Speech Pathology Australia

orygen

Clinical practice in youth mental health

SPEECH, LANGUAGE AND COMMUNICATION NEEDS IN YOUTH MENTAL HEALTH

INTRODUCTION

There is a strong relationship between speech, language and communication needs (SLCN) and mental health[1]. SLCN can affect a young person's engagement in mental health treatment and their outcomes[2,3]. Evidence suggests early identification and targeted intervention for both SLCN and mental health problems can have a positive effect on a young person's engagement with mental health treatment, functional outcomes and wellbeing[4-6].

This clinical practice resource is for anyone working in youth mental health who:

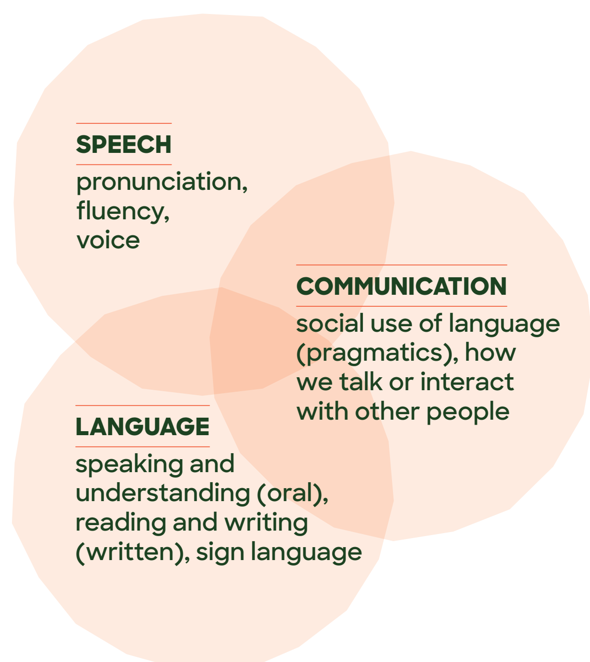
- wants to know more about SLCN
- has identified an individual with SLCN and wants to know what to do
- wants guidance on how to adapt or interact with young people who have SLCN.

This resource will help you to:

- become more communication-aware in your practice
- find further resources and points of referral
- share up-to-date clinical information at your setting about SLCN.

WHAT IS SPEECH, LANGUAGE AND COMMUNICATION?

The terms 'speech', 'language' and 'communication' are often used interchangeably, but they refer to different skills, all of which are required for a person to have successful interactions with other people in various areas of everyday life. The following diagram defines what is meant by speech, language and communication, and represents the overlapping nature of these three domains.



Speech

Speech refers to pronunciation, fluency and voice. Speech can be affected by many factors including (but not limited to) hearing impairment[7], medications, substance use[8], head injury and dental problems[8]. Speech may sound slurred or unclear.

Pronunciation

Someone may have difficulty producing speech sounds accurately and clearly. Simple pronunciation errors, such as a lisp or not articulating 'r' sounds (e.g. 'wabbit' for 'rabbit'), may resolve during the primary school years or persist into adolescence and adulthood. Mild speech difficulties may not impact significantly on an individual's ability to communicate clearly, but they may still affect self-esteem[9]. Some children have more marked speech problems in childhood and are difficult to understand, even by familiar people. While speech sound disorders can improve with speech therapy, there may be residual difficulties that can negatively affect academic and employment outcomes[10,11].

Fluency

Speech that is not fluent (e.g. repeating sounds, words and phrases, getting stuck on words, excessive pauses) is common in early childhood as children are developing their talking skills. For some, it may develop into persistent stuttering and contribute to social anxiety[12].

Voice

Voice refers to loudness, pitch, intonation, rate, resonance and quality. A young person may: have trouble projecting their voice; speak too loudly or quietly; speak with a pitch that is unexpectedly high or low (e.g. late- or early-onset of puberty, transgender people); use intonation that sounds monotonous or overly melodious; or emphasise the wrong words in sentences. A young person's voice may sound as though they are speaking through a blocked nose, which relates to resonance, or their voice may be hoarse or strained. Voice difficulties can affect how a person is perceived, distract the listener and lead to miscommunication. Difficulties may be temporary or longstanding and can reflect the underlying structure or dysfunction of the mouth or larynx (e.g. cleft palate or laryngeal nodules).

Language

Language refers to a shared code through which meaning is conveyed, including expressive language (speaking and writing) and receptive language (understanding oral and written language), as well as sign language[13]. Language includes vocabulary and word knowledge, grammar and sentence structure and higher order meta-cognitive and meta-linguistic skills, which enable thinking about thoughts and language.

During adolescence, vocabulary expands significantly and supports expression of complicated ideas in efficient ways. Sentence structures become more complex and concise to support succinct expression of thoughts as young people tell longer stories (narratives), share experiences (recount), explain, discuss and persuade.

As young people progress through secondary school, there are increased demands on their oral and written language skills. They are expected to understand lectures delivered by teachers with varied teaching styles and modes of communication, read and understand textbooks and websites, understand multimedia resources, take notes, engage in extended discussions about varied topics, write longer texts of various types (e.g. reports, discussions, persuasive texts, narratives and essays) and complete written assignments more frequently. They may also be required to interact with peers in group contexts, and provide oral reports and presentations of various types.

Language competence can be impacted by, for example, hearing impairment, sensory issues, problems with executive functioning (e.g. attention, working memory, impulse control and planning)[14], theory of mind (perspective taking), understanding context, school attendance and stress[15]. Understanding and use of language is essential for functions including sharing information, expressing thoughts and feelings verbally, resolving conflict, following and giving multi-step instructions and engaging in 'talking therapies'.

Vocabulary and word knowledge

Word knowledge is crucial to understanding what we hear and read. Young people who have vocabulary or word knowledge difficulties may acquire new words slowly, have smaller vocabularies and overuse vague words (e.g. 'stuff', 'thing', 'it'). This can lead to problems in accessing the school curriculum, understanding and conveying time and sequence, appreciating the ambiguity of words involved in humour and using context to infer the meaning of figurative language expressions.

Grammar and sentence structure

Young people who have difficulty with the structural aspects of language may use immature grammar and produce fewer complex sentences (e.g. sentences containing conjunctions such as if, so, when, otherwise, until, instead) when explaining, describing, comparing, recounting and persuading. They may have difficulty understanding complex sentences and longer chunks of information (e.g. oral or written paragraphs). When writing, they may produce shorter texts, less diverse sentence types, and poorer sentence structures compared to peers.

Higher order language

The demand for critical thinking and executive function skills grows in adolescence. In social and academic contexts young people need to make inferences, understand ambiguous language, identify emotions, think abstractly, draw conclusions, express logical thinking to solve problems and identify obstacles. Young people are expected to work independently, evaluate, monitor and discuss their performance, and comprehend written and spoken material. In group contexts they need to use spoken language to express opinions, persuade and negotiate with peers. They are required to use 'meta' skills (meta-cognition and meta-linguistics) to think about their own thinking and communication.

Reading and writing

As well as requiring phonemic awareness (the ability to focus on, and manipulate, the individual sounds within words) and letter-sound knowledge, reading and writing proficiency are interrelated with the development of oral language competence. Oral language competence is fundamental for the transition to literacy, and conversely solid literacy skills help further develop oral language skills[16]. By secondary school, most new words are learnt through reading, not conversation. Students with language disorders typically show poor reading comprehension and produce writing that is less mature and sophisticated than that of their peers[16]. The mismatch between language demands of the curriculum and an individual's language skills—and therefore their ability to engage effectively with the curriculum—can have a significant effect on self-identity and sense of competence.

Communication

Communication refers to the social use of language and involves navigating social contexts, modifying what is said to suit the situation, and sharing the right amount of information in an appropriate way (e.g. taking into account the listener's age, status and knowledge).

Effective communicators read and use body language, gestures, facial expression and eye contact to express and infer emotions, recognise and repair breakdowns in communication, take turns appropriately and respond empathically. They follow social/cultural rituals for greetings and partings, introductions, asking for help, entering conversations and asking for clarification.

New contexts emerge during adolescence—such as romantic and employee relationships—and social communication expectations become more complex as talk becomes the major medium of social interaction[13]. Young people use slang or in-group language, verbal banter, small talk, teasing and chatting up; understanding subtle hints is critical to social engagement with peers, workplace colleagues and romantic relationships[17]. Problems with communication can contribute to difficulties in social relationships where the content of communication may be ambiguous or emotional.

HOW CAN I TELL IF A YOUNG PERSON HAS A SLCN?

SLCN can present in one or more aspects, may be chronic or transient, apparent from early childhood, or acquired following illness or injury. While some difficulties resolve by adolescence, the impact on self-esteem and confidence may persist. For some young people, earlier difficulties may continue or resurface during adolescence as they confront new social and academic expectations.

The following table includes some guidance around the signs that can indicate a young person has speech, language and/or communication needs.

Signs a young person might have SLCN

There is an inter-relationship between mental health and SLCN. Signs and symptoms of SLCN may indicate an underlying speech, language or communication issue, but may also be related to the presence of a mental health problem. For instance, inappropriate volume, speech rate or intonation can be associated with mania or psychosis, and can resolve when the mental health condition is appropriately treated.

The table below provides examples of signs that a young person may have SLCN. If you identify any of these signs, consider how long these signs have been occurring, in what contexts they occur and attempt to obtain some collateral information to inform clinical judgement about whether further speech pathology assessment is warranted.

SPEECH	• Unclear speech • Difficulty pronouncing polysyllabic words • Inappropriate volume, pitch, speech rate or unusual intonation • Persistently nasal-sounding, husky or strained voice, or frequent loss of voice • Unusual rhythm or fluency (repeating sounds, words or parts of words)
LANGUAGE	• Poor ability to explain or relate a story, including: › insufficient background information › poor sequencing of thoughts › poor time references › poor logical thinking › excessive pauses and reformulations › word order mixed up. • Few complex sentences (e.g. sentences containing ‘because’, ‘if’, ‘when’, ‘so’) • Limited vocabulary (may use vague words, such as ‘stuff’ or ‘thing’, or overuse swear words) or have a narrow range of words to describe emotional states • Difficulty understanding questions, instructions and conversations • May take longer to process information than expected, or may not be able to remember information they’ve been told • Difficulty understanding abstract language, metaphor, sarcasm and jokes, or may miss the point or take things literally • Responses don’t mesh with what was said or asked • Reading or writing difficulties (this may be masked by avoidance of written activities)
COMMUNICATION	• Difficulties initiating or ending conversations, turn-taking, or staying on topic • Socially awkward or inappropriate (overly direct or blunt; inappropriately formal or informal) • Scripted or stereotyped conversation patterns • Difficulty understanding or using non-verbal communication (e.g. eye contact, gestures, facial expressions and body language) • Irrelevant or inappropriate detail • Difficulty clarifying, asking questions or seeking help
BEHAVIOUR	• Visible frustration when trying to communicate • Only speaking in certain contexts or with specific people • Difficulty concentrating for extended periods of time • Superficially chatty but not much substance in what they say • May seem overly compliant, or uncooperative • May express emotions through behaviour rather than words, including difficulty resolving conflict verbally • ‘Attitude’ (masking behaviour), e.g. use poor eye contact, shrug their shoulders and respond in monosyllables (e.g. ‘yep’, ‘nope’) • Acting out, acting the clown or withdrawing in social situations

CATEGORISATION OF SPEECH, LANGUAGE AND COMMUNICATION DISORDERS

There is a lot of overlap in defining disorders of speech, language and communication. Definitions evolve as our understanding increases. The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) specifically identifies communication disorders to include:

- language disorder
- speech sound disorder
- childhood fluency onset disorder (stuttering)
- social (pragmatic) communication disorder
- unspecified communication disorder.

In line with current diagnostic practice, the term 'language disorder' (or developmental language disorder where the language difficulties are not attributable to another condition) replaces other previously used diagnostic terminology, such as specific language impairment (SLI), aphasia, and expressive/receptive/mixed expressive-receptive language disorder.

WHAT IS THE RELATIONSHIP BETWEEN SLCN AND YOUTH MENTAL HEALTH?

A remarkably high prevalence of SLCN is apparent in adolescents with a diagnosed mental disorder[18-20].

Early speech, language, and/or communication difficulties are risk factors for developing social, emotional and behavioural difficulties during adolescence, with studies finding an increased prevalence of mental health problems in adolescents who had significant SLCN when they were younger[21-24]. SLCN may also occur as a result of mental health problems, and some factors, such as intellectual disability (ID), autism spectrum disorder (ASD), or adverse childhood experiences (ACES) place young people at greater risk of experiencing both SLCN and mental health problems.

Unsurprisingly, SLCN during childhood and adolescence—particularly if not identified or treated—can also have a significant effect on a young person's psychosocial adaptation, ability to access the school curriculum, interpersonal relationships and social inclusion[6,17,21].

SLCN are also risk factors for school disengagement and offending behaviour[25,26]. SLCN and mental health issues are over-represented in young people in the justice system. Research in Australia and internationally has consistently identified a high prevalence of previously undiagnosed language difficulties in youth justice populations[27]. A recent health survey identified that almost half of young people in custody in NSW had severe problems with core oral language skills, over 90% with reading comprehension in the below average range and 78% scoring in the range indicating severe difficulties[28].

The table below includes examples of how SLCN can affect mental health and how mental health can affect SLCN.

IMPACT OF SLCN ON MENTAL HEALTH	IMPACT OF MENTAL HEALTH ON SLCN
Here are some of the ways in which SLCN can affect a young person's mental health.	Here are some of the ways in which mental illness can affect a young person's SLCN.
• SLCN can contribute to social isolation and loneliness[29] which are known risk factors for mood and anxiety disorders[30]. • Personality development can be affected. For example, self-esteem[31], self-image and aspirations are often shaped by social interactions and the messages we receive or understand from others (particularly caregiver/family of origin)[32]. • Specific psychological and behavioural consequences, such as irritability and aggression (due to frustration and/or a limited repertoire of appropriate behavioural responses); limited attention/concentration; impulsivity[33]; reduced responsiveness/lack of spontaneity; increased risk of anxiety or depression[34,35]; and self-harm[18]. • Reduced self-advocacy due to lack of verbal ability to express thoughts and/or emotions. • Reduced quality of life[36]. • Potentially restricted social opportunities[37], classroom participation[38], reading skills[39], and negative impact on confidence with social communication[40].	• Effects of depression on speech, language and communication ability may include tearfulness, irritable behaviour, decreased prosodic variation, decreased social awareness and interaction, decreased body awareness and movement, impaired attention and concentration and information processing[41-43]. • Effects of anxiety on speech, language and communication may include impaired social awareness and interaction; selective bias of information processing[43-46]. • Effects of psychosis on speech, language and communication can be broad including compromised language and social skills, difficulties conveying meaning to others (expressive language) and understanding the messages of others (receptive language), language processing, difficulty understanding facial and voice cues[43,47].

Why might SLCN be overlooked?

If a mental health clinician is not aware that the young person has difficulties with speech, language and communication and does not plan or adapt treatment accordingly, SLCN can significantly affect a young person's ability to engage in talking therapies, which rely on verbal skills. SLCN itself may also warrant specific attention. Here are some of the main reasons why a young person's SLCN might be overlooked:

- Undetected SLCN often masquerade as poor motivation or attitude through behaviours, such as monosyllabic responses, poor eye contact and closed body language[48].
- Young people may have become expert at keeping their SLCN hidden and superficially 'talking the talk'.
- High-risk behaviours, high levels of conflict or crises can distract the clinician.
- History of early SLCN and/or relevant family history, may not be available (or may not have been previously identified).

Framed positively, targeted assessment and intervention for adolescents to address SLCN may have wide-reaching benefits for mental health prognosis, engagement in treatment and risk trajectory[49].

WHAT CAN I DO IN MY PRACTICE?

An awareness of potential SLCN and careful assessment and modification of treatment is important when working in youth mental health. A multidisciplinary, collaborative approach can foster better integrated care for young people with comorbid SLCN and mental ill-health.

Identifying the speech, language and communication skills a young person may need in your context is the first step in evaluating whether they have the capacity to participate without adjustments. The table on page seven highlights some of the speech, language and communication expectations of a young person who is participating in mental health treatment and interacting with mental health services.

Communication expectations in a mental health setting

SETTING	EXPECTATIONS	EXAMPLES
Everyday communication	Requires a young person to access the service and navigate informal interactions with peers, family, members of the clinical team, and other people in the community	• Chat with clinician, family and friends • Catch public transport to and from appointments • Engage in social or group programs • Access a pharmacy
Youth mental health (service, interaction with a clinician, lived experience)	Requires a young person to develop additional skills and vocabulary specific to mental health treatment	• Read and answer questionnaires about symptoms • Share concerns and insights • Reflect and reason • Clarify misunderstandings, disagree, protest and complain • Read and discuss treatment plans • Discuss and describe emotions, signs and symptoms • Read appointment cards, letters, pathology or other medical information

In mental health settings, it can be particularly important to pay attention to the new vocabulary that a young person will hear and be expected to use. Terms such as case manager, clinician, risk, safety, recovery, mood, wellbeing, holistic, strategies, emotion regulation, discharge planning and outpatient clinic may be confusing for the young person, and may lead to misunderstanding. New vocabulary needs to be identified, explicitly explained and taught to the young person and practised.

Screening and assessment

Understanding the signs of SLCN can help you plan and adapt treatment, as well as indicate if a speech pathology referral is appropriate.

A standard mental state examination (MSE)—i.e. assessment of appearance, behaviour, speech, mood, affect, thoughts, perception, cognition, insight and judgment—can be adapted to include a brief checklist focused on speech, language and communication skills. Refer to the 'How can I tell if a young person has a SLCN?' section of this resource for guidance on what you can include or focus on in your MSE.

Clinicians should check a young person's literacy, which plays a crucial role in the academic and social contexts of their daily lives, and obtain a history of any known SLCN or learning difficulties that the young person or someone in their family has experienced.

Engagement

SLCN can be a barrier to engaging in mental health treatment. Approached sensitively and in collaboration with a young person, a focus on understanding their needs and supporting a young person to improve their speech, language and communication skills can be empowering and provide them with further agency in their mental health treatment.

For practical engagement guidance for communication competence, please download Orygen's Reference Guide: 'How to support young people with speech, language and communication needs (SLCN) in mental health settings'.

Treatment

Speech pathologists are an important part of the mental health treating team. Speech pathologists diagnose speech, language and communication or swallowing disorders and, as part of the mental health team, can play an important role in diagnosing mental illnesses. They also help to determine whether SLCN or swallowing difficulties are part of the current mental health issue or whether there is an underlying speech, language, communication or swallowing disorder. They then develop appropriate treatment plans to help overcome difficulties and help the person understand and participate in their treatment.

For practical treatment guidance for communication competence, you can also download Orygen's Reference Guide: 'How to support young people with speech, language and communication needs (SLCN) in mental health settings'.

Where possible, an individual with suspected SLCN should be referred for assessment by a speech pathologist so that an individualised treatment plan can be implemented.

For more information about the role of speech pathologists in mental health and a description of potential treatment approaches, please refer to Speech Pathology Australia's factsheet entitled 'Speech pathology in mental health'.

Referral

Collaboration between mental health practitioners and speech pathologists can be beneficial, allowing for multidisciplinary assessments and interventions, including the modification of mental health treatments to ensure they are meaningful to the individual, as well as the provision of further assessment and treatment of specific SLCN.

If your organisation does not employ a speech pathologist, you will need to make a referral to a private or community health speech pathologist. Community health services may provide free or low-cost services to priority groups. You can find a speech pathologist using Speech Pathology Australia's website, which lists certified practising members.

Eligible young people can access speech pathology services under some Medicare schemes or under the National Disability Insurance Scheme (NDIS). More information about different schemes can be found on Speech Pathology Australia's website.

CONCLUSION

Speech, language and communication competence is important for the development of healthy relationships, academic and vocational achievement, and psychological wellbeing. Mental health practitioners can help young people understand what is going on and work with them to support their SLCN.

Youth mental health practitioners can promote the achievement of best outcomes for young people who have SLCN by:

- being aware of SLCN and understanding what to look for
- routinely screening to identify a young person's SLCN
- communicating in a way that meets the needs of a young person with SCLN
- adapting treatments to accommodate SLCN
- supporting the young person to advocate for themselves in mental health settings and beyond.

Identifying and addressing a young person's SLCN improves their engagement in mental health treatment and their outcomes; however, SLCN may be subtle, can often be overlooked, and can be overshadowed by many complexities. Collaboration between mental health practitioners and speech pathologists can support treatment adaptations and facilitate referral when a young person needs specialist SLCN intervention.

FURTHER RESOURCES

Reference guide: How to support young people with speech, language and communication needs (SLCN) in mental health settings—for practical engagement and treatment guidance for young people's communication competence, this guide supports this clinical practice resource.

Webinar: Communication expectations across different settings

Webinar: Understanding speech, language and communication needs in mental health

Webinar: Strategies for working with young people with additional speech, language and communication needs

Myth buster: Autism spectrum disorder: Fighting myths with evidence

Fact sheet: Neurodevelopmental disorders and youth mental health

Fact sheet: Speech pathology in mental health

REFERENCES

1. Wadman R, Botting N, Durkin K, Conti-Ramsden G. Changes in emotional health symptoms in adolescents with specific language impairment. International Journal of Language & Communication Disorders. 2011;46(6):641-656.
2. Conti-Ramsden G, Mok PL, Pickles A, Durkin K. Adolescents with a history of specific language impairment (SLI): strengths and difficulties in social, emotional and behavioral functioning. Res Dev Disabil. 2013 Nov;34(11):4161-9.
3. Helland WA, Lundervold AJ, Heimann M, Posserud M-B. Stable associations between behavioral problems and language impairments across childhood - The importance of pragmatic language problems. Research in Developmental Disabilities [Article]. 2014 5/1/May 2014;35(5):943-951.
4. Law J, Stringer H. The overlap between behaviour and communication and its implications for mental health in childhood: the elephant in the room. Emotional and Behavioural Difficulties. 2013;19(1):2-6.
5. Roberts MY, Kaiser AP. Early intervention for toddlers with language delays: a randomized controlled trial. Pediatrics [Report]. 2015;135(4):686-693.
6. Gregory J, Bryan K. Speech and language therapy intervention with a group of persistent and prolific young offenders in a non-custodial setting with previously undiagnosed speech, language and communication difficulties. Int J Lang Commun Disord. 2011 Mar-Apr;46(2):202-15.
7. LS. E. Current state of knowledge: Speech recognition and production with hearing impairment. Ear and Hearing. 2007;28:766-772.
8. Moreira TC, Gadenz C, Figueiró LR, Capobianco DM, Cunha K, Ferigolo M, et al. Substance use, voice changes and quality of life in licit and illicit drug users. Revista CEFAC. 2015;17(2):374-384.
9. Silverman FH, SM. F. Attitudes of teenagers toward peers who have a single articulation error. Lang Speech Hear Serv Sch. 1992;23(2).
10. Felsenfeld S, Broen PA, M. M. A 28-year follow-up of adults with a history of moderate phonological disorder: educational and occupational results. J Speech Lang Hear Res. 1994;37(6):1341-1353.
11. McCormack J, McLeod S, McAllister L, LJ. H. A systematic review of the association between childhood speech impairment and participation across the lifespan. Int J Speech Lang Pathol. 2009;11(2):155-170.
12. Iverach L, RM. R. Social anxiety disorder and stuttering: current status and future directions. Journal of Fluency Disorders. 2014;40:69-82.
13. Paul R, Norbury CF. Language disorders from infancy through adolescence: listening, speaking, reading, writing, and communicating. Maryland Heights, Missouri: Mosby; 2012.
14. Eysenck MW, Derakshan N, Santos R, M. C. Anxiety and cognitive performance: Attentional control theory. Emotion 2007;7(2):336-353.
15. Lum JA, Powell M, Timms L, Snow P. A meta-analysis of cross sectional studies investigating language in maltreated children. . Journal of Speech, Language, and Hearing Research. 2015;58(3):961-976.
16. P S. Elizabeth Usher Memorial Lecture: Language is literacy is language - Positioning speech-language pathology in education policy, practice, paradigms and polemics. International Journal of Speech-Language Pathology. 2015;18(3):216-228.
17. Durkin K, Conti-Ramsden G. Language, Social Behavior, and the Quality of Friendships in Adolescents with and without a History of Specific Language Impairment. Child Development. 2007;78(5):1441-1457.
18. Clarke A. Charting a life: Analysis of 50 adolescents in a long -stay mental healht unit. Converence Proceedings, 17th World congress of the International Association for Child and Adolescent Psychiatry and Allied Professionals Melbourne, Australia. 2006
19. Perrott D. PhD (in progress)]. In: Adolescent communication: pragmatic skills. 2011. Melbourne, Australia: Monash University.
20. Perrott D. Adolescent Communication: Self-evaluation of the use and competency of pragmatic skills between depressed and non-depressed adolescents: Macquarie University, Australia.; 1998.
21. Clegg J, Hollis C, Mawhood L, Rutter M. Developmental language disorders--a follow-up in later adult life. Cognitive, language and psychosocial outcomes. J Child Psychol Psychiatry. 2005 Feb;46(2):128-49.
22. Beitchman JH, Brownlie EB, Inglis A, Wild J, Ferguson B, Schachter D, et al. Seven-Year Follow-Up of Speech/Language Impaired and Control Children' Psychiatric Outcome. Journal of Child Psychology and Psyciatry and Allied Disciplines [Periodical]. 1996;37(8):961-970.
23. Johnson CJ, Beitchman JH, Young A, Escobar M, et al. Fourteen-year follow-up of children with and without speech/language impairments: Speech/language stability and outcomes. Journal of Speech, Language, and Hearing Research. 1999 Jun 1999 2015-05-30;42(3):744-60.
24. Conti-Ramsden G, St Clai MC, Pickles A, Durkin K. Developmental Trajectories of verbal and nonverbal skills in individuals with a history of specific language impairment: from childhood to adolescence. Journal of Speech, Language, and Hearing Research. 2012;55(6):1716.
25. Brownlie EB BJ, Escobar M, Young A, Atkinson L, Johnson C, Wilson B, Douglas L. Early Language Impairment and Young Adult Delinquent and Aggressive Behaviour. . Journal of Abnormal Child Psychology. August 2004;32(4):453-467.
26. Sanger DD HK, Ritzman M. Female juvenile delinquents' pragmatic awareness of conversational interactions. Journal of Communication Disorders. September-October 1999;32(5):281-295.
27. Anderson SAS, Hawes DJ, Snow PC. Language impairments among youth offenders: a systematic review. Children & Youth Services Review. 2016;65:195-203.
28. Justice Health & Forensic Mental Health Network and Juvenile Justice NSW. Young People in Custody Health Survey: Full Report. Sydney; 2015.
29. Markham C, van Laar D, Gibbard D, Dean T. Children with speech, language and communication needs: their perceptions of their quality of life. International Journal of Language & Communication Disorders. 2009;44(5):748-768.
30. Hawkley LC, Cacioppo JT. Loneliness Matters: A theoretical and empirical review of concequences and mechanisms. Annals of Behavioural Medicine. 2010;40(2):218-227.
31. Jerome AC FM, Brinton B, James SL. Self-esteem in children with specific language impairment. Journal of Speech, Language, and Hearing Research. . August 2002;45(4):700-714.
32. De Clercq B, van Leeuwen K, De Fruyt F, van Hiel A, Mervielde I. Maladaptive Personality Traits and Psychopathology in Childhood and Adolescence: The Moderating Effect of Parenting. Journal of Personality. 2008;76(2):357-383.
33. Cohen NJ, Vallance DD, Barwick M, Im, N., Menna R, Hordezky NB, Isaacson L. The interface between ADHD and language impairment: An examination of language, achievement, and cognitive processing. . Journal of Child Psychology and Psychiatry. 2000;41:353-362.
34. Law J RR, Schoon I, Parsons S. . Modelling developmental language difficulties from school entry into adulthood: literacy, mental health, and employment outcomes. Journal of Speech, Language, and Hearing Research. December 2009;52(6):1401-1416.
35. Botting N, Toseeb U, Pickles A, Durkin K, Conti-Ramsden G. Depression and Anxiety Change from Adolescence to Adulthood in Individuals with and without Language Impairment. PLoS One. 2016;11(7):e0156678.
36. Eadie P CL, Hallenstein B, Mensah F, McKean C, Reilly S. . Quality of life in children with developmental language disorder. International Journal of Language and Communications Disorders. July-August 2018;53(4):799-810.
37. Conti-Ramsden G, Mok PLH, Pickles A, Durkin K. Adolescents with a history of specific language impairment (SLI): Strengths and difficulties in social, emotional and behavioral functioning. Research in Developmental Disabilities. 2013;34(11):4161-4169.
38. Conti-Ramsden G, Durkin K. Postschool Educational and Employment Experience of Young People With Specific Language Impairment. Language Speech and Hearing Services in Schools. 2012;43(4):507-520.
39. Conti-Ramsden G, Durkin K, Simkin Z, Knox E. Specific language impairment and school outcomes. I: Identifying and explaining variability at the end of compulsory education. International Journal of Language & Communication Disorders. 2009;44(1):15-35.
40. Conti-Ramsden G, Botting N. Emotional health in adolescents with and without a history of specific language impairment (SLI). J Child Psychol Psychiatry. 2008 May;49(5):516-25.
41. Bhatia SC, Bhatia SC. Childhood and adolescent depression. American Family Physician. 2007;75:73-80.
42. Rock PL, Rosier JP, Riedel WJ, Blackwell AD. Cognitive impariment in depression: a systematic review and meta-analysis. Psychological Medicine. 2013;44(10):2029-2040.
43. Association AP. Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. Arlington, VA: American Psychiatric Association; 2013.
44. Wu T, Luo Y, Broster LS, Gu R, Luo Y. The Impact of Anxiety on Social Decision-Making: Behavioral and Electrodermal Findings. Social Neuroscience. 2013;8(1):11-21.
45. Daleiden EL, Vasey MW. An information-processing perspective on childhood anxiety. Clinical Psychology Review. 1997;17(4):407-429.
46. Puliafico AC, Kendall PC. Threat-Related Attentional Bias in Anxious Youth: A Review. Clinical Child And Family Psychology Review. 2006;9(3-4):162-180.
47. Baltaxe CAM, Simmons JI. Speech and language disorders in children and adolescents with schizophrenia. Schizophrenia Bulletin. 1995;21(4):677-692.
48. Snow P, M. P. Oral language competence in incarcerated young offenders: Links with offending severity. International Journal of Speech-Language Pathology. 2011a;13:480-489.
49. Winstanley M, Webb RT, G. C-R. More or less likely to offend? Young adults with a history of identified developmental language disorders. International Journal of Language and Communication Disorders. 2018;53(2):256-270.

CLINICAL PRACTICE POINT WRITERS
Affrica McCarthy
Mary Fleming

CLINICAL CONSULTANTS
Caroline Crlenjak
Mary Woodward
Dr Shona Francey
Dr Cori Williams

DISCLAIMER This information is provided for general educational and information purposes only. It is current as at the date of publication and is intended to be relevant for all Australian states and territories (unless stated otherwise) and may not be applicable in other jurisdictions. Any diagnosis and/or treatment decisions in respect of an individual patient should be made based on your professional investigations and opinions in the context of the clinical circumstances of the patient. To the extent permitted by law, Orygen and Speech Pathology Australia will not be liable for any loss or damage arising from your use of or reliance on this information. You rely on your own professional skill and judgement in conducting your own health care practice. Orygen and Speech Pathology Australia do not endorse or recommend any products, treatments or services referred to in this information.

Copyright © 2019 Orygen.

GET IN TOUCH

IF YOU'D LIKE MORE INFORMATION ABOUT ORYGEN, PLEASE CALL **(03) 9966 9100** OR SEND AN EMAIL TO **INFO@ORYGEN.ORG.AU**

ORYGEN.ORG.AU

REVOLUTION IN MIND orygen

31987_19_Orygen Studio