

LANGUAGE DISORDER OF AUTISM IN 'ATYPICAL' SERIES (2017-2021): A PSYCHOLINGUISTICS STUDY

Mutiara Indah¹

Tika Yulianti²

^{1,2} Faculty of Social Sciences and Letters, Universitas Kebangsaan Republik Indonesia

*e-mail: mutiaraindah@ukri.ac.id, tikabandung0@gmail.com

*Correspondence: mutiaraindah@ukri.ac.id

Submitted: 29th November 2022 *Revised:* 17th December 2022 *Accepted:* 26th December 2022

Abstract: The purpose of this study is to recognize what kind of language disorder experienced by Sam as an autistic in 'Atypical' series 2017-2021, to describe what factors of language disorder experienced by Sam, and to describe what therapy of language disorder for Sam. The researcher uses qualitative method for doing this research. The data was taken from the utterances of autistic, Sam Gardner as the main character. There were 60 phenomenon of language disorder, 58 receptive language disorder and 2 expressive language disorder. The most common symptom of receptive language disorder experienced by Sam is difficulty following verbal directions 21 data, followed by interpreting words or phrases 19 data, not appearing to listen 12 data, limited vocabulary 3 data, difficulty understanding complex sentence 2 data, and demonstrating lack of interest 1 data. Meanwhile, Sam just experienced two symptoms of expressive language disorder, word-finding difficulties 1 data and over-reliance on stock phrases 1 data. This phenomenon occurs caused by many factors, whether difficulty in joint attention, failed in integrated the information with semantic attributes, autism symptoms such as echolalia, deficits in ToM, trouble in retrieval words, etc.

Keywords: language disorder, autism, psycholinguistics.

INTRODUCTION

As social beings, human beings use language to interact with each other for a purpose in social life. In addition, language plays an important role in our daily life such as expressing thoughts, feelings, ideas, etc. As Harley (2005:10) says, language is a form of social activity. In addition, people use language as an act of social activity that involves communicating their ideas, thoughts, perspectives, or feelings and building relationships by using language. That is to say that the main function of language is for communication, and also as a fundamental aspect in human life, therefore the human being must be able to generate what he wants to talk about and understand what others say to him. According to Harley (2001:21), language expresses many processes, both in speaking, listening, etc. Moreover, to be able to generate and understand language, people have to go through several processes.

Language perception is the process of interpreting speech in conversation. People will be able to interact with each other if they have succeeded in speech perception. The perception of language goes through several processes involving our brain and memory. Based on Trieman et al (2003: p. 6-17), humans perceive language through several processes, starting from trying to recognize words when the signal comes, they will try to recognize whether the signal is sequential as a consonant or a vowel. . Then, create a visual representation for printed word recognition. The brain will access the meaning of words and integrate all the information corresponding to the

words in the mental lexicon. Then, make distant considerations for the sentences we hear, including considering the exact grammatical aspects, and whether there is a possibility of using metaphors or nonliteral meanings in that utterance. In addition, the ability to understand language is key in social interaction.

In addition, the production of language also has an important role in social interaction. People will face some problems in their lives, so they must be able to produce language. The production of language occurs through several processes, starting from accessing a single word in our mental lexicon. Our brain will conceptualize for the topic being discussed, so that we will decide what ideas to express and fit the concept. The idea we choose must be considered in its reference, so that we can take the right decision in choosing one word, according to the context. After successfully selecting the appropriate words, we consider the morpho-phonological coding that we will take and generate with the correct phonological aspect through sound. For example, if the chosen word is infant, there is only one morpheme taken, but for grandchildren or walking, there are two morphemes taken. The next step is to create a phonological concept of the word, for example for the word baby, there are segments /b/, /a/, /b/, /y/ to be taken back. Furthermore, in this case the speaker must know the rules of language applied to those segments when generating words, many words have pressure according to their rules, usually English words have pressure on the first syllable. The rule of which word segments to emphasize is stored in the lexicon,

furthermore, in phonological coding, segments and word emphasis should be combined for successful production (Levelt et al. 1999). In addition, it can be concluded that language production consists of three main stages of the conceptual process, the process of searching for words, and the phonological or articulatory process. Three main stages must be completed for the successful production of the language.

In addition, people must be able to understand and produce language to communicate well. But in this case not everyone in the world can understand and produce language well, this phenomenon is called language disorder (Leutuang, 2008, p. 2). According to the American Speech-Language-Hearing Association (1982, p. 949-950), language disorders are the inability to understand and produce language. Therefore, a person who has difficulty in using the language, is usually caused by a failure in processing the language. As Carroll, D. W. (2008, p. 46) states the way in which humans understand and produce language is the result of information processing systems.

People with language disorders are usually sufferers in communicating their ideas, or interpreting beliefs and ideas that come from others. As Varley (2008:10) says that people with language disorders have difficulty in expressing their thoughts and interpreting their beliefs and ideas to others. Language disorders can be divided into two types, namely receptive and expressive language disorders (Carroll, J. B., 1985: 282). Receptive language disorder is the inability to understand and process what others say to them, while expressive language disorder is the inability to

communicate what they want to say. This means that people with language disorders will have difficulties in daily conversation, fail in building relationships and experience failures in understanding the topic being discussed, etc.

Language disorders are usually experienced by children with neurodevelopmental disorders (American Psychiatric Association, 2013). According to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5, 2013, pp. 31-86), there are several types of neurodevelopmental disorders, including intellectual disability, communication disorders, Autism Spectrum Disorder (ASD), Attention-Deficit/Hyperactivity Disorder (ADHD), specific learning disorders, motor disorders, etc. But this study focused only on language disorders experienced by autistic people.

Autism is a neurodevelopmental disorder that has an impact on behavioral disorders and social interactions. According to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5, 2013: 50), Autism Spectrum Disorder (ASD) includes a wide range of presentations that can be traced to a triad of symptoms such as reciprocal social interaction disorder, disorganized verbal and nonverbal communication, and limited and repetitive behaviors or limited interests. This means people with autism have difficulty getting involved with social life, and in simple terms autistic people usually see, hear, and feel the world differently than normal people. In addition, people with autism will find it difficult to establish relationships in their environment, since the symptoms of autism will make them strange from the point of

view of others.

Autism can occur by prenatal risk factors, Christmas risk factors, and postnatal risk factors. On prenatal risk factors, including parental age (maternal and paternal age more than or equal to 34 years have been approved as one of the factors that increase the risk of autism), maternal physical health (maternal physical diseases such as metabolic syndrome, bleeding and Infection during pregnancy are also associated with autistic children), maternal mental health (psychiatric history of parents such as Schizophrenia, depression, anxiety and personality disorders, also increase the risk of autism), maternal prenatal drug use (drug use in pregnancy increases the risk by up to 46% for autism, the use of various types of drugs also increases the risk of autism by 68%), the socioeconomic status of the family (economic, social, educational, and psychological aspects of family life are also associated with the risk of autism). Risk factors for Christmas, such as fetal complications (fetal nuchal cord and cesarean delivery) increase the risk of autism by 26%. Postnatal risk factors, including low birth weight, jaundice, and postnatal infections also increase the risk of autism (Karimi, P., Kamali, E., Mousavi, S. M., & Karahmadi, M. 2017, vol 22, p. 27).

Autism rates are rising due to a lack of public awareness of the symptoms of autism, and not being detected early. According to the World Health Organization (2021) on World Autism Awareness Day, there is about one in 160 children in the world experiencing ASD but it may be higher than expected. This condition needs special treatment because

people with autism are usually the subject of stigma, discrimination, and human rights violations depicted in the 'Atypical' series. The series depicts a teenager who faces autism syndrome in social interactions. He has difficulty in social interaction and is bullied, ostracized by others or underestimated.

Furthermore, people with autism need intervention in the face of their social life because autism is characterized by social interaction disorder. Based on Shenoy, D. M., et al (2017) states that therapy for people with autism will improve their skills in functional independence and quality of life, as well as minimize the traits of autism. Therefore, people with autism need to be facilitated with therapy, both therapy for oneself and the elderly to provide a natural setting environment to facilitate autism for social skills intervention.

This study aims to identify the language disorders experienced by Sam Gardner in the 'Atypical' series. This study also aims to describe what factors cause language disorders and what is the therapy of language disorders in the Atypical series. The 'Atypical' series tells the story of a teenager with autism named Sam Gardner. Autism affects her communication with her family and everyone around her. Sam was diagnosed with ASD at the age of four, and the series focuses solely on portrayal of Sam when he was 18. Sam has difficulty in social interaction, stereotypical behavior, and limited interests. Sam experiences the challenge of making a friend or girlfriend for his age, when he falls into stress, he hums many times, reads the four penguin names 'Adelie, Chinstrap, Emperor, Gentoo' and knocks with rubber, it makes Sam look

weird.

Based on the depiction in season 2 episode 5, Sam was born with autism because he was genetically inherited by his father. His father, Doug, was stressed for a long time and sometimes he had panic attacks, which diagnosed him with stress. In this case, Sam's father had a mental disorder, which made Sam born with autism, often tantrums as a child. Sam experiences tantrums when he feels stressed, for example when he is in a crowd, hearing music too loud, etc. Any symptoms that continued until Sam grew up, sometimes he cried and screamed when stressed. It is known that Autism Spectrum Disorders (ASD) are highly inherited from a genetic aspect, about 70% of cases, even the underlying genetics are still unknown (O'Roak, B. J. et al., 2012, p. 1).

Researchers are concerned about this phenomenon and want to apply and improve linguistic knowledge, specifically psycholinguistics, to analyze the types of language disorders and to describe what factors influence language disorders in autism. It is important to know the types of language disorders and the factors that follow them, to increase knowledge and awareness about the symptoms of autism and the early detection of symptoms of autism. Thus it will be one of the ways to increase the knowledge of the mother in helping her child with ASD. In addition, it can build affection between the child and the parent to be patient in the face of the ASD child. Researchers also hope the study can help an autistic person who is living a life with autism.

MATERIALS AND METHODS

This study aims to analyze what kind of language disorders are experienced by the main character of the 'Atypical' series (2017-2021) named Sam Gardner and describe what factors follow, therefore this study uses qualitative studies. As Creswell (2016:287) says that qualitative research aims to collect data from sites, where the object of study experiences a problem or problem based on the research topic (Hatch, 2002; Marshall & Rossman 2016). This study uses a qualitative method because the data in this study are words or sayings from the main character of the 'Atypical' series. As Miles and Huberman (1984) state qualitative data usually describe words rather than numbers.

RESULTS AND DISCUSSION

The 'Atypical' series tells the story of a teenager named Sam Gardner who is diagnosed with Autism. The series also tells the story of an teen, 18-year-old with autism who is involved in social life, and how their family, friends, or neighborhood provide support for Sam. Sam has difficulty building relationships such as making friends, having a girlfriend, etc. She also has trouble understanding what others are saying to them as she communicates with her parents, her friends, her boyfriend, etc. Therefore, his family gave him a therapist to help him engage with social life.

In this passage, researchers recognize the language disorder experienced by Sam. The data are taken from the series 'Atypical' (2017-2021) and its subheadings, and categorized into expressive or receptive language disorders according to John

Carroll's theory. The data consists of several cases, according to the series of scenes in which the data was taken. Researchers use the numbers [S1E1] meaning the data is taken from Season 1 Episode 1, [S2E1] means the data is taken from Season 2 Episode 1, etc. The researcher also compiles all the data based on the ordinal of the time the phenomenon occurs, such as data 1, data 2, data 3, etc.

After analyzing the data, researchers found 60 language disorder phenomena experienced by Samuel Gardner in the 2017-2021 'Atypical' series. Such phenomena include receptive language disorder 58 data, and expressive language disorder 2 data. The most common symptoms of receptive language disorder Sam experienced were difficulty following verbal directions 21 data, followed by interpreting words or phrases 19 data, not appearing to listen to 12 data, limited vocabulary 3 data, difficulty understanding complex sentences 2 data, and showing deficiencies in pulling 1 data. Meanwhile, Sam experiences only two symptoms of expressive language disorder, having trouble finding the word 1 data and relying too much on stock phrases 1 data. Therefore, researchers concluded that Sam had receptive language disorder more often than expressive language disorder.

Language disorder therapy

After exposing the phenomenon of language disorders that Sam experienced in the 'Atypical' series (2017-2021), researchers concluded that autistics need therapy to engage with social life, just like Sam as an autistic who gets into trouble when engaging with social life. Therefore,

his family facilitated him for therapy to help him engage with social life. In addition, there are many types of therapies that can help for autism, such as occupational therapy (to help live as independently as possible), speech pathology (to help the child speak), behavioral therapy (to treat the challenging behaviors that come with autism), Sensory-Integration therapy (to help the autistic when processing sounds, sounds, lights, and others), social skills therapy (to develop and practice social skills), cognitive behavioral therapy (speech therapy to help children or adults with autism), etc.

Samuel Gardner is autistic and he needs Cognitive Behavioral Therapy (CBT) to assist him in developing and maintaining social interactions with others. In addition, there is also a 'peer mediated' for autistic help which is considered as *High-Functioning-Autism* to improve their social behaviors such as how to talk to new friends, how to get the attention of friends, start a conversation or request, and continue a conversation. In addition, in an effort to support autistics, parental or family mediation is important to teach social skills in the home environment. As explained earlier that autism is a developmental deviation of the nervous system that affects disorders of behavior and social interaction. In addition, to support people with autism, therapy can help them.

1. Cognitive Behavioral Therapy (CBT)

Cognitive-Behavioural Therapy (CBT) is a therapy to assist clients in managing their problems by changing the way they think and behave through speaking

sessions. Cognitive Behavioral Therapy is also defined as the integration of cognitive and behavioral approaches to making specifically targeted changes in thoughts, feelings, or behaviors (Scarpa, A., Attwood, T. 2013, p. 27). This therapy is commonly used to treat people with anxiety and depression problems, but it is also useful for other mental and physical health problems. As we know that a child or adolescent with ASD usually has a very logical thing, then an adaptive CBT program will help them to identify and measure emotions, as well as explore strategies for communicating and managing emotions. In addition, children or adolescents with ASD may experience difficulties with socioemotional processing, memory for sequential information and information processing based on context. Therefore, through the CBT program, the therapist will teach them how to make negative feelings, such as fear, anxiety, stress into a positive perspective. This is important for them, because the symptoms of autism are usually followed by feelings of anxiety, hence helping them with strategies to manage their emotions and negative feelings will make them better. Cognitive-Behavioural Therapy (CBT) can be performed one-on-one (therapist & client), or in a formatting group, and is usually scheduled once or twice a week, with a duration of 60 minutes or 1 hour in each session.

One-on-one

In this one-on-one format of ASD therapy, the therapist will conduct sessions by asking the client's problems and how they feel to recognize and understand how

their problems, behaviors and thoughts affect each other. This corresponds to the characteristics of autism deficits, lack of flexibility in thinking and problem solving (Hill, 2008 in Scarpa, A., Attwood, T. 2013, p. 27). In such cases, Sam as an autistic teenager, he often experiences negative feelings such as anxiety, stress, fear when facing problems. Those problems that usually make him have negative feelings such as facing changes, fear when it comes to crowds, or noise, etc. Then, he came to his therapist and told him about their problems and feelings, then his therapist would give Sam his way of thinking or behaving, and make some strategies for the next time he got into trouble and negative feelings.

Group format

In this group format, the therapist will conduct a session with one topic, and participants will share their feelings or emotions based on the topic, then the therapist will make conclusions and provide some problem-solving strategies that will be beneficial for them to face their problem next time. The group therapy format will be very effective because all participants can reduce negative feelings such as shyness, isolation and autism-related stigma. For such cases, Sam as an autistic teenager, he has joined a 'peer group' program at his school to assist autistics in preparing for their future. The therapist will hear about all of Sam's problems and make problem solving, and prepare the group for a plan after graduation, whether they want to go to college or work. This therapy made Sam a confident and successful person to get into college, because college is a big

problem for autism. In addition, this therapy will provide positive changes for autistics in social interactions.

2. Parents or Family mediated

This therapy is aimed at parents who help him facilitate naturalistic settings for social skills interventions for autistic children in the home environment. In this program, the therapy will teach parents how to deal with autistic children when they face difficult social problems in various settings. According to Gutstein & Whitney (2002, as quoted in Catherine, S., 2011), this therapy is designed to promote the different experiences of some parents, and share their strategies, it will help parents to understand the needs of their child.

CONCLUSIONS

a. Findings of the phenomenon of language disorders

After analyzing the data, researchers found 60 language disorder phenomena experienced by Samuel Gardner in the 2017-2021 'Atypical' series. Such phenomena include receptive language disorder 58 data and expressive language disorder 2 data. The most common symptoms of receptive language disorder Sam experienced were difficulty following verbal directions 21 data, followed by interpreting words or phrases 19 data, not appearing to listen to 12 data, limited vocabulary 3 data, difficulty understanding complex sentences 2 data and showing shortcomings of pulling 1 data. Meanwhile, Sam experiences only two symptoms of expressive language disorder, having trouble finding the word 1 data and relying

too much on stock phrases 1 data. Therefore, researchers concluded that Sam had receptive language disorder more often than expressive language disorder.

b. Findings of the type of therapy for Samuel Gardner.

After finding data on language disorders experienced by Samuel Gardner, researchers concluded that an autistic person needs therapy to engage with social life, including Sam. Therefore, his family facilitated him to prepare and support him in social life. In addition, there are many types of therapies that can help for autism, such as occupational therapy (to help live as independently as possible), speech pathology (to help the child speak), behavioral therapy (to treat the challenging behaviors that come with autism), Sensory-Integration therapy (to help the autistic when processing sounds, sounds, lights, and others), social skills therapy (to develop and practice social skills), cognitive behavioral therapy (speech therapy to help children or adults). with autism), etc.

Samuel Gardner is autistic and he especially needs Cognitive Behavioral Therapy (CBT) to help him develop and maintain social interactions with others. Samuel Gardner attends *Cognitive Behavioral Therapy* (CBT) in either one-on-one sessions or peer group sessions to optimize his ability to interact with others. In addition, her parents also join 'parent or family mediated', this therapy is aimed at parents who help her facilitate naturalistic arrangements for social skills interventions for autistic children in the home environment. In addition, this therapy can help autistics to minimize the appearance of autistic symptoms that interfere with

their social life.

REFERENCES

- Altmann, G. T. M., (1995). *Cognitive Models of Speech Processing, Psycholinguistic and Computational Perspectives*, First Edition. MIT Press.
- American Psychiatric Association (APA). 2013. *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition*. Washington, DC: American Psychiatric Association.
- Anderson, C. (2018). *Essentials of Linguistics*. Mc Master University.
- Carroll, D. W. (2008). *Psychology of Language, (Fifth Edition)*. California: Thomson Wadsworth.
- Chomsky, N. (2007). *Language and Mind, Third Edition*. New York: Cambridge University Press
- Clark, H. H., & Clark, E.V. (1977). *Psychology and Language: An Introduction to Psycholinguistics*. New York: Harcourt Brace Jovanovich
- Creswell, J. W., & Creswell, J. D. (2018). *Research Design, Qualitative, Quantitative, and Mixed Methods Approaches, Fifth Edition*. United States of America: SAGE Publications.
- Dardjowidjojo, S. (2008). *Psycholinguistics, Introduction to Human Language Understanding*. Jakarta: Indonesian Torch Foundation.
- Fernandez, E. M., & Cairns, H. S. (2018). *The Handbook of Psycholinguistics*. USA: Wiley Blackwell
- Field, J. (2004). *Psycholinguistics: The Key Concept*. London: Routledge.
- Forrester, M. A. (1996). *Psychology of Language, A Critical Introduction*. London: SAGE Publications Ltd.
- Glezerman, T., & Balkoski, V. (2002). *Language, Thought, and the Brain*. USA: Kluwer Academic Publishers.
- Harley, T. (2005). *The Psychology of Language. From Data to Theory*. New York: Psychology press Translation, vol. 52, p. 13-21.
- Hatch, E., & Brown. S. (1995). *Vocabulary, Semantics, and Language Education*. New York: Cambridge University Press.
- Joffe, V., Cruice, M., & Chiat, S. (2008). *Language Disorders in Children and Adults*. United Kingdom: John Wiley & Sons, Ltd., Publication
- Jufrizal, (2011). *Introduction to Linguistics*. In: *Language and Linguistics*. Universitas Terbuka, Jakarta, pp. 1-46. ISBN 9796899272.
- Knight, C., Kennedy, M. S., & Hurford, J. A. (2004). *The Evolutionary Emergence of Language, Social Function and the Origins of Linguistics Form*. Cambridge: University Press
- Levelt, W. J. M. (1991). *Lexical Access In Speech Production. Speech motor control and stuttering*.
- Levelt, W. J. M. (1992). *Accessing words in speech production: Stages, processes and representations*. *Cognition*, 42: 1-22.
- Scarpa, A., Williams White, S., & Attwood, T. (Eds). (2013). *CBT For Children and Adolescents with High-Functioning-Autism Spectrum Disorder*. The Guilford Press.
- Schopler, E., & Mesibov, G. B. (1992). *High-Functioning Individuals with Autism*. New York: Springer-Science+Business Media.
- Steiberg, D. D., & Sciarini, N. V. (2006). *An*
-

- Introduction to Psycholinguistics, Second Edition. Great Britain: Pearson Education Limited.
- Trieman, R., Clifton, C., Jr, Meyer, A. S., & Wurm, L. H. (2003). Language Comprehension and Production. *Comprehensive Handbook of Psychology*, vol. 4: Experimental Psychology. New York: John Wiley & Sons, Inc. Pages 527-548. Copyright John Wiley & Sons.
- Journal:**
- Atkinson, R. C., & Shiffrin, R. M. (1969). Storage and Retrieval Processes in Long-Term Memory. *Psychological Review*, vol. 76(2), p. 179-193.
- Bernice, A. (2021). Language and the Brain: A Twofold Study of Language Production and Language Comprehension as a Separate or Integrated Set of Processes. *Journal of English Language Teaching and Applied Linguistics*, vol 3(5). DOI: 10.32996/jeltal.2021.3.5.9
- Campbell, L., Nicoll, H., & Ebbels, S. H. (2019). The effectiveness of semantic intervention for word-finding difficulties in college-aged students (16-19 years) with persistent Language Disorder. *Autism & Developmental Language Impairments*, vol. 4, p. 1-17. DOI: 10.1177/2396941519870784.
- Cooper, A. C., & Simons, J. S. (2018). Exploring the neurocognitive basis of episodic recollection in autism. *Psychonomic Bulletin & Review* (2019), vol 26, p. 163 – 181. DOI: 10.3758/s13423-018-1504-z.
- Cummings, A., Seddoh, A., Jallo, B. (2016). Phonological code retrieval during picture naming: Influence of consonant class. *Brain res*, 1635: 71-85. DOI: 10.1016/j.brainres. 2016.01.014.
- Dirani, J. & pyikkänen, L. (2018). Lexical Access in Comprehension vs. Production: Spatiotemporal Localization of Semantic Facilitation and Interference. Retrieved from <http://dx.doi.org/10.1101/449157>.
- Fikrotuz, A. (2015). "The Expressive Language Disorder of the Cerebral Palsy in Skallagrig Movie." Malang: Maulana Malik Ibrahim State Islamic University. Retrieved from <http://etheses.uin-malang.ac.id/3594/1/11320001.pdf>
- Gaigg, S. B., Bowler, D. M., Ecker, C., et al. (2015). Episodic Recollection Difficulties in ASD Result from Atypical Relational Encoding: Behavioral and Neural Evidence. *Autism Research*, vol. 8, p. 317-327. DOI: 10.1002/aur.1448.
- Haebig, E., Kaushanskaya, M., Weismer, S. E. (2016). Lexical Processing in School-Age Children with Autism Spectrum Disorder and Children with Specific Language Impairment: The Role of Semantic. *J Autism Dev Disord*, vol 45(12), p. 4109 – 4123. DOI: 10.1007/s10803-015-2534-2.
- Hansen, A. N. (2017). Atypical: an atypical portrayal of autism? *The Lancet Psychiatry*, vol 4(11), p. 837. DOI: 10.1016/S2215-0366(17)30397-8.
- Hatzidaki, A. (200). The Process of Comprehension from a Psycholinguistic Approach-Implications for Translation. *Meta*, 52(1), 13-21. Retrieved from: <https://doi.org/10.7202/014715ar>
- Hoque, M. (2020). Branches of linguistics. *Language and Linguistics*, vol 1(2), p. 1-3). Retrieved from <https://www.researchgate.net/publicatio>

- n/341378918
- Jodai, H. An Introduction to Psycholinguistics, p. 1-14. The university of Guilan. DOI: 10.4135/9781473973145
- Justus, S. A., Powell, P. S., & Duarte, A. (2021). Intact context memory performance in adults with autism spectrum disorder. *Scientific reports*, vol. 11, p. 20482. DOI: 10.1038/s41598-021-99898-2
- Karimi, P., Kamali, E., Mousavi, S. M., & Karahmadi, M. (2017). Environmental factors influencing the risk of autism. *Journal of Research in Medical Sciences*, vol 22, p. 27. DOI: 10.4103/1735-1995.200272
- Loucas, T., Charman, T., Pickles, A., Simonoff, E., Meldrum, D. & Baird, G. (2008). Autistic Symptomatology and Language Ability in Autism Spectrum Disorder and Specific Language Impairment. *Journal of Child Psychology and Psychiatry*, 49, 1184-1192. Doi: 10.1111/j.1469-7610.2008.01951.x.
- Marzona, Y. (2017). Spoken Language Production: A Psycholinguistic Approach. International Conference on Global Education V "Global Educaion, Common Wealth, and Cultural Diversity. DOI: 10.5281/zenodo.2617228
- Modi, M. & Belliveau, J. W. (2013). Speech and Language Impairments in Autism: Insights from Behaviour & Neuroimaging. 5(3): 157-161. National Institute Of Health. DOI: 10.7156/V5I3P157
- Nafiah. (2008). Expressive Language Disorder of the Autistic Child in Mercury Rising Film. Malang: Maulana Malik Ibrahim State Islamic University of Malang. Retrieved from <http://etheses.uin-malang.ac.id/id/eprint/4647>
- Pisoni, et al (1985). Speech Perception, Word Recognition and the Structure of the Lexicon. *Speech Commun*, vol 4(1-3), p. 75-79. DOI: 10.1016/0167-6393(85)90037-8.
- Putri Cinta, S. (2019). A Psycholinguistic Analysis on Language Disorder used in "Adam" Movie, Thesis. English Department, Faculty of Letters and Humanities, State Islamic University of Sunan Ampel Surabaya. Retrieved from <http://digilib.uinsby.ac.id/id/eprint/38008>
- Rabiee, A., Vasaghi-Gharamaleki, B., Samadi, S. A., et al. (2020). Working Memory Deficits and its Relationship to Autism Spectrum Disorders. *Iranian Journal of Medical Sciences*, vol 45(2). DOI: 10.30476/IJMS.2019.45315
- Reilly, J. (2016). Language Disorders. The SAGE Encyclopedia of Theory in Psychology. SAGE Publications, Inc. (508-510). Doi: <http://dx.doi.org/10.4135/9781483346274.n177>.
- Stille, C. M., Bekolay, T., Blouw, P., Kröger, B. J. (2020). Modelling the Mental Lexicon as Part of Long-Term and Working Memory and Simulating Lexical Access in a Naming Task Cues. *Frontiers in Psychology*, 11:1594. DOI: 10.3389/fpsyg.2020.01594
- Suherman. (2016). Language Disorder of Main Character in the Movie "MY Name is Khan." Undergraduate (S1) thesis, Universitas Islam Negeri Alauddin Makassar. Retrieved from http://repositori.uin-alauddin.ac.id/6312/1/SUHERMAN_opt

pdf

Van Dulm. (2002). A Psycholinguistic Approach To The Classification, Evaluation And Remediation Of Language Disorder. University of Stellenbosch. Stellenbosch Papers in Linguistics, Vol. 34, 2002, 111-131. Doi: 10.5774/34-0-32.

Weber, A., & Scharenborg, O. (2012). Models of spoken-word recognition. Wiley interdisciplinary reviews. DOI: 10.1002/wcs.1178

Yelland, G. W. (2002). Word Recognition and Lexical Access. Encyclopedia of Language and Linguistics, vol. 4, p. 1-11. Retrieved from <https://semanticscholar.org>



© 2022 by the authors.

Submitted

for possible open access

publication

under the terms and conditions of the Creative Commons Attribution (CC BY SA) license

(<https://creativecommons.org/licenses/by-sa/4.0/>).
