



JURNAL ASESMEN DAN INTERVENSI ANAK BERKEBUTUHAN KHUSUS

Jurnal homepage: <https://ejournal.upi.edu/index.php/jassi/index>



Assessing Language Ability of Adolescent Students with Autism Spectrum Disorders

Euis Reliyanti Arum^{1*}, Shiane Hanako Sheba², Tetty Ekasari³

Politeknik Al Islam Bandung, Indonesia

Correspondence: E-mail: euis.reliyanti@gmail.com

ABSTRACT

The main characteristics of autism spectrum disorder (ASD) lay on the ability to communicate and interact with others. Meanwhile, communication and interaction are highly related to the ability to understand language and ability to convey information. This qualitative study was conducted to identify the language ability of adolescent students with ASD receptively and expressively. Data were collected at seven junior and senior special high schools through assessments using the instruments of *Deteksi Dini Gangguan Kemampuan Berbahasa* (DDGKB) and *Pemahaman Bahasa Secara Auditori* (PBSA). 45 students consisting of 37 boys and 8 girls with their age ranging from 11 to 19 years old at were assessed using the instruments. The collected data were then analysed by comparing the data to the language development milestones and indicators of receptive and expressive ability from the Education Ministry. Results show the number of male autistic students is greater than the number of female students. Around 13% or 6 out of 45 teenage autistic students already have receptive and expressive language skills over the mental age of 5 years. Meanwhile, 5. 87% or 39 students still have receptive and expressive abilities under the mental age of 5 years.

© 2023 Universitas Pendidikan Indonesia

ARTICLE INFO

Article History:

Submitted/Received 01 Jul 2023

First Revised 01 Aug 2023

Accepted 01 Sep 2023

First Available online 1 Dec 2023

Publication Date 1 Dec 2023

Keyword:

Assessment, Autism Spectrum Disorder, language Ability, Teenagers.

1. INTRODUCTION

It is generally known that based on diagnostic and statistical manual (DSM) 4 autistic people experiencing communication and social interaction disorders (APA, 2023). ASD sufferers communicate verbal and non-verbal. Linguistically speaking, the language abilities of autistic sufferers vary (M. Lewis, E. Murdoch, & C. Woodyatt, 2007). Research result Anderson et al. (D. K., et al., 2007) on 9 years old autistic children showed that of 98 autistic children 29% still had autism communicate non-verbally, 24-31% of children communicate verbally but with poor pronunciation less fluent, and 25% can communicate using multilevel sentences. At the phonological level, children with ASD have lower phonological abilities compared to their lexical abilities (Alqhazo, Hatamleh, & Bashtawi, 2018). This matter This means that these children are more likely to experience an inability to articulate words clearly. Meanwhile, at the syntactic and morphological level, autistic children who speak Danish experience delays on their syntactic and morphological abilities (C, IM, & M, 2017)[5]. Communication and social interaction disorders in children Autism is strongly influenced by pragmatic abilities which require a person's ability to understand use of language in the appropriate context [6]. The results of this previous research will be used as references to identify the language abilities of autistic adolescents from the linguistic aspect.

Deficits in Autism spectrum disorder driving to difficulties in social interaction and communication have impacted many aspects of lives of autistic people. The deficits may affect them psychologically, socially, academically, behaviourally. Furthermore, the deficits also have occupational and vocational impacts (Cummings, 2014). Psychologically and socially, people with ASD have problems in controlling their emotion and empathy, and they tend to be unconfident and do not have many friends because they prefer to play alone. Most people with ASD gain low academic achievement due to their receptive ability problem. It caused them hard to understand the explanation and instruction during the class easily. Besides, they do not willingly initiate a conversation with other resulting in difficulties when they work in a team. The psychological effect relates closely to their hyperactive and aggressive behaviour. In some cases, the behaviour caused someone with ASD to commit criminals (Howlin, 2000).

In most cases, autism spectrum disorder is a life-long condition. Meanwhile, the number and incidence of autistic people in Indonesia keep increasing. dr. Maria Endang Sumiwi, MPH as Director General of Public Health, at the commemoration of world autism day on 2 April 2022 explained that WHO predicts the prevalence of autistic sufferers in the world today is 1 in 160 children. Meanwhile, in Indonesia, the incidence of autism increases every year, reaching 500 cases per year (Sumiwi, 2022). The relatively high incidence of people with ASD in Indonesia must be the focus of the government's attention and should be addressed immediately. Therefore, the study on the ability of autistic adolescent is a must to identify the language ability of the ASD students through assessments.

Assessment is the process of collecting valid and reliable information, and then integrating and interpreting it to make a judgment or a decision about something (Shiple, 2021).

2. METHODS

This study used qualitative method. Begin by documentation study of previous research to find out about language ability of ASD at common, this study continues to perform assessments using two instruments of *Deteksi Dini Gangguan Kemampuan Berbahasa* (DDGKB) or Early Detection of Communication Ability Disorders and *Pemahaman Bahasa Secara Auditori* (PBSA) or Auditory Language Comprehension.

The instruments are recommended by the health ministry of Indonesia (Kesehatan, 2021). 45 students consisting of 38 boys and 7 girls ranging from 11 to 19 years old were assessed using the instruments. They came from 7 junior and senior special high schools in Bandung. The assessments in the form of checklist instruments were performed by speech therapists directly toward the students at their schools.

DDGKB instrument assesses verbal comprehension (receptive) and verbal (expressive) abilities. This instrument facilitates assessors to determine the position of abilities of adolescent autistic students in the mental age range between 6 months to 7 years. Meanwhile, the PBSA test is used as a supporting instrument. The test assesses children's comprehension abilities based on their auditory modality. The DDGKB and PBSA instruments contain a checklist of questions, some of which are accompanied by pictures and are tested by therapists directly to the students. Apart from the DDGKB and PBSA question checklist, picture cards and real objects needed to support the assessment process were also used, such as blocks, cars, and dolls.

The completed DDGKB and PBSA checklists as well as several videos during the assessment resulted from the assessment were then described by the therapists in the form of a narrative examination reports. The assessment reports were then analysed to get a clear picture of the language abilities of adolescent autistic students by comparing them to the child's language development milestones, as well as indicators of receptive and expressive ability launched by Education Ministry of Republic Indonesia, which is stated in Minister of Education and Culture Regulations of 137 and 146. In the regulation it is explained that receptive language refers to a person's ability to differentiate meaningful and meaningless sounds. In language competence, receptive ability is closely related to the ability to listen and read. In more depth, the regulation mentions that receptive ability is the ability to understand stories, commands and rules. Indicators for Children's Receptive Language are described in Minister of Education and Culture Regulation Number 146 (2014: 30-31). Meanwhile, the definition of expressive ability is the ability to express language verbally and non-verbally. Expressive abilities are closely related to oral or speaking abilities and are described in Minister of Education and Culture Regulation Number 146 (2014: 31-33).

3. RESULTS AND DISCUSSION

3.1. Mental Age

Mental age or Developmental Age is the development of intelligence in terms of the average performance of children at a certain age (Russo, Kaplan-Kahn, Wilson, Criss, & Burack, 2021). Koppitz (1963) explained that a person's mental age can be seen from a person's maturity in terms of attitudes, self-concept, self-control, and the ability to deal with perceptual-motor problems (Aquarisnawati, 2015). It is important to know the mental age of autistic children because it helps determine the appropriate therapy method according to their mental age so that the implementation of therapy can run smoothly and successfully. The mental age of each student was obtained and are described in the following explanation.

3.2 Receptive Ability

Table 1. Results of analysis on receptive ability of the adolescents students

No	Mental Age	Boys	Girls	Receptive Ability
1	0-6 months	4	-	Their receptive ability are unclear because they still have very limited eye contact and some of them experienced tantrum.
2	6-12 months	12	1	Reacted on sounds, show respons when someone calls their names, understand simple instruction to point on part of body.
3	1-1.5 years	3	-	Started to respons simple questions about location, can point part of body, understand simple instruction on pointing objects around them.
4	1.5-2 years	2	-	Understand to point and diver simple pictures of objects and can do simple instruction such as putting object somewhere.
5	2-2.5 years	2	-	Understand concept of number such as one, understand simple comparative degree, and can follow instruction to make tower for example or putting blocks inside.
6	2.5-3 years	1	-	Recognize daily activities, understand concept on, under, know detail of an object such as a house.
7	3-3.5 years	1	-	Recognize concept of day and night, can match and group objects.
8	3.5-4 years	3	-	Understand and recognize colors, diver location of objects, comprehend activities.
9	4-4.5 years	2	-	Understand instruction to color, concept of bigger number, comprehend activities.
10	4.5-5 years	-	2	Understand concept of left and right side, can repeat the knockings
11	5-6 years	2	3	Understand concept of Indonesian currency, can count and do addition.
12	6-7 years	4	2	Understand and able to do two instructions consecutively, understand to pronounce Indonesian currency, can do additon and subtraction.
TOTAL		37	8	

3.3 Expressive Ability

Table 2. Results of analysis on expressive ability of the adolescent students

No	Mental Age	Boys	Girls	Expressive Ability
1	0-6 months	5	-	No <i>babbling</i> , can not make meaningful sounds/words, vocal reflex of /a/.
2	6-12 months	14	1	There is babbling, produced bilabial sounds of p,b,m and vocal reflex of a,i,u,o, imitate short syllables
3	1-1.5 years	5	-	Imitate syllables and utter base form words, can imitate animal sounds, answer simple questions verbally, naming objects.
4	1.5-2 years	3	-	Pronounce consonant of p,b,m clearly and produce words and limited phrases
5	2-2.5 years	3	1	Have clear articulation on vocals, articulate consonant of z, r, v, and f dengan prety clearly, there is substitution on cluses consonatnts, can produce more meaningful words and phrases.
6	2.5-3 years	-	-	-
7	3-3.5 years	2	1	Articulate words, phrases, and simple sentence, tells their names clearly, mention the function of objects.
8	3.5-4 years	1	1	Have clear artikulation, normal voice, use words with prefix, make sentences, imitate complex sentences, initiative to start the conversation by questions
9	4-4.5 years	-	-	-
10	4.5-5 years	1	1	Have normal voice, able to make complex sentences, can tell stories.
11	5-6 years	2	2	Have clear articulation, use prefix in sentences, make sentences spontanly, initiate communication
12	6-7 years	1	1	There is no SODA; substitution, omision, distorsion, and addition disorders in articulating words, can tell stories, topic of conversation is match the context.
TOTAL		37	8	

Most of students, 13 and 15 of 45 students or respectively around 29% and 33 % of students are receptively and expressively in the mental age of 6-12 months. Receptively, they reacted on sounds and showed response when someone calls their names and understand simple instruction to point on part of body. However, expressively they have not been able to articulate meaningful words. It means that they are in the level of need support.

Table 3. Receptive and expressive ability of the students

NO	Mental Age	RECEPTIVE		EXPRESIVE	
		Boys	Girls	Boys	Girls
1	0-6 months	4	-	5	-
2	6-12 months	12	1	14	1
3	1-1.5 years	3	-	5	-
4	1.5-2 years	2	-	3	-
5	2-2.5 years	2	-	3	1
6	2.5-3 years	1	-	-	-
7	3-3.5 years	1	-	2	1
8	3.5-4 years	3	-	1	1
9	4-4.5 years	2	-	-	-
10	4.5-5 years	-	2	1	1
11	5-6 years	2	3	2	2
12	6-7 years	4	2	1	1
TOTAL		37	8	37	8

According to table 3, it is known that 82% of the students suffering from ASD are boys, and the rest or about 18 % are girls. Receptively most of boys or 83.7 % are under the mental age of 5 years old, while girls reach only 37.5% of them are under the mental age of 5 years old. 92% of boys have expressive ability under the mental age of 5 years old. It means that only 8% of the boys are above the mental age of 5 years old who are ready to communicate. Meanwhile, expressively girls 62% of girls are under the mental age of 5 years old and 38 % of them are over the mental age of 5 years old.

4. CONCLUSION

The assessment results show that the expressive abilities of this adolescent autistic students are classified into non-verbal and verbal abilities. 5 autistic students are included in the non-verbal autistic category because they are unable to produce meaningful language sounds or sounds to express their thoughts. Meanwhile, more than half of the students or as many as 25 students have expressive abilities under the age of 1.5 years with their oral ability to pronounce simple or short syllables and words. Of the 45 autistic students, only 8 have language skills that can be used as capital for communicating or interacting socially with other people.

From student data, assessment results, and analysis results, it can be concluded that:

1. The number of male autistic students is greater than the number of female students. In this study the ratio of boys and girls reached 4: 1.
2. The difference between the chronological age of students and the mental age of autistic students is very different.
3. Receptive abilities are not always equal to expressive abilities.
4. Around 24 % or 11 out of 45 students already have receptive and expressive language skills over the mental age of 5 years.

5. 75% or 34 students still have receptive and expressive abilities under the mental age of 5 years.

5. ACKNOWLEDGMENT

First, I would like to thank Allah SWT for letting me through all the difficulties easily. I will keep on trusting you for my future. I would like to acknowledge and give my warmest thanks to Kemenristek Pendidikan Tinggi Vokasi who has given me the chance to do the research by providing financial supports, Directors, lecturers, and LPPM staffs of PAIB who has supported me and team to perform and complete the research.

6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

7. REFERENCES

- Alqhazo, M. T., Hatamleh, L. S., & Bashtawi, M. (2018). Phonological and lexical abilities of Jordanian children with autism. . *Applied Neuropsychology: Child*, (), 1–9.
- APA. (2023). *Autism Spectrum Disorder*.
- Aquarisnawati, P. (2015). Developmental age pada anak usia sekolah (Studi Deskriptif Tinjauan Bender Gestalt. *Jurnal Poseidon*, Volume 9 Nomor 2.
- C, B., IM, E., & M, J. e. (2017). Syntax and morphology in danish-speaking children with autism spectrum disorder . *Journal Autism Dev Disord* 47 , 373–383 .
- Cummings, L. (2014). *Pragmatic Disorder*. New York: Springer.
- D. K., A., C., L., S, R., DiLavore, P. S., C, S., A, T., . . . & A. (2007). Patterns of growth in verbal abilities among children with autism spectrum disorder. *Journal of Consulting and Clinical Psychology*, 75(4), 594–6.
- Hodges, H., Fealko, C., & Soares, N. (2020). Autism spectrum disorder: definition, epidemiology, causes, and clinical evaluation. *Translation Pediatrics*.
- Howlin, P. e. (2000). . 'Autism and developmental receptive language disorder-a follow-up comparison in early adult life. II: social, behavioural, and psychiatric outcomes . *Journal of Child Psychology and Psychiatry*Howlin, P., Goode, S., Hutton, J., 561-578.
- Kebudayaan, K. P. (2014). *Repository Kemdikbud* .
- Kesehatan, K. (2021). *kmk no hk 01-07 menkes 3648 2021-ttg-Standar-Profesi-Terapis-Wicara-sign-4*.
- Langbecker, D. e. (2020). 'Long-term effects of childhood speech and language disorders: A scoping review', . *South African Journal of Childhood Education*, 801.
- M. Lewis, F., E. Murdoch, B., & C. Woodyatt, G. (2007). Linguistic abilities in children with autism spectrum disorder. *Research in Autism Spectrum Disorders*, Volume 1, Issue 1, , Pages 85-100, 3.

- Miler, M. H. (2014). *Qualitative Data Analysis: A Method Sourcebook (3thed)*. USA: SAGE Publication Inc.
- Norbury, C. F. (2014). Autism spectrum disorders and communication. In L. Cummings, *The Cambridge Handbook of Communication Disorders* (p. 141). New York: Cambridge University Press.
- Russo, N., Kaplan-Kahn, E., Wilson, J., Criss, A., & Burack, J. (2021, May). Choices, challenges, and constraints: a pragmatic examination of the limits of mental age matching in empirical research. . *Dev Psychopathol.*, ;33(2):727-738. .
- Shiple, K. M. (2021). *Assessment in Speech-Language Pathology*. San Diego: Plural Publishing.
- Sumiwi. (2022, April). *Webinar Peringatan Hari Peduli Autisme Sedunia Tahun 2022*.