PSYCHOLINGUISTIC STUDIES ON AUTISM LANGUAGE DISORDER

Imas Komala[1], Yulinda Ari Wardani[2], Herman[3], Ventje Jany Kalukar[4]
Universitas Mulawarman Samarinda, Indonesia[1,2,3,4]
Email: Naylaimas12345@gmail.com, yulindaari7@gmail.com,
hermanrotang461@gmail.com, ventjejkalukar@fkip.unmul.ac.id

ABSTRACT

This study investigates language disorders in individuals with autism from a psycholinguistic perspective, focusing on the cognitive and social factors that affect language development. Language disorders are a defining feature of Autism Spectrum Disorder (ASD), hindering effective communication and social interaction. The research examines pragmatic difficulties, semantic challenges, and the cognitive processing issues that individuals with autism experience, particularly in understanding and producing language. Through a qualitative approach, this study explores the relationship between these language disorders and psycholinguistic interventions that aim to improve communication skills. The results highlight the significance of targeted interventions, such as speech therapy and social communication training, in enhancing the ability of individuals with autism to engage in social interactions. The study concludes that while language disorders in autism cannot be completely cured, appropriate therapeutic methods can significantly improve language skills and social interactions. The implications of this research suggest that a psycholinguistic approach to autism language disorders can provide deeper insights into effective intervention strategies and improve communication abilities for individuals with ASD.

KEYWORDS	*Psycholinguistics, language disorders, autism, pragmatics, communication, intervention*

INTRODUCTION

Language disorders are one of the main characteristics in individuals with autism, resulting in barriers in verbal and nonverbal communication . Individuals on the autism spectrum often exhibit difficulties in understanding and producing language, which not only impacts language skills themselves, but also their ability to interact socially (Ebbels et al., 2019; Gkeka et al., 2020; Mountford et al., 2022; Peristeri & Tsimpli, 2023). Psycholinguistic studies of language disorders in autism have become an important topic because this approach allows researchers to identify the cognitive processes behind language limitations experienced by

individuals with autism (Georgiou & Spanoudis, 2021; "HUMAN LANGUAGE DISORDER," 2022; Marrus & Hall, 2017; Norbury et al., 2017; Rinaldi et al., 2021).

In particular, pragmatic disorders, i.e. difficulties in understanding social contexts in communication, often occur in individuals with autism. Pragmatics is closely related to the ability to understand the intent and purpose of a conversation that is not always explicit, which is a challenge for individuals with autism. The study of psycholinguistics can help understand why and how this pragmatic disorder arises by examining aspects such as information processing, attention, and the theory of mind that are inhibited (Amoretti et al., 2021; Félix et al., 2024; Gabbatore et al., 2023).

In addition, individuals with autism often have difficulties in the semantic aspect, namely the understanding of the meaning of words and sentence structure. These semantic difficulties can cause them to experience limitations in connecting words with the right concept or using words with appropriate meanings (Jalali-Moghadam & Kormi-Nouri, 2017; McMillen et al., 2023; Mengisidou et al., 2020; Shuhan et al., 2022; Xie et al., 2021). Research by Eigsti and Bennetto shows that there are limitations in the ability to process linguistic information appropriately in individuals with autism, which affects how they understand and interpret language.

By understanding the psycholinguistic aspects of language disorders in autism, this study aims to investigate the relationship between cognitive and social limitations experienced by individuals with autism and their impact on their language development. The study will also examine how psycholinguistic interventions can help individuals with autism improve their communication skills more effectively.

Autism Spectrum Disorder (ASD) is commonly associated with significant language development challenges, with individuals exhibiting difficulties in both verbal and non-verbal communication. These language disorders impact their ability to understand and produce language, often leading to barriers in social interaction and daily communication . Specifically, individuals with autism face issues with pragmatics, semantics, and language processing. Pragmatic difficulties, such as understanding non-verbal cues, humor, or context (Aishworiya et al., 2022; Au et al., 2021; Hodges et al., 2020; Leader et al., 2022; van 't Hof et al., 2021)in conversations, further exacerbate communication problems. Additionally, semantic difficulties, which involve understanding word meanings and sentence structures, hinder effective communication. This combination of challenges contributes to the complex nature of language disorders in individuals with autism and highlights the need for effective interventions.

Despite the recognition of these issues, there is still limited understanding of how psycholinguistic factors, including cognitive processes and brain function, contribute to language disorders in autism. While there are some interventions available, such as speech therapy and auditory integration training, the efficacy of these approaches in improving communication skills is not always consistent. There is also a need to explore more targeted psycholinguistic interventions that address the specific language processing difficulties faced by individuals with autism. This research aims to bridge this gap by analyzing the psycholinguistic aspects of language disorders in autism and exploring how interventions can be designed to improve language development.

The urgency of this research stems from the growing number of individuals diagnosed with autism and the increasing recognition of language disorders as a key feature of the condition. Effective communication is fundamental to social integration and personal development, making it critical to understand the cognitive and social barriers to language acquisition in individuals with autism. As autism diagnoses continue to rise, there is a pressing need for research that can inform more effective interventions, especially in improving pragmatic and semantic language skills. Addressing these challenges through psycholinguistic interventions is vital to enhancing the quality of life for individuals with autism, fostering better social interactions, and supporting their ability to thrive in educational and social settings.

Several studies have focused on understanding language disorders in individuals with autism, particularly the cognitive challenges associated with language acquisition. Baron-Cohen and Tager-Flusberg explored how difficulties with theory of mind, or understanding that others have distinct thoughts and perspectives, significantly contribute to the pragmatic language disorders observed in autism. These cognitive limitations make it difficult for individuals with autism to comprehend implied meanings, emotions, or intentions during conversations, which are essential for effective communication. Such difficulties often result in miscommunications and social isolation, leading to further complications in daily interactions.

Furthermore, research by Norbury emphasized semantic difficulties in individuals with autism, particularly in understanding word meanings and sentence structures. These challenges often hinder their ability to form meaningful sentences and understand complex linguistic constructs. Individuals with autism may struggle with word association, leading to misunderstandings and communication breakdowns. This semantic impairment is further compounded by the processing limitations described by Tager-Flusberg and Joseph, who found that working memory constraints and attention deficits contribute to difficulties in processing and producing language.

In addition, intervention strategies have been a focal point of autism-related research. Studies by Subyantoro have demonstrated the efficacy of early communication therapy in addressing language deficits in children with autism. These therapies, such as Applied Behavior Analysis (ABA) and Auditory Integration Training (AIT), have shown positive results in improving social skills, language production, and overall communication abilities. However, while these interventions are beneficial, their success often depends on the severity of the disorder and the age at which intervention is introduced, highlighting the need for more individualized and adaptable approaches to language development.

Although extensive research has been conducted on language disorders in individuals with autism, there is a significant gap in understanding the role of psycholinguistic factors in these disorders, particularly in how language is processed and understood by individuals with autism. While previous studies have addressed the cognitive aspects of language difficulties, few have examined the direct relationship between language processing and pragmatic or semantic disorders in the context of autism. Additionally, while interventions like speech therapy and ABA are widely studied, there is limited exploration of how these interventions can be more effectively tailored to address the unique cognitive limitations of individuals with autism. This study seeks to fill these gaps by

investigating the psycholinguistic aspects of language disorders and evaluating the effectiveness of targeted interventions in improving communication skills.

This study introduces a novel approach by applying a psycholinguistic framework to analyze language disorders in individuals with autism. Unlike previous research that has primarily focused on broad cognitive or behavioral factors, this study delves deeper into the cognitive processes involved in language acquisition and production in autism. By focusing on the interplay between pragmatic, semantic, and language processing difficulties, this research offers a more comprehensive understanding of the underlying factors contributing to communication barriers in autism. Additionally, the study explores how targeted psycholinguistic interventions, tailored to address these specific challenges, can improve communication abilities, offering new insights into more effective treatment strategies.

The main objective of this research is to examine the psycholinguistic aspects of language disorders in individuals with autism, focusing on the impact of pragmatic and semantic difficulties on communication. Specifically, the study aims to explore how cognitive limitations, such as theory of mind and language processing, contribute to these language disorders and evaluate how targeted psycholinguistic interventions can improve communication skills. The research also seeks to assess the effectiveness of different intervention strategies in helping individuals with autism overcome language barriers and improve social interactions.

The findings of this study will offer valuable insights for both researchers and practitioners working with individuals with autism. By identifying the specific psycholinguistic factors that contribute to language disorders, the research will help inform more effective intervention strategies that address these challenges. For educators and therapists, the study provides evidence-based recommendations for designing individualized communication therapies that are tailored to the unique needs of individuals with autism. Additionally, the study contributes to the academic understanding of autism-related language disorders, helping to advance the field of psycholinguistics and improve the lives of individuals with autism by enhancing their communication abilities.

RESEARCH METHOD

The approach used in writing this journal article is a qualitative descriptive method, which is a research method that presents results based on data and scientific references. The data and scientific references obtained are then collected, analyzed, and studied to produce a conclusion. This conclusion is the basis for the discussion and results in this journal article. In this journal, data and references include various theories from a number of sources related to psycholinguistics and language disorders in individuals with autism.

RESULT AND DISCUSSION

Truth Psycholinguistics

Psycholinguistics is a branch of macrolinguistics that focuses on psychological aspects in the acquisition and use of human language. Research in the field of psycholinguistics studies several aspects, including comprehension

(comprehensive) — that is, the ability to capture and understand the meaning of what others express; language production — that is, the ability to convey speech as desired; as well as the biological and neurological foundations that allow humans to speak language. Psycholinguistics also studies language acquisition, which is how children acquire their first language. The forerunner of this discipline can be traced back to the early 20th century when the German psychologist, Wilhelm Wundt, stated that language can be explained based on psychological principles.

In practice, psycholinguistics is often faced with various language disorders that are related to mental conditions. Psycholinguistics plays a role in understanding the archetypes of language acquisition, in which a child acquires his or her first language, or known as mother tongue, through interaction with parents or family members. This first language is the main foundation in children's language skills (Amazeli, 2021). In the process of language acquisition, sometimes psychological or mental symptoms appear that affect a person's language ability, especially if there is a discrepancy with the stage of age and development. These symptoms can lead to the diagnosis of a language disorder or a specific mental condition, which is part of the psycholinguistic study.

Autism Definition and Symptoms

One of the language disorders associated with mental conditions is autism. The term was first introduced in 1943 by Leo Kanner, a psychiatrist at Harvard, who took it from a concept in schizophrenia by Bleuler, who described the tendency to live in "one's own world" without paying attention to the outside world. In general, autism is defined as a developmental disorder in children, especially in their ability to establish social relationships (Winarno, 2015). Children with autism often have a unique imagination and tend to perform repetitive movements or behaviors. This condition affects their nervous system in responding to stimuli from the environment. For example, when a child with autism hears a sound, they may not respond even though they are aware of it. Autism can be defined as a condition characterized by behaviors and thoughts that are very self-focused.

In addition, the symptoms of autism are seen when children are given simple instruction in daily activities. Shadock and Shadock in Ali (2017) stated that autism spectrum disorder (Autistic Spectrum Disorder) is also known as early autism in infants, childhood autism, or Kanner's autism, which is characterized by difficulties in mutual social interaction, delays in communication skills, and limited and repetitive patterns of interests and activities.

People with autism often do not respond reasonably to stimuli. Autism does not indicate low intelligence or low IQ; Some autistic individuals even have normal or above-average IQs. According to Winarno, the most obvious signs or symptoms of autism are usually seen before the child is 3 years old. Some of these signs include: 1) Not pointing at the age of 1 year; 2) Not babbling at about 1.5 years old; 3) Not pronouncing two words at the age of 2; 4) Sudden loss of language skills; 5) Never play pretend or react when called; 6) Not interested in the environment; 7) Repetitive body movements; 8) Focus only on specific objects; 9) Strong rejection of routine changes; 10) Excessive sensitivity to certain textures or odors.

Causes of Autism

Individuals with autism exhibit traits or symptoms that include impairments in communication, social interaction, behavior, emotions, and sensory. Autism is seen as an abnormality in social and mental development caused by impaired brain development, which may occur as a result of damage during the fetal development phase, the birth process, or in the first year of life. Although children with autism physically look like other children, they show differences in behavior, thinking, and emotional control, and often display repetitive and uncontrollable movements. In addition, they often experience speech barriers, which impacts their language skills and social interactions.

Until now, the cause of autism is not known for sure. The causes are thought to involve many factors or multifactorials, which can be divided generally into two main categories: genetic and environmental factors. Genetic factors involve the decline of the autism gene from parent to child. Meanwhile, environmental factors include exposure to toxic substances, nutrients, and other influences, including the potential effects of vaccination. Children with autism often exhibit anxiety and disturbances in cognitive and perceptual function, which hinder their ability to communicate and socialize. Some experts state that this is caused by a disorder in the brain center that regulates sensory reception and processing, especially related to language skills.

In addition, exposure to heavy metals such as mercury is also considered a trigger that can increase the risk of autism, which can lead to hyperactivity in children. Mercury is a toxic substance that has the potential to affect children's development. According to Subyantoro, several other factors that are suspected to cause autism include: 1) The presence of Thimerosal content in the vaccine as a preservative; 2) Lack of social interaction due to too much time in front of the television; 3) Exposure to radiation in the fetus; 4) The use of folic acid in pregnant women to prevent physical defects in the fetus.

Language Disorders in Autism

Individuals with autism generally have difficulty speaking as well as limitations in other language activities. According to Koswara in Rahmawati (2018), there are three main obstacles experienced by children with autism: 1) communication, 2) social interaction, and 3) behavior. Language acquisition in autistic children does not follow the same development as in children without autism. Children usually say their first word in the first few months, but autistic children often only start talking after a year or so. Disorders of the nervous system of autistic children can also cause obstacles in their communication and social interactions (Yani, 2017).

Some autistic children even remain silent until the age of five, or simply repeat the words of others without understanding. This shows that they experience significant obstacles in communication. In addition to obstacles, autistic children also tend to have deviations in language. Phonologically, they can have fairly clear articulation but often make mistakes in the pronunciation of objects. Their morphological abilities are often impaired, such as omitting or adding syllables, incorrect assimilation, or improper use of words. Their intonation is generally flat and has difficulty in emphasizing speech. Syntactically, they show slow progression and often repeat sentences without contextual relevance. In terms of semantics, they

have difficulty understanding the difference between simple sentences, such as "mom feeds me" and "I feed mommy". Autistic children with high IQs sometimes show a tendency to hyperlexia, which is the ability to read independently quickly and aloud, but without understanding the meaning. They generally read by relying on memorization skills, especially on things such as calendars or other details that are not very important to others.

According to Cossu and Marshall's research in Indah, a nine-year-old autistic child in Italy with a low IQ is able to read well but has difficulties in auditory comprehension and other cognitive skills. In class, he can read aloud better than his peers, but does not understand what he is reading. This shows that the reading ability in hyperlexic children is limited to the recognition of phonological codes without understanding the meaning.

Autistic children generally show barriers in language acquisition, as stated in Armisa's research that disorders in their brains lead to loss of communication and social interaction functions. Autistic children often seem to be in their own world, without caring about the environment around them. Ezmar and Ramli's research shows that children with autism often have difficulties in language; About 2/3 to 50% of autistic children do not develop language so they cannot communicate effectively. This research is in line with the opinion that language disorders are one of the main characteristics of autism, and about 40% of children with autism do not speak at all.

Tarigan in his research found that autistic children have difficulty learning language because they cannot understand and pronounce it correctly. Priyatna (2010) in Tarigan (2019) states that children with autism often repeat the words they hear, a behavior known as echolalia, and have difficulty understanding conversations.

Handling Language Disorders in Autism

Research shows that autism cannot be cured completely, but its symptoms can be reduced through a planned and disciplined approach and habituation in learning behavior. With this approach, autism symptoms can be controlled. Therapy for autistic children aims to reduce inappropriate behavior, improve learning ability, and help their age-appropriate development.

One of the main therapies that is effective in overcoming communication disorders in autistic children is communication therapy, which is the basis of various other therapies. The success of this communication therapy will facilitate the implementation of other additional therapies. According to Subyantoro, communication therapy does not have to make children speak, but rather to improve their ability to interact with others. Treatment of autism can also be supported by early intervention and the CFGF (Casein Free Gluten Free) diet, which is a casein and gluten-free diet that is beneficial in improving the psychological, neurological, and physiological conditions of children. Some of the language intervention approaches in autistic children include: 1) involving peers in communication activities; 2) adjusting to the child's development and learning style; 3) building meaningful communication that combines prelinguistic words, such as "what's your name?"; 4) practicing communication in a natural context so that children understand appropriate communication patterns in the environment; 5) involve related parties to support child development.

Some additional therapies that can help in the treatment of language and communication disorders include Auditory Integration Training (AIT). This therapy uses music to train the ear muscles to be more responsive and improve the brain's ability to filter incoming sounds, which can help children process auditory information better.

An appropriate approach is also needed in providing services for autistic children, for example with the Lovaas method or Applied Behavior Analysis (ABA). ABA is a science-based approach that uses behavioral principles to improve social skills in a measurable way. In this method, children are taught to behave in a disciplined manner with a curriculum that is modified from daily activities and carried out consistently. The ABA method focuses on providing positive reinforcement whenever the child responds correctly to instructions, giving appreciation to each child's success in achieving a skill.

Communication strategies that can be done with autistic children include using simple language, saying their names to attract attention, using body language to clarify intentions, speaking slowly and clearly, giving them time to process information, and avoiding speaking in crowded places so that they can focus on the conversation.

Psycholinguistics and Language Disorders in Autism

Psycholinguistics is a branch of science that studies the relationship between language, behavior, and the human mind. Every child has a unique language development, which usually begins to appear around the age of one, when they begin to say their first words. However, this is different in children with language disorders, such as those with autism. According to the Great Dictionary of Indonesian Language (KBBI) Third Edition, autism is defined as a developmental disorder in children that hinders the ability to communicate and express feelings and desires, which ultimately interferes with their social interactions.

Children with autism generally tend to be more reserved and often feel isolated even in the middle of a crowd. Although they may speak, the words spoken often do not have a clear meaning, similar to "igauan" or the repetition of words they have heard before (echolalia). This indicates difficulties in communicating that hinder their ability to interact socially. Their inability to respond appropriately, such as crying, getting angry, or repeatedly making movements, further exacerbates their social isolation.

Another problem that is often encountered is the repetition of sentences that sound like imitating or parroting the words of others, without creativity or variety in the use of language. They are limited to the repetition of sentences that have already been spoken by others, which can hinder the development of more complex languages. However, it is important for autistic children to continue to learn to recognize and master language, considering that language is an important means for social interaction. The process of language learning in autistic children begins with the introduction of the alphabet, followed by the union of vowels and consonants, to the introduction of words and punctuation marks.

To begin the process of language acquisition, it is important for autistic children to first make eye contact, which can attract their attention and make them more focused on interaction. Physical contact, such as touch, is also used to associate words with specific objects or situations, which helps to clarify the

meaning of the words. Repetition of words accompanied by physical touch is very effective in improving their understanding of words and their meanings. An autistic child is considered to begin to master language when they can communicate and write, although in the early stages, their speech or writing is limited to the key words used to respond to others.

The results of this study show that language disorders in individuals with autism can be studied through a psycholinguistic perspective to understand the limitations and communication patterns typical of this group. Research shows that limitations in the use of language in individuals with autism generally involve pragmatic, semantic, and impaired linguistic information processing.

1. **Pragmatic Disorders**

   Based on a study conducted by Volden, pragmatic disorder or the ability to use language in a social context is one of the main obstacles in individuals with autism. Individuals with autism often have difficulty understanding implicit meanings or social contexts in communication, such as humor, irony, or non-verbal social cues. This makes them often mistaken in responding or not understanding the intentions of other speakers, which negatively affects their social interactions.

2. **Semantic Difficulties**

   Norbury's research shows that many individuals with autism have limitations in understanding the meaning of words and concepts, known as semantic disorders. They tend to have difficulty in connecting words with appropriate concepts, as well as experiencing obstacles in choosing the right words in a certain context. This difficulty affects their ability to understand more complex messages or conversations, which involve layered meanings or connotations.

3. **Limitations in Language Processing**

   Tager-Flusberg and Joseph highlight that individuals with autism often experience difficulties in processing linguistic information, which is caused by constraints on working memory and attention abilities. The results showed that working memory limitations in individuals with autism had an impact on their ability to process long sentences or complex language structures. Eigsti and Bennetto found that this limited processing of information contributes to disturbances in composing meaningful sentences, complicating their ability to express ideas clearly.

4. **The Role of the Theory of Mind**

   Baron-Cohen et al. posited that many individuals with autism exhibit limitations in "theory of mind" or the ability to understand that others have different thoughts, feelings, and perspectives than their own. This limitation greatly affects their pragmatic ability, especially in empathizing and adapting their responses in conversation. For example, individuals with autism may not be aware when the interlocutor is bored or uncomfortable, which makes social interactions stiff or less responsive.

5. **Psycholinguistic Intervention**

   Psycholinguistic interventions showed positive results in improving language skills in individuals with autism. According to Tager-Flusberg, techniques such as structured speech therapy or the use of communication aids can help individuals with autism in developing language skills and social understanding.

With a focus on pragmatic exercises and semantic expressions, this therapy aims to improve understanding of social contexts, word choices, and the ability to interact more effectively.

This discussion shows that language disorders in individuals with autism are complex problems and involve many psycholinguistic aspects, including pragmatics, semantics, and information processing. Through appropriate interventions, such as speech therapy and social support, the communication skills of individuals with autism can be improved. This psycholinguistic approach offers a significant contribution in helping individuals with autism better understand and participate in social interactions.

CONCLUSION

Based on psycholinguistic studies of language disorders in autism, it can be concluded that children with autism experience significant difficulties in language development due to brain disorders that impact their ability to communicate and interact with their environment. Autism is recognized as a developmental disorder that leads to challenges in communication and emotional expression. Children with autism often struggle with repetitive speech or echolalia, mimicking words without fully understanding their meaning, and they face difficulties in constructing meaningful sentences. These limitations in language skills prevent natural language development, as seen in typically developing children. Despite these challenges, autistic children can still learn language through structured approaches such as recognizing the alphabet, words, and punctuation, and using eye contact and physical touch to help understand word meanings. Though their language skills may remain limited to key phrases used to respond to others, effective teaching methods can improve their communication abilities.

Overall, psycholinguistic studies suggest that while language disorders in autistic children may not be completely curable, appropriate therapeutic interventions can significantly improve their language skills and social interactions. Further research should explore more individualized language interventions that address the unique cognitive and developmental needs of autistic children. Additionally, studying the impact of early intervention programs, social communication therapies, and the integration of technology in language learning could provide valuable insights for enhancing communication skills and social adaptation in children with autism.

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