the aims, or the bigger picture of the workplace, in addition to irritating his coworkers by being socially clumsy.

The psychiatrist and a psychologist, after doing a cognitive assessment of Anders and interviewing his parents, diagnosed an autism spectrum disorder with IQ within the normal range. His depression was considered to depend on his lack of meaningful occupation, and he was referred to a job center for adults with developmental disorders and normal IQ. In the job center Anders was assigned a special job coach with experience in autism spectrum disorders, and at his last visit to the psychiatrist seemed hopeful regarding his future chances to get a part time job as an assistant in a research lab, and perhaps later study science at the university

http://dx.doi.org/10.5772/59623

in a program for students with autism. Anders was also referred to the habilitation center, where he has regular visits with a social worker.

Looking backward, Anders may, or may not have been helped by an earlier recognition of his problems. After all, he managed to go through school with good grades and without emotional disturbances. His family and classmates considered him normal, even if a bit odd and seclusive, and he was never bullied. Thus, Anders did not need any special help until after school, and it can be speculated that his self-esteem and emotional well-being might have been disturbed by earlier interventions. However, it seems unnecessary and unhelpful that Anders had to wait for 8 years of repeated failures in jobs until his problems were recognized and accordingly managed.

7. Mats — An adolescent with combined SLI and ASD

Mats was the second born child, with a sister 3 years older. The sister was diagnosed with high functioning autism with normal language acquisition at 5 years of age. The mother had Asperger's syndrome. Mats was evaluated at 4 years of age due to delayed language development. He also had severe communication problems especially with his peers but normal development regarding gross and fine motor function and nonverbal problem solving. The evaluation resulted in a diagnosis of ASD. He started at a normal school and never got any special education for the first 7 years in school. At that time he developed a severe depression with suicidal and homicidal ideation. A new evaluation by a speech and language therapist revealed major difficulties in both impressive and expressive language as well as in syntax and word mobilisation. His cognitive function was normal on performance tests but his verbal IQ was in the range of intellectual disability. This resulted in a transition to a special education class. His depression was somewhat improved but he refused to engage in any activity outside school and home. He loved watching violent Youtube scenes. He also refused to see a therapist and eventually decided to stop talking altogether. He communicated with gesture and by writing. He explained that he never could fully grasp what people were saying in a conversation and that he could not find words for what he himself would like to say, therefore he found it better to be mute.

8. Summary

The development of human society is totally dependent on our ability to interact, which requires language in order to communicate. Difficulties in communication underlie many human problems and, if severe, can jeopardize a person's adaptation to society. Communication problems are at the heart of many psychiatric disturbances, in particular ASD. Speech and language therapists have, from another perspective, studied language development and described many aspects of language such as phonology, semantics, grammar and pragmatics. A psychiatrist and clinical psychologist evaluated the case Anders, whereas a speech and language therapist evaluated the case Anna. Anders was judged to have ASD and Anna

pragmatic language disorder. Could Anna have got the diagnosis of ASD if evaluated by a psychiatrist? Would a more thorough assessment have revealed problems like circumscribed interests, obsessive symptoms and/or difficulties with change so that Anna would have met the full criteria for autism? Similarly, Anders might have got a diagnosis of pragmatic language disorder if evaluated by a speech and language therapist. The status of pragmatic language impairment as either a subtype of SLI or a form of ASD has been discussed for many years [4, 38]. Given the huge complexity as well as variability and instability of symptoms involving social interaction, language and communication, it is a big challenge to differentiate and discriminate between diagnoses such as LI, SLI and ASD [20]. Since these problem areas have been suggested to share a common genetic etiology and vulnerability it might be more fruitful to ask ourselves how we can help these individuals by supporting them and preventing secondary consequences emanating from their primary vulnerability. In order to see the whole picture we need to collaborate in multidisciplinary teams and to build bridges between specialists focusing on children, teenagers and adults. What was helpful to Anders was an understanding of his problems by his employer and work mates, whereas Anna benefitted from social training as a child, but as a teenager she had severe difficulties to cope with. Mats had a combination of autistic traits and SLI. He did not get any special help during his important first tears of schooling. It is difficult to assess how much of his communication problems, which were a basis for the diagnosis of autism in reality were due to his severe language impairment. As a conclusion we will underline the central role of language and communication in each of the three diagnoses LI, SLI and ASD, regardless if the language and communication problem is a specific or a more general problem, and regardless if it is a core problem or the consequence of another one. Working together in multidisciplinary teams over time adopting a longitudinal perspective from childhood to adulthood with the goal of promoting language and communication skills, can be a key to success in helping individuals develop academic and social skills.

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References

[1] Balfe, M., & Tantam, D. (2010). *A descriptive social and health profile of a community sample of adults and adolescents with Asperger syndrome.* Biomed Central Research Notes, 3, 300.

http://dx.doi.org/10.5772/59623

[2] Billstedt, E. (2007). *Children with autism grown up. Use of the DISCO (Diagnostic Interview for Social and Communication disorders) in population cohorts.* Institute of Neuroscience and Physiology. Child and Adolescent Psychiatry. Göteborg University. Sweden.

[3] Bishop, D.V.M. (1998). Development of the Children's Communication Checklist (CCC): A Method for Assessing Qualitative Aspects of Communicative Impairment in Children. *The Journal of Child Psychology and Psychiatry and Allied Disciplines*. 09/1998, Volume 39, Issue 6, 879-891.

[4] Bishop, D.V.M. (2000). Pragmatic language impairment: A correlate of SLI, a distinct subgroup, or part of the autistic continuum? In: D. Bishop & L. Leonard (red). *Speech and language impairment in children – causes, characteristics, intervention and outcome.* Hove: Psychology Press.

[5] Bishop, D.V.M., Chan, J., Adams, C., Hartley, J., & Weir, F. (2000). Conversational responsiveness in specific language impairment: Evidence of disproportionate pragmatic difficulties in a subset of children. *Development and Psychopathology, 12*(02), 177-199.

[6] Botting, N. (2005). Non-verbal cognitive development and language impairment. *J of Child Psychology and Psychiatry*, 46:3, 317-326.

[7] Botting, N. & Conti-Ramsden, G. (2000). Social and behavioural difficulties in children with language impairment. *Child Language Teaching and Therapy, 16*(2), 105-120.

[8] Botting, N., Faragher, B., Simkin, Z., Knox, E. & Conti-Ramsden, G. (2001). Predicting Pathways of Specific Language Impairment: What Differentiates Good and Poor Outcome? *J. Child Psychology and Psychiatry*, Vol. 42, 1013-1020.

[9] Clegg, J., Hollis, C., Mawhood, L. & Rutter, M. (2005). Developmental language disorders – a follow-up in later adult life. Cognitive, language and psychosocial outcomes. *J. of Child Psychology and Psychiatry*, 46:2, 128-149.

[10] Conti-Ramsden, G, Crutchley, Al. & Botting, N. (1997). The Extent to Which Psychometric Tests Differentiate Subgroups of Children with SLI. *Journal of Speech, Language and Hearing Research*, vol. 40, 765-777.

[11] Conti-Ramsden, G., Botting, N., Simkin, Z., & Knox, E. (2001). Follow-up of children attending infant language units: outcomes at 11 years of age. *International Journal of Language & Communication Disorders, 36*(2), 207-219.

[12] Fernell, E., Norrelgen, F., Bozkurt, I., Hellberg, G. & Löwing, K. (2002). Developmental profiles and auditory perception in 25 children attending special preschools for language-impaired children. *Acta Paediatrica 91:* 1108-1115.

[13] Gillberg, C. (2010).The ESSENCE in child psychiatry: Early Symptomatic Syndromes Eliciting Neurodevelopmental Clinical Examinations. *Research in Developmental Disabilities*, 31, 1543–51.

[14] Griffithe, G. M., Totsika, V., Nash, S., & Hastings, R. P. (2011). 'I just don't fit anywhere': support experiences and future support needs of individuals with Asperger syndrome in middle adulthood. *Autism*, May 24. [Epub ahead of print]

[15] Happé, F. & Frith, U. (2006). The weak coherence account: detail-focused cognitive style in autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 36, 5-25.

[16] Hofvander B, Delorme R, Chaste P, Nydén A et al. (2009) Psychiatric and psychosocial problems in adults with normal-intelligence autism spectrum disorders. *BMC Psychiatry* 2009, Jun 10;9:35.

[17] Howlin, P. (1997). *Autism: preparing for adulthood*. London: Routledge.

[18] Howlin, P., Mawhood, L. & Rutter, M. (2000). Autism and Developmental Receptive Language Disorder – a Follow-up Comparison in Early Adult life. II: Social, Behavioural, and Psychiatric Outcomes. *J. of Child Psychology and Psychiatry*, Vol. 41, 561-578.

[19] Johnson, C., Beitchman, J., Young, A., Escobar, M., Atkinson, L., Wilson, B., & Lam, I. (1999). Fourteen-Year Follow-Up of Children With and Without Speech/Language Impairments: Speech/Language Stability and Outcomes. *J of Speech, Language and Hearing Research*, Vol. 42(3), 744-760.

[20] Kelley, E., Paul, J., Fein, D. & Naigles, L. (2006). Residual Language Deficits in Optimal Outcome Children with a History of Autism. *Journal of Autism, Development and Disorders*, vol. 36, 807-828.

[21] Liiva, C. & Cleave, P. (2005). Roles of Initiation and Responsiveness in Access and Participation for Children With Specific Language Impairment. *Journal of Speech, Language & Hearing Research, 48*(4), 868-883.

[22] Mawhood, L., Howlin, P. & Rutter, M. (2000). Autism and Developmental Receptive Language Disorder – a Comparative Follow-up in Early Adult Life. I: Cognitive and Language Outcomes. *J. Child Psychol. Psychiat*. Vol 41, No. 5, 547-559.

[23] Mawhood, L. & Howlin, P. (1999): The outcome of a supported employment scheme for high-functioning adults with autism or Asperger syndrome. *Autism – the International Journal of Research and Practice*, 3, 229–254.

[24] Miniscalco, C., Westerlund, M., & Lohmander, A. (2005). Language skills at age 6 years in Swedish children screened for language delay at 2½ years of age. *Acta Paediatrica*, 94, 1798-1806.

[25] Nettelbladt, U. & Salameh, E.-K. (Red.). (2013). *Språkutveckling och språkstörning hos barn. D. 2, Pragmatik : teorier, utveckling och svårigheter*. Lund: Studentlitteratur.

[26] Noens, I. L.J. & Van Berckelaer-Onnes, I. A. (2004). Making sense in a fragmentary world. Communication in people with autism and learning disability. *Autism*, 8, 197-218.

[27] Noens, I. L.J. & Van Berckelaer-Onnes, I. A. (2005). Captured by details. Sense-making, language and communication in autism. *Journal of Communication Disorders*, 38, 123-141.

[28] Norbury, C. (2014). Practitioner review: Social (pragmatic) communication disorder conceptualization, evidence and clinical implications. *Journal of Child Psychology and Psychiatry, 55*(3), 204-216.

[29] Nordin, V., & Gillberg, C. (1996). Autism spectrum disorders in children with physical or mental disability or both. I: Clinical and epidemiological aspects. *Developmental Medicine and Child Neurology*, 38, 297-313.

[30] Perkins, M. (2007). *Pragmatic impairment.* Cambridge: Cambridge University Press.

[31] Plenty, S., Heurlin, D., Arlinde, C. & Bejerot, S. (2013). Applying an ESSENCE Framework to Understanding Adult Autism Spectrum Disorder and ADHD: Retrospective Parent Reports of Childhood Problems. *The Scientific World Journal*, 2013:469594.doi: 10.1155/2013/469594

[32] Skokauskas, N. & Gallagher, L. (2010). Psychosis, affective disorders and anxiety in autistic spectrum disorder: prevalence and nosological considerations. *Psychopathology*. 43(1): 8-16.

[33] Steele, S., & Mills, M. (2011). Vocabulary intervention for school-age children with language impairment: A review of evidence and good practice. *Child Language Teaching and Therapy, 27*(3), 354-370.

[34] Stothard, S., Snowling, M., Bishop, D., Chipchase, B. & Kaplan, C. (1998). Language-Impaired Preschoolers: A Follow-Up into Adolescence. *Journal of Speech and Hearing Research*, Volume 41, pp. 407-418.

[35] Szatmari, P., MacLean, J., Jones, M., Bryson, S., Zweigenbaum, L, Bartolucci, G et al. (2000). The familial aggregation of the lesser variant in biological and neurobiological relatives of PDD probands: A family history study. Journal of Child Psychology and Psychiatry 41(5), 579-586.

[36] Trillingsgaard, A., Ulsted, SØrensen, E., Němec, G. & Jørgensen, M. (2004). What distinguishes autism spectrum disorders from other developmental disorders before the age of four years? European Journal of Child and Adolescent Psychiatry, 14: 65-72.

[37] Vermeer, A. (2001). Breadth and depth of vocabulary in relation to L1/L2 acquisition and frequency of input. Applied Psycholinguistics, 22(02), 217-234.

[38] Williams, D., Botting, N., & Boucher, J. (2008). Language in Autism and Specific Language Impairment: Where Are the Links? *Psychology Bulletin*, 134(6), 944-963.

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