# The Role of Echolalia in Language Acquisition and Communication Among Children with Autism Spectrum Disorder

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**Dedication**

*You are the sun, instrumental, and valuable*

*This paper is devoted to Drs. Rissman and Bosworth, his*

*speech-language pathologist,*

*and, above all, his mother.*

*¡Te quiero mucho, mamá!*

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## Table of Contents

**Abstract**

This paper discusses the topic of echolalia. There are differing perspectives in the field on whether echolalia behavior should be encouraged or discouraged in children with autism spectrum disorder. According to previous literature, echolalia is defined as the repetition of another person's speech. This repetition could present as either immediate, at the time of conversation, or delayed, sometimes after the conversation has ended. Several studies have shown that echolalia has been beneficial for promoting language acquisition in children with autism spectrum disorder. Because we need to better understand echolalia and its function, this paper reviews areas to further understand the children's vocabulary awareness and production, and types of echolalia, immediate or delayed. This paper proposes a study to examine whether children with autism spectrum disorder who display immediate versus delayed echolalia differ in receptive and productive vocabulary. Using a group comparison test, the study will determine whether the type of echolalia predicts both Peabody Picture Vocabulary Test scores and the number of words produced during a lab session. The goal is to clarify the role of different types of echolalia in language acquisition/development among children with autism spectrum disorder.

# Background and Review of the Related Works

## Introduction To The Review

In research studies on how children with Autism Spectrum Disorder (ASD) communicate, echolalia is a vital topic. Cohn and McVilly et al. (2023b) explained that echolalia is a repetition of one's own speech that one hears from another person. For example, one person may say, "Clean your room." The child may respond as "Room clean." Researchers debate the role of echolalia in language development. On one hand, interventionists argue that echolalia is a behavior that should be removed (Prizant & Duchan, 1981). Another view holds that echolalia is not something to be cured, as it supports the child's language acquisition (Cohn & Harrison, 2025). This paper examines the impact of echolalia on language development and communication in children with Autism Spectrum Disorder. Specifically, the author proposes a study to examine the effects of echolalia on vocabulary development among children with Autism Spectrum Disorder, testing whether the echolalia is immediate or delayed. Answers to this question can provide insight into the larger debate about whether echolalia is a language process that is natural and beneficial to children with ASD or should be extinguished.

## Prevalence and Developmental Patterns

Echolalia has been shown in all severity levels of autism spectrum disorders, including mild, moderate, severe, and non-verbal. Males and females show no significant difference in the prevalence of echolalia (McAllister, McFayden, and Harrop, 2024). Several studies helped us to understand the occurrence and developmental patterns of echolalia in both autistic and non-autistic children. One such study, by Fusaroli et al. (2023), quantified the repetitions made by children in their parents' speech during naturalistic playtime observations. They showed that exact repetitions were actually quite rare in both children with ASD and typically-developing

(TD) children. However, when looking at *partial* repetitions (for example, saying "juice" after hearing "do you want juice?"), They found that TD children actually showed higher echolalia rates than did children with ASD, and echolalia increased over time. Partial repetitions occurred in 24% of utterances during the first visit at age 3 years, and the frequency increased to 33% for those with autism and 40% for typically developing children approximately 2 years later (Fusaroli et al., 2023). In summary of these findings, research has found that partial repetition is very common in the early language development in children with both autism spectrum disorder and those without ASD. The implication of this is that echolalia may not be a sign of abnormality.

**Functional Roles and Types of Echolalia**

In a study by McAllister, McFayden, and Harrop in 2024, 90% of the autistic children's parents expressed that their children showed echolalia at some point in their lives, with 85% showing echolalia at the time they were tested. In this study, researchers categorized echolalia into four main types: immediate, delayed, functional, and non-functional. For this study, the writer will focus on the first two categories, immediate and delayed. McAllister et al. (2024) defined immediate echolalia as the repetition of speech immediately after hearing a person's utterances and is often observed in individuals with autism during interactions. Delayed echolalia refers to the repetition of speech that occurs after a time delay, such as within the same conversational turn or even days or weeks later. The exact timing varies across studies. Delayed echolalia is often associated with cognitive, communicative, and self-regulatory roles and is considered part of the autism diagnostic criteria.

The Maes, La Valle, and Flusberg (2024) showed that echolalia is more common in minimally verbal autistic children than in those who are verbally fluent. The authors suggest that,

for those who are minimally verbal, non-generative speech is frequent in their primary language. Verbally fluent autistic children produce very little echolalia, and it is spontaneous and self-generated. However, almost all participants in the study made some non-generative speech, and echolalia was the most frequent type. It is possible that the patterns observed in their research indicate that echolalia is a viable communication strategy, particularly for minimally verbal children with autism.

**Intervention and Developmental Support in Echolalia**

In an article by Gernsbacher, Morson, and Grace (2016), the authors summarize the history of autism and its treatment goals dating back to 1980. Traditionally, in the field of autism treatment, the goal was to reduce or eliminate behaviors in those who are autistic and are not considered "normal"., For example, in some cases, interventions served to punish autistic individuals for having echolalia using physical restraints and electric shocks. The idea was to make them act "normal" via punishment. In current times, there is increasing recognition that past treatments were unethical and inhumane (Gernsbacher et al, 2016). I argue that there is a current shift away from punitive treatment methods toward focusing on supporting language and communication through echolalia.

More recently, a study by Blackburn, Tueres, Sandanayake, Roberts, and Sutherland (2023) reviewed 15 studies, highlighting this shift toward focusing on supporting language and communication through echolalia. Eleven of the 15 studies showed a reduction in echolalia among 44 participants with language interventions, including one protocol called the "Cues-Pause-Point Protocol," in which participants are trained to remain silent before responding. This approach is one of a more humane form of intervention, but still sees echolalia as atypical.

On the other hand, some researchers have stated that echolalia is part of ASD language development. For example, in a 2022 article, Boksa and Kominek stated that echolalia is theoretically helpful for children aged 2-4 in developing new words during the early stages of language development, underscoring the importance of building communication skills. In their study, they found that children's language is influenced by word repetition and by hearing their parents' phrases, which is a norm for infant development, according to Piaget (1992) and Fay & Butler (1971). Prizant and Duchan (1981) and Stribling, Rae, and Dickerson (2007) both argued that echolalia provides evidence of purposeful communication, helping children feel more positive about communicating with other children with autism spectrum disorder.

In the Marom, Gilboa, and Bodner (2023) and Stiegler (2015) article, it is found that individuals with autism experience echolalia later into late childhood and early adulthood. It is also associated with cognitive processing, communication, and self-regulation. The appearance of echolalia in children with autism suggests they can focus on speech itself, which is a positive sign for the acquisition of communication competencies (Siegel, 2012). In this scenario, infants become sensitive to speech sounds; however, children have difficulty filtering out environmental background noise. Therefore, an autistic person can still speak, which is a positive sign of language acquisition. While some instances of echolalia may seem to have no apparent function, Prizant (1978) described the various functional roles that echolalia can serve, including turn-taking maintenance during social interactions, pointing out or labeling objects, rehearsal, self-regulation, and communicating responses (Prizant, 1978).

Finally, Cohn, Harrison, and Mcvilly (2023) propose that echolalia may be a way that people with ASD use to notify their communication partner that their repetition was intentional and that echolalia reduces distress. They say, however, that further work to confirm this is

required. In agreement with Cohn, Harrison, and Mcvilly in 2023, I hypothesize if autistic children who display echolalia show visible signs of distress (e.g., crying, agitation) when their repeated phrases are interrupted or dismissed, that is the evidence suggesting that echolalia serves them a beneficial purpose, especially during situations where they are attempting to communicate a need or request that is not understood by their communication partner (as reported by parents or observed in home/lab sessions). As such, if immediate echolalia relieves distress, then it is possible that individuals who express themselves with immediate echolalia will also have language gains.

The goal of the proposed methods is to test this hypothesis, that immediate echolalia may benefit children's vocabulary acquisition more than children who demonstrate no delayed echolalia. The present study addresses the question: Do vocabulary measures differ for autistic children with immediate versus delayed echolalia versus no echolalia? The following section describes the methodology.

## Methodology

*Participants*

At least 50 children aged 4 to 8 years who have a diagnosis of Autism Spectrum Disorder, as confirmed via parental report, will be recruited for this study. Children who have typical hearing levels will be considered eligible for the study. Exclusion criteria include children who are deaf, those who do not use American English as their primary language, and those with co-occurring language disorders. Individuals with co-occurring language disorders (pragmatic, receptive, or expressive) are also excluded. The researcher will recruit children through word of mouth and by placing flyers at local school districts, doctors' offices, and psychologists' offices.

*Design and Materials*

Materials used in this study include the PPVT book and an assortment of toys used to facilitate parent-child interaction. This study uses a between-subjects cohort design.

*Procedure*

The researcher will invite the parent and child into the laboratory to complete two tasks: one to assess the child's receptive vocabulary, and the second to observe the interaction between the parent and child for half an hour while counting the words the child produces. The laboratory environment will be set to minimize distractions, and age-appropriate toys will be provided. The principal experimenter will stand behind a one-way glass to observe the child's behavior and video-record the interaction, assuming consent is approved. The child will be given the Peabody Picture Vocabulary Test and randomly assigned to either version A or version B.

During this interaction, we examine two types of echolalia, immediate and delayed, in the child's utterances. Immediate echolalia is defined as the repetition of speech within a few seconds of hearing another person's voice or within one or two conversational turns. Delayed echolalia, on the other hand, is defined as the repetition of speech occurring three or more conversational turns later. These turn-taking definitions will be followed during the meeting times with the child and their parents at the lab, and tracking will end when the meeting is adjourned. When parents arrive, we also ask them to complete a survey, assessing their child's behavior, including the types of echolalia the child demonstrates at home, in the last 3 months.

Finally, at the end of the visit, the child's receptive vocabulary knowledge will be assessed using the Peabody Picture Vocabulary Test. Later, children in the videos will be coded for the type of echolalia and the number of words in their utterances.

The child's score on the Peabody Picture Vocabulary Test is the first dependent variable, as a measure of their language acquisition. The second dependent variable is the number of words that the child says during the researcher's study session. It is well accepted that children who produce more words have more advanced language development. The independent variable is the type of echolalia: immediate or delayed, or none demonstrated.

*Statistical Analysis Plan*

In this section, the author will provide descriptive statistics, including the PPVT test results and the number of words the child said during the study session, including the mean, standard deviation, median, mode, and interquartile range, as well as the minimum and maximum values, and the 95% confidence interval.

Next, we conduct one-way analysis of variance to see if the three groups (immediate, delayed, and none) differ in their vocabulary scores. Then, we test whether children with

immediate echolalia vs delayed echolalia have different vocabulary scores using an independent-samples t-test. Critical alpha is set to 0.05.

## Conclusion

The results from this study have the potential to uncover how children with ASD learn language in ways that may benefit them. This could impact how language is taught and may change language interventions for individuals with ASD. Potential challenges of this study include recruitment, as the population is tiny and rare. Even a sample of 50 children is small, but it will be difficult to recruit 50 children with ASD and match them on age. Another challenge could be reactivity to a new experimental setting and to a new stranger, but ideally, the lab is designed to be child-friendly, and they will have a warm-up time to put them at ease. Limitations of this study include a short sampling time. Ideally, one could monitor utterances over longer periods of time for more accurate results.

## Instructor Feedback Summary

**From Instructor:**

As the author writes this with happy tears, he reflects on how instrumental his instructor has been since the beginning of the semester. In particular, she left extensive comments on his proposed hypothesis regarding echolalia in children with autism spectrum disorder (ASD). She and the author met frequently in her office, where they discussed the importance of synthesizing the literature, explaining the "why," "how," and "what," and engaging in critical thinking when summarizing one study after another.

The next most important component was the methodology, which was especially challenging, but the author ultimately succeeded. The course tutor, Dr. Rain Bosworth, helped him decide how to approach his proposed methods. Rain and the author met in her office for almost two hours, working to clarify exactly what he was trying to propose. Rain also explained and re-clarified his methods, recommending the use of a one-way analysis of variance because it is not always possible to know whether a child will demonstrate echolalia. Through thoughtful revisions with Rain and extensive conversations with the instructor, the author has been pushed to become a better writer and researcher and is deeply grateful for this support. The author is devoted to continuing this growth.

From a Peer:

The author is also sincerely grateful to his class peer, Mariam, for her constructive criticism on the review. He was very emotional when he read her feedback. Mariam reviewed the author's paper when the second draft of the review was completed and remarked that his research and writing were clearly presented and thoughtfully organized. She suggested that he propose a methodology, which is now included in the section above in this paper. At this final stage of the

review, the author hopes that Mariam has enjoyed reading the revised version and can see how her feedback helped shape the work.

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