

## Receptive Skill and Prosodic Deficiency of Adult with Autism: A Psycholinguistics Analysis

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Received 14 August 2024 | Received in revised form 17 September 2024 | Accepted 14 October 2024

APA Citation:

Ihsan, L., & Indah, R. N. (2024). Receptive Skill and Prosodic Deficiency of Adult with Autism: A Psycholinguistics Analysis. *Journal of English Language Teaching and Linguistics*, 9(3), December 2024, 227-240. doi: <http://dx.doi.org/10.21462/jeltl.v9i3.1380>

### Abstract

*Autism spectrum disorder (ASD) which affects communication skills and social interaction, is often accompanied by language comprehension challenges an appropriate prosody use. This study analyses receptive skills and prosodic deficiencies in adults with autism through a psycholinguistic approach. The method used in this study is qualitative, which is used to gain a deeper understanding of the receptive language skills and prosodic deficiencies of adults with ASD. The data in the study are utterances produced by individuals with ASD from the podcast 'Special Book by Special Kids' on YouTube Channel. The data sources in this study were based on the characteristics of the individuals with ASD who were interviewed. The types of receptive language skills and prosody deficits were analyzed based on Peppé and McCann's (2003) theory. The results showed that adults with ASD experienced receptive skills such as limited communication function, minimal response, word repetition, and anomalous meaning. Meanwhile, there are types of prosodic deficits, such as chunking, affect, and interaction, experienced by adults with ASD. They often experienced limitations in their communication function and receptive skills when communicating, and has difficulty in understanding, producing, or recognizing the variations in intonation, rhythm, speed, and pitch that transmit meaning in language.*

**Keywords:** *Adult with autism, Receptive skill, Prosodic deficiency*

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## **1. Introduction**

In recent years, the increasing prevalence of Autism Spectrum Disorder (ASD) has increased interest in understanding the unique language characteristics and communication styles of individuals with autism disorder. ASD is a persistent neurodevelopmental condition marked by deficiencies in social and communication skills, along with the presence of repetitive and stereotypical behaviors, interests, and activities throughout one's life (Tampi & Tampi, 2021). An individual with ASD has a complicated neurological disorder that impacts many areas of their life, including their ability to communicate and use language.

Most people diagnosed with ASD experience atypical or exceptional language development in both expressive and receptive domains. However, language deficits are not the primary symptom of ASD (Kover et al., 2013). While abnormal prosody is a striking feature of ASD speech, previous reports have shown significant variability among people living with ASD (DePape et al., 2012). In addition, previous studies disagree on the level of impairment between expressive and receptive language in autism (Arutiunian et al., 2021). There is a wealth of research exploring language development and communication deficits in individuals with autism, but little research focuses on the language characteristics of adults with autism.

The signs of autism may become evident in early childhood, yet it is common for a formal diagnosis to occur later in life. People with autism frequently experience coexisting conditions, including epilepsy, depression, anxiety, attention deficit hyperactivity disorder, and challenging behaviors like sleep difficulties and self-harm. The level of intellectual functioning in individuals with autism varies significantly, ranging from severely impaired to higher levels of intelligence (World Health Organization, 2023).

Individuals with autism may have varied levels of communication skills. Seltzer et al. (2004) found that individuals with autism and ASD have the potential to improve their social and behavioral communication skills. Yet, data shows that only a small percentage of them reach an average level of social communication. Individuals with ASD frequently experience frustration within their social connections. Many have conveyed a wish to learn how to engage appropriately in social interactions, including navigating conversations, understanding behaviors deemed impolite, and identifying suitable topics for discussion (Hellemans et al., 2007; Jennes-Coussens et al., 2006).

This research looks at the character of adults with autism in the actual communication setting. In this case, language is essential in communication between people to share ideas or feelings. In this case, psycholinguistics is suitable for this analysis. Psycholinguistics is an interdisciplinary field between linguists and psychologists. The connection between language and mental processes in the human brain is evident, leading to the integration of linguistic studies with investigations exploring the interplay of the brain and language, commonly referred to as psycholinguistics. Psycholinguistics examines the correlation between the human brain and language (Rakhmanita, 2019).

In this case, psycholinguistics can help analyze and explore the receptive skills and prosodic deficiencies in the content of adults with autism podcasts featured on YouTube channels. Nowadays, YouTube, as a platform that provides a variety of leading videos, is a place or home for various content creators. It includes adult individuals with autism spectrum who use podcasts to express themselves and communicate.

Adults with ASD have varying receptive language skills. Receptive skills refer to the ability to understand and comprehend language. Some individuals may have strong receptive skills, while others may face challenges understanding and interpreting language. For adults with autism who have strong receptive skills, they may be able to understand spoken language at a level comparable to their peers.

They may be able to understand social cues, figurative language, and nuances in communication (Masduqi, 2016).

The prosody assessment is commonly conducted through subjective evaluations or judgments provided by individual assessors. One widely employed method for evaluating prosody is the Profiling Elements of Prosody for Speech and Communication (PEPS-C; Peppé & McCann, 2003). Peppé and McCann (2003) focus on expressive prosody, while receptive skills have received little attention. Research also shows that receptive and expressive prosody skills are related to one another for high-functioning autism.

In this study, the researcher identified receptive ability using Peppé & McCann's (2003) theory. Tager-Flushberg (2005) also explains that individuals with ASD show impairments in receptive language. Initially, the meaning of words is associated with a specific context. According to Rapin and Dunn (2003), the high-ability individual with ASD shows the distinction between receptive and expressive language decreases. Later, another study by Kjelgaard and Tager-Flushberg (2001) found that expressive skills on vocabulary tests are higher than receptive skills of ASD.

The present study uses the PEPS-C procedure theory by Peppé & McCann (2003) to examine prosody deficiency in adult ASD. Prosody deficiency is also identified by Wiklund (2023) as manifested by the uncommon feature such as sing-song pitch, disconnected rhythm, creaky voice and others that might result in the speech like non-native and difficult to understand. PEPS-C is a relatively applicable procedure for assessing prosody. Peppé and McCann (2003) explained that the Scottish variant includes information regarding tasks, guidelines, scoring methods, and task components in the appendix. It encompasses two task levels: one focusing on form processing, requiring non-cognitive abilities like auditory discrimination and replicating prosodic variation, and the other concentrating on communicative functions involving pragmatic, interactional, affective, and cognitive elements, including grammatical or linguistic aspects. Furthermore, tasks are classified into two communicative modes, receptive and expressive, based on the direction of communication (Peppé et al., 2007).

PEPS-C evaluates a wide range of prosodic aspects related to autism, as discussed in the literature (Peppé & McCann, 2003), through concurrent assessment tasks for reception and expression. The test samples prosodic functions categorized into four main areas: Turnend (determining if a response is needed for an utterance), Affect (expressing preference or hesitation, specifically regarding specific foods in this test), Chunking (identifying prosodic phrase boundaries), and Focus (highlighting a word in an utterance for contrastive accent).

Some relevant prosodic aspects, such as reception skills, are hardly discussed in the literature. Given the inconsistent quality of expressive language in autism, there is no cause for concern if caregivers pay attention to their expressions. However, it is essential to note that the cause of inconsistent expressive language may be a reduced ability to produce explicit language or misinterpreting it as valuable (Peppé et al., 2007).

Previous studies have focused on autism in children and adolescents (Arutiumian et al., 2021; Kjellmer et al., 2012). There is still a need for in-depth exploration of how patterns exist in adults with autism. So that we can explore receptive language and prosody deficiencies in the speech of adults with ASD, several aspects will impact our understanding of the phenomenon. First, the knowledge of individuals with autism will increase (Grow & LeBlanc, 2013) through the interviews with adults with ASD. In this regard, the research focuses on spoken language comprehension in interview videos with adults with ASD. Therefore, this research can fill this void of limited study by exploring how adults diagnosed with autism process language in the podcast format, which is becoming more popular. It opens up a broader understanding of the relationship between prosody and language comprehension (Peppé et al., 2007) in adults with autism. There is limited research that profoundly examines the relationship between

prosody (gist, rhythm, word stress) and receptive language skills (Peppé et al., 2007) in the adult population with autism. Therefore, this study can offer novelty by exploring whether prosody deficiencies contribute to difficulties in spoken language comprehension in adults with autism.

Adults with ASD exhibit diverse abilities and challenges that impact various aspects of daily life (Gotham et al., 2015). For some individuals, navigating social interactions can be challenging, as they may face difficulties understanding non-verbal cues, interpreting social nuances, and expressing emotions through prosody. Communication styles among adults with ASD can vary greatly, with some individuals having strong verbal and written communication skills while others may face challenges in expressing themselves effectively.

The YouTube channel “Special Books by Special Kids” is selected for this study. This channel has been running for six years and has over 3.45 million subscribers. Christopher Ulmer creates it. This platform commenced when Christopher Ulmer was an educator for students with diverse abilities. Initially conceived as a book authored by his students, SBSK evolved into a collection of video interviews featuring individuals of varying ages and diagnoses within the disabled community. Since his beginning, he has interviewed hundreds of people across the world. It is a unique aspect of the chosen research subject, as there is little research on receptive and prosocial skills in the context of adults with autism. In this podcast, there is a lot of discussion about things that adults with autism experience. Thus, this channel can attract relations to individuals with ASD (Bakombo et al., 2023). Another strength of this subject is that it can provide valuable insights on improving inclusive communication for individuals with autism. Thus, this research can be a foundation for developing more effective communication strategies.

The first assumption in this research is that from this YouTube channel, we can find out how individuals with autism have a level of prosodic deficiency in speaking or listening that can be observed or measured in the podcast. The following assumption is that adults with autism have different levels of receptive skills than the general population, so this assumption can underlie using podcasts as the primary form of communication. The final assumption is that there is a relationship between receptive skills and prosodic deficiency in adults with autism and that this psycholinguistic analysis can help explain that relationship.

By studying the linguistic aspects of podcast content produced by adults with autism, this research contributes to a deeper understanding of the communicative abilities and challenges this population faces in the digital age. Furthermore, this study aims to highlight the potential benefits of alternative communication platforms, such as podcasts, in encouraging self-expression and social inclusion for individuals with autism (Gernsbacher & Yergeau, 2019). As we navigate the intersection between autism, digital media, and psycholinguistics, this research offers insights that can inform interventions, support strategies, and broader societal understanding of autism and communication (Costescu et al., 2022).

The main objective of this study is to conduct a psycholinguistic analysis of the content of podcasts produced by adults with autism on YouTube channels. Specifically, this study sought to investigate the receptive skills of individuals with autism in understanding and processing linguistic information conveyed in podcasts. In addition, this study also explores the presence and nature of prosodic deficiencies, which include variations in intonation, rhythm, stress, and other prosodic features, in the speech of these content creators. Prosody plays an essential role in conveying emotion, nuance, and social context in spoken language, and its examination in the context of adults with autism can shed light on their communicative strengths and challenges (Peppe et al., 2011). Accordingly, the questions of this study cover: (1) What are the types of receptive and prosody skills found in the utterance of adults with ASD in a Podcast on the YouTube channel “Special Books by Special Kids”? And, (2) How do adults with ASD in a Podcast on the YouTube channel “Special Books by Special Kids” perform the receptive skill and prosody of the spoken language?

## 2. Literature Review

### 2.1. Psycholinguistics

Psycholinguistic research emphasizes the psychological processes of human language acquisition and impairment (Nurjanah, 2018). Psycholinguistics is a field that explores the relationship between the human mind and language. Levelt (1995) defines psycholinguistics as the study of the mental processes and skills that underlie the production and understanding of language. Psycholinguistic knowledge's structure is a linguistic subject, but it doesn't diminish psychology as a whole; instead, it emphasizes how language is processed (Prastiwi & Indah, 2020). Simultaneously, it addresses challenges in language production associated with reading, writing, and speaking (Harras & Bachari, 2009). Psycholinguistics is a multidisciplinary field with multiple sub-disciplines (Chaer, 2003). Among these is the subfield of psycholinguistic theory, which addresses theories on the mental processes associated with language acquisition. The advancement of psycholinguistics contributes to refining the learning process, explicitly augmenting understanding in semantics, phonology, and syntactic analysis. Additionally, social psycholinguistic theories within this domain provide insights into language use from a cultural standpoint.

### 2.2. Receptive Skills

Language disorders are classified into two categories, according to Gengster (2003): expressive and receptive language. DSM-IV also explains that expressive skills are characterized by language production skills below age-appropriate (Kamhi & Clark, n.d.). Furthermore, expressive language impairment can impact both spoken and written communication. This condition may be present in individuals with average intelligence or be part of a broader cognitive condition, such as mental retardation, including conditions like autism (Torres et al., 2020). In addition, receptive skills are passive, as they involve receiving and processing information rather than producing it. Proficiency in receptive skills relies on a combination of linguistic knowledge, vocabulary, and contextual understanding (Milton & Chowdhury, 1994). Practical receptive skills contribute significantly to language acquisition and communication, enabling individuals to understand and respond appropriately to various verbal and written expression forms. Receptive prosody skills in people with high-functioning autism (HFA) were studied by Peppé et al. (2007). The findings indicated that individuals with High-Functioning Autism (HFA) can develop receptive prosody skills, albeit at a slower pace than anticipated. Moreover, the study revealed a correlation between receptive and expressive skills. The PEPS-C test was employed to assess both receptive and expressive prosody. At the same time, the British Picture Vocabulary Scales II (BPVS II) measured receptive vocabulary and verbal mental age (Peppe et al., 2011). The study results indicate a significant connection between verbal ability and comprehension of prosody. Enhancing sensitivity to prosodic changes through specific exercises can effectively address receptive prosody and elucidate its role in communication functions. Children with Autism with receptive language disorder may have difficulty understanding language and following verbal directions. It aligns with the understanding that receptive language disorder involves impaired language comprehension (Hartley et al., 2019).

### 2.3. Prosodic Deficiency

Prosodic deficiency is an inability or difficulty understanding, producing, or recognizing language prosody. Prosody refers to the variants in intonation, rhythm, speed, and tone of voice used in spoken language to convey a particular meaning or expression. Individuals with ASD often show delays or lack of development in spoken language, failure to respond to communication, strange use of words, and abnormalities in prosody (Knutson & Stromswold, 2021). In the context of autism, for example, individuals on the autism spectrum often face challenges in understanding or picking up on prosodic nuances in everyday conversation (Grice et al., 2023). Peppé and McCann (2003) detail the general functions of prosody in speech across communication areas. Four have been identified, covering a sample of pragmatic, emotional, and linguistic domains. Within the general descriptions of the three regions,

Peppé and McCann (2003) include examples of specific functions used for testing in the PEPS-C. Peppé and McCann (2003) also give an indication of what the relative strengths and weaknesses in each area might imply about a person's communication skills.

#### 2.4. Adult with Autism

The study on adult autism was brought to the attention of Blanchard et al. (2021), who also noted that, particularly in pediatric populations, there has been an increase in awareness and more accurate diagnosis of ASD in recent decades. Autism is a neurobiological developmental disorder that affects an individual's social functioning, communication, and behavior. The disorder can occur at varying degrees of severity and covers a broad spectrum known as the autism spectrum. When we refer to an "adult with autism," we are referring to someone who may have been diagnosed with autism in childhood or may have been newly diagnosed as an adult (Zwaigenbaum et al., 2013). Adults with autism may face various challenges in daily life, depending on the severity of their condition (Gotham et al., 2015). Some common characteristics that may appear in adults with autism include difficulties in social interaction, difficulties in communication, limited interest or obsession with specific topics or activities, and intense sensory responses to the environment.

### 3. Research Methods

The study aims to identify the receptive skills and prosody in the podcast "Special Books by Special Kids". It analyzed data through interpreting and outlining issues related to receptive skills and prosody of adult with ASD from two interview videos. The detail methodology for conducting this study is as the following.

#### 3.1 Research Design

This research uses a descriptive qualitative method for analyzing data. This qualitative method interprets and outlines the data concerning the current issues. According to Creswell (2007), a qualitative researcher has additional options for data collection, including the ability to get data online and the standard practice of gathering data from many sources. This research employed descriptive qualitative methods to explore the relationship between receptive skill and prosody in the podcast "Special Books by Special Kids." This research can investigate the potential benefits of alternative communication platforms, such as podcasts, for individuals with autism.

#### 3.2 Data and Data Source

The data in this research are in the form of utterances produced by ASD individuals from the "Special Books by Special Kids" podcast on the YouTube channel. The researcher chooses interview videos as the object of this study to analyze the data according to their experience with ASD. The data source in this study is based on the individual characteristics of individuals with ASD, whom Christopher Ulmer interviewed on his YouTube channel. The videos are as follows:

1. An Autistic Man Who Will Always Need Support and His Loving Parents (Uploaded on 3 March 2023). <https://youtu.be/ND4qw6N89QY?si=MbZ0XQg5JrIEFCiQ>
2. My Friend With Autism (Uploaded on 7 February 2018). <https://youtu.be/UxD-mU4cz20?si=5VeeMC1GZlqmUfU6>

Both videos were chosen because among the videos released by the channel "Special Books by Special Kids," only those two performed adult ASD.

### 3.3 Data Collection

The researchers conducted several steps to collect the data. As the first step is watching the interview videos. After that, the next stage is identifying sentences containing prosody and demonstrate receptive skills. It is followed by matching the transcript results. And the last is displaying all the results.

### 3.4 Data Analysis

In this study, investigator triangulation was used to increase the validity of the findings. The first researcher evaluated the receptive abilities of adults with autism based on their participation in the podcast, then the second researcher analysed the prosodic features of their spoken language. The researcher then applied Peppé and McCann's (2003) theory to independently assess the receptive language abilities and prosody deficiencies of the subjects. Finally, the results were synthesised by the researchers collaboratively to draw comprehensive conclusions about the prosodic and receptive language challenges faced by adults with ASD.

## 4. Results

From the videos, the utterances showing the receptive skill and prosody cover 26 excerpts as data. Among them the deficiency of speech is shown in 35 occurrences as presented in Table 1.

**Table 1:** Types of deficiency

Area of deficiency	Types	Occurrence	Percentage
Receptive skill	Minimal response	5	14%
	Limited communicative function	14	40%
	Repetitive words	3	8%
	Anomalous meaning	7	20%
Prosody	Chunking	2	6%
	Affect	2	6%
	Interaction	2	6%

Among the above analysis, 10 were selected below representing the features speech of adult ASD produced by Darius and Dustin as summarized in Table 2.

**Table 2:** Summary of Analysis

No.	Utterances	Receptive Skill Types	Prosody Types
1.	Mommy: <i>Ok Darius, come sit with Mommy.</i>	Minimal response	Interaction
	Darius: Rice tomorrow, Rice Tomorrow		
	Mommy: <i>You wanna touch my hair?</i> He loves touching my hair so he's gonna touch it.		
	Chris: Did you say he loves touching your hand?		
	Mommy: Yes, hair (Darius touches his mommy's hair)		
2.	Darius: <i>Wait tobob, wait tobob.</i>	Limited communicative function	Interaction
	Mommy: Yes, rice tomorrow.		
	Chris: Does he say rice tomorrow?	Repetitive words	
	Mommy: Yes, rice tomorrow. Do you want to rice tomorrow, right?		
	Darius: <i>Wait tobob, wait tobob.</i>		
Mommy: He loves rice tomorrow.	Affect		

	Chris: Are you excited about rice tomorrow, Darius? Mommy: Are you excited, you want rice? Darius: <i>Ahhahahhha</i> (laughing)		
	Darius hums continuously. Mommy: You see like now he's stimming. He's in his own zone. Mommy: Hey what are you thinking about?		
3.	Mommy: <i>Hey what's up?</i> Darius silence Darius and Chris stim together Chris: I'm trying match your pitch	Minimal response	Interaction
	Chris: <i>Can I ask your question, Darius? What's your favorite movie?</i> (Darius silence)	Minimal response	
4.	Mommy: What's your favorite movie? Mommy: <i>My favorite movie is ...</i> (Mommy trying to guide Darius) Darius: <i>Go, go, go</i>	Limited communicative function	Affect
5.	Chris: What's it like to be Dustin's dad? (asking Dad) Dustin: <i>Because, because, because I'm lovable</i>	Limited comm. function	--
6.	Dustin: <i>I like the airplanes, I like the airplanes</i> Dad: What airplanes? Dustin: <i>I'm scared</i> Dad: you're scared to fly, yeah	Limited communicative function	Chunking
7.	Chris: Do you like when people ignore you or answer your question? Dustin: <i>Question</i>	Repetitive words	--
8.	Dustin: Chris, show me which tree could fall on me, Chris: Say that again? Dustin: <i>Sss sss show me which tree outside could fall on me.</i>	Limited communicative function	--
9.	Chris: What do you want the world to know about Dustin? (asking Dad) Dustin: <i>Oh Jesus. Chris, do you love me?</i>	Anomalous meaning	--
10.	Chris: What's your favorite thing about dinosaurs? Dustin: <i>Because they eat people.</i>	Anomalous meaning	--

## 5. Discussion

This section presents a discussion of how Darius and Dustin, as adults with ASD, perform receptive skills when communicating and the prosody deficiencies that arise from their speech. The discussion also answers the problems in the research in chapter one. First, the discussion explains how Darius and Dustin perform receptive language skills in interview activities. Second, it describes how Darius and Dustin exhibit prosodic deficiencies while communicating with the interviewer on YouTube.

### 5.1 Receptive Language Skill

Darius and Dustin as adult with ASD performed the utterances showing the deficits in receptive language manifest as difficulties in understanding age-appropriate language, which impacts understanding instructions, words, and sentences. Adults with ASD often display challenges of receptive skills that rely on linguistic knowledge, vocabulary, and contextual understanding (Sturrock et al., 2020). However, the finding of this study shows that in the utterances of adults with ASD contained several types of receptive skills including minimal response, limitation of the communication function, word repetition, and anomalous meaning.

The most common type found in both Darius and Dustin's utterance is the limitation of the communication function. This is where in the podcast the conversation showed the communication function related to request and reject a message, but they cannot digest or convey it properly. Often, those with autism have difficulty with verbal communication, including their limited vocabulary, as well as difficulty constructing complex sentences. This is the same as Torres et al. (2020) explained that people with average intelligence and part of a broader cognitive condition, such as individuals with autism, can experience impairments in verbal communication. Therefore, they can mention that the limitation of the function can be categorized as a type of receptive skill because it refers to receiving and understanding information conveyed by others. In addition, Hartley et al. (2019) said that receptive language disorders can involve impaired language comprehension. It is essential to recognize that these communication limitations can significantly affect the social interactions and overall quality of life of individuals with autism. Adults with ASD struggle to engage in social exchanges or express their emotional needs effectively.

The next type of receptive language ability found is the minimal response type. This type generally refers to adults with little spoken language such as Darius and Dustin who can use it spontaneously when communicating. This phenomenon includes adults with ASD who have a minimal vocabulary, possibly only a few fixed words or phrases used communicatively. Adults with ASD exhibit diverse abilities and challenges that affect various aspects of daily life, such as work, social relationships, and independence. The concept of minimal response is relevant to the thinking of Gotham et al. (2015), who refers to limited or slow reactions to social or environmental stimuli. As shown in their YouTube channel, both Darius and Dustin often demonstrated minimal response in interactions, which can be due to difficulties in understanding and interpreting social cues. This can significantly impact their ability to build and maintain interpersonal relationships and affect their performance, which often requires quick responses and active interaction.

Another type found in the data of this study is repetition word. This type shows repetitive behavior in the use of words or phrases. This occurs in the utterances of Darius and Dustin who show spontaneous speech but tend to mimic the speech or song heard from other people or interlocutors. This phenomenon often occurs because adults with ASD have an excellent memory as well as to convey messages that are in their minds. This concept was emphasized by Hartley et al. (2019), which is in line with the understanding that receptive language disorders involve impaired language comprehension, where individuals have difficulty processing the verbal information they receive. However, in the context of word repetition in individuals with autism, it can be one of the ways they try to process complex language information. In some scenes of the video, it demonstrates that the receptive language impairment and word repetition are often linked, as both reflect individuals' challenges in processing language and communicating effectively.

The receptive language skills of adults with ASD found in this study also contained a type of anomalous meaning. This type of language was found in the data analysis to arise when using unusual language. It refers to the difficulties experienced by Darius and Dustin in understanding the meaning of words or phrases contextually and appropriately. Individuals with ASD often find it challenging to interpret spoken language, which can lead to misunderstandings or interpretations that do not match the speaker's intent. Such challenges are related to the findings of Peppé et al. (2007), who explained that inconsistent expressive language in individuals with autism is often rooted in their difficulties in producing explicit language or in misinterpreting verbal communication. In addition, they have difficulty assessing the meaning and relevance of the messages they receive or deliver, resulting in inconsistent communication, often misunderstood by others as incompetence or inattention.

The inability to accurately interpret meaning can lead both Darius and Dustin to miscommunication and misunderstanding, further exacerbating their expressive language challenges. In other words,

challenges in receptive language, where adult with autism may face difficulties in understanding the nuances and context of language, contribute to inconsistent language expression. Therefore, understanding this receptive and expressive language is crucial to developing more effective communication strategies for individuals with ASD. Individuals with autism have varying degrees, including expressive and receptive abilities. Seltzer et al. (2004) found that individuals with ASD have the potential to improve their social and behavioral communication skills. Individuals with autism have the potential for improvement, yet they still face significant challenges, especially in receptive skills. Receptive skills, or the ability to understand and process information received, often lag behind expressive skills.

Receptive language skills, which involve understanding and processing received verbal information, often show the limitations that occur in the above points. As seen with Darius and Dustin, two individuals with ASD, this phenomenon is not just limited to them. Still, it is an example that reflects the common challenges faced by many individuals, from young children to adults with ASD. All these points show that challenges in receptive language skills are a complex and widespread problem among individuals with ASD, which requires a focused and multifaceted approach to intervention and support. The observed receptive language deficits, such as limitation of communication function, minimal response, repetition of words, and anomalous meaning, support the findings of Kjelgaard and Tager-Flushberg (2001) and Peppé et al. (2007), who noted similar patterns in children with ASD. However, our understanding of adults emphasizes that such deficits persist into adulthood, affecting their social and communicative abilities.

## 5.2 Prosody Deficiency

Referring to Peppé and McCann's (2003) theory, the finding showed that both Darius and Dustin the prosody deficiency that includes four types: interaction, affect, chunking, and focus. The type of prosody that often appears in the data is chunking. Chunking is speech processing that refers to the prosodic grouping of words to define boundaries in speech that align with linguistic and syntactic divisions. The lack of prosody in this study shows that it occurs in the subjects who experience confusion in processing long utterances, interrupting the interlocutor, or not answering when the interlocutor is answering.

When prosody is poorly structured, as seen with Darius and Dustin, who have difficulty processing long utterances and a tendency to interrupt or fail to provide appropriate responses, this indicates a barrier to standard language processing. These barriers have implications for difficulties in understanding and producing coherent sentences, thus affecting communication effectiveness. Knutsen and Stromswold (2021) assert that adults with ASD often show delays or deficits in spoken language development, as well as failure to respond to communication in expected ways. They may also use unusual words and show abnormalities in prosody. This is consistent with the findings of this study, where the lack of proper prosody results in difficulties in speech processing and social interaction. The combination of these limitations reinforces the importance of prosody in language and communication development, especially in individuals with ASD, who require specialized approaches to help them develop more effective communication skills.

The next type found in the data is affect. The concept of affect in communication, specifically through intonation, plays an essential role in conveying moods, emotions, and attitudes. This is particularly important for individuals with speech impairment, as intonation allows them to express their feelings with minimal verbal input. In the PEPS-C framework, input deficits in affect are seen in individuals with ASD who cannot interpret feelings from intonation alone. Meanwhile, the output weakness in affect is that not much can be assumed about their feelings from their tone of voice alone. Research conducted by Peppé et al. (2007) highlighted that the studies on the relationship between prosody, including gist, rhythm, and word stress, and receptive prosody in adults with ASD are limited.

Prosody, which includes the element of affect, is very important in communication, as it provides emotional context and attitude to help understand the message being conveyed. When individuals with autism have difficulty capturing prosody, they face challenges in interpreting more subtle nuances of language, such as sarcasm or empathy. This suggests that their receptive prosody skills can be hampered by deficits in word comprehension and an inability to understand intonation and its accompanying rhythms.

The following emerging type is interaction. Intonation plays an essential role in conversation, especially at the end of a turn, to indicate the type of response required, which is a crucial pragmatic skill to acquire by adults with ASD. In the PEPS-C version, the strength of input suggests the ability to understand the type of response needed without clues from syntax or vocabulary. This pragmatic skill in intonation becomes increasingly important in understanding and organizing conversations, especially in contexts where syntax and vocabulary do not provide sufficient clues such as those performed in the speech of Darius and Dustin. The finding of this study is relevant to Wehrle et al. (2020), where adults with ASD in the context of German language showed the intonation style that is more likely to singsong intonation compared to common German-speaking adults. Some groups observed also show less monotonous intonation style which is more pronounced for male than for female speakers (Wehrle et al., 2020).

However, for individuals with ASD, as described by Grice et al. (2023), this challenge in capturing prosodic nuances can be a significant barrier to social interaction. They may struggle to understand the intonation that signals the type of response expected or even fail to use it consistently in their speech turns. As a result, as shown in this study, the failure to capture the meaning of intonation also impact to the difficulty to produce proper intonation. This can lead to misunderstandings or discomfort in conversations, as their responses may not be what the other person expects. In the context of PEPS-C, it is essential to develop strategies that help individuals with ASD improve their pragmatic skills, especially in understanding and using intonation effectively.

The presence of prosodic deficiencies, including issues with chunking, affect, and interaction, corroborates Peppé and McCann's (2003) theory highlighting that the individuals with ASD struggle with the pragmatic use of prosody to convey meaning. Unlike previous research primarily focused on children, this study provides evidence that these challenges are also prominent in adults, potentially impacting their ability to navigate complex social interactions. Therefore, the finding of this study supported the argument of Perkins and Azios (2024) that the emerging impairment in pragmatics occurs due to several factors such language and cognition that may result in pragmatic disability.

The weakness of this research is that it utilizes YouTube as the primary data source. While YouTube offers comprehensive access to a variety of content, there is a significant drawback: content on YouTube is often subjected to an editing process. This editing procedure can alter or enhance the reality displayed, thus reducing the authenticity of the information obtained. As a result, it cannot ensure that the receptive language skill and prosody deficiency observed through YouTube videos truly reflect real situations. Not only that, the content on YouTube also has a short duration. Therefore, these limitations pose a challenge to the validity and reliability of the research results, as there is a high possibility that the edited videos do not accurately portray everyday life. Therefore, future research should consider using more authentic and not edited data. In addition, this weakness shows that the use of YouTube as a research tool carries the risk of bias, as the content selected and edited can influence the viewer's perception. In addition, factors such as setting, subject selection, and editing techniques can make the observed results unrepresentative of the actual population.

The following limitation is that this study only took two male subjects, Darius and Dustin, whose ages are categorized as adults. This selection of subjects limited the study's conclusions, as it could not identify whether there were similar or distinctive receptive types for the female adolescent age group. This

impacts the generalizability of the research findings, which should include a wide range of variations to make the results more comprehensive. In scientific research, it is essential to have a diverse sample to ensure that the results can be applied more broadly and not limited to a particular group. Research related to biological or psychological aspects may be affected by variations in the age and gender of the subjects such as mentioned by Wehrle et al. (2020), with differences between men and women, as well as between adults and adolescents. Thus, this study must be repeated with a diverse sample to obtain more valid and representative conclusions.

The third limitation of this study is the limited number of interlocutors, which only consist of the father, mother, and Chris as the host. This resulted in one type of prosody that experienced a lack of data, namely the type of focus on prosody deficiency. If this study involved more interlocutors, researchers could likely collect complete and comprehensive data according to the various types of prosody. The limited number of interlocutors significantly affected the study results due to individual variations. By having more interlocutors, the research will be more representative and able to reflect a wider variety of prosody, making the conclusions more substantial and reliable.

## **6. Conclusion**

This study provides receptive language and prosody deficiency types that occur in adults with autism. The researcher took four types: limitation of the communication function, minimal response, word repetition, and anomalous meaning. As for the prosody deficiency axis, the researcher divided four types in the PEPS-C work system developed by Peppé and McCann (2003), which include chunking, affect, interaction, and focus. The results also proved that no prosody deficiency was found in the focus type.

People with ASD often struggle to understand age-appropriate language, which affects their understanding of words, sentences, and directions. This is due to their deficiency in receptive language skills. This can seriously hinder social interaction and the acquisition of appropriate language. Adults with ASD often struggle with receptive language skills, so it is frequently known from the limitation of the communication function, minimal response, word repetition, and anomalous meaning. Deficits in these areas result in poor verbal comprehension, small vocabulary, repetitive actions, and incorrect interpretation of meaning and context. These issues are demonstrated by Darius and Dustin's discussion analysis, which emphasizes focused therapy to improve receptive language and general communication skills in people with ASD.

Prosodic deficiency has a considerable impact on people with ASD. It is defined as difficulty in understanding, producing, or recognizing the variations in intonation, rhythm, speed, and pitch that transmit meaning in language. These problems appear in erratic speech patterns, inappropriate language use, and delayed language development, making communicating and interacting socially tricky. People with ASD, as characterized by Darius and Dustin in this study, may have difficulty understanding long utterances and respond inappropriately in conversations. They have difficulty understanding and expressing emotional nuances and struggle with affect.

Therefore, the improvement of receptive language skills and prosody training in individuals with ASD still require special attention. The aim is to support more effective communication and better social integration for individuals with ASD. These findings reinforce the need for a multidisciplinary approach to autism treatment that considers various aspects of communication.

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