



Adverb Use in Iraqi Autistic Children: A Case Study

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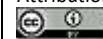
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Abstract

This study is concerned with the Iraqi autistic patients' conceptualization of adverbs of time and place at the levels of production and recognition. To measure the mental ability of a particular category of autistic patients in terms of adverb use, a group of seven to ten years of age, in the school of Hama'im Al-Salam for Language Impaired Children have been variously tested; using spontaneous oral tests by their own teachers. A number of twenty-five patient-students are selected to be representative enough. After collecting the data and conducting a qualitative and quantitative analysis, the study has come up with certain conclusions. Chief among them is that Iraqi autistic patients fail, most of the time, to recognize time adverb more than place adverbs using the silence as a strategy to show their failure in recognition and production of adverbs. Furthermore, certain paralinguistic cues are employed as the rolling of the eyes, nodding the head and smiling.

Keywords: Autism; Conceptualization; Adverbs; Language Impairment; Mental ability.

1. Introduction

Autism Spectrum Disorders (ASD) is defined as a kind of a group of sever neuropsychiatric conditions which are characterized by impairment in the reciprocal social interaction and in communication (APA: 2000, 34). This phenomenon influences the correct use of language in terms of the schematic structure that needs to access the lexicon and process various linguistics structures (ibid). There different forms of this impairment, each of which has different ranges. Its patients can be of little or no communication to fully fluent members having correct grammatical sentences. However, there is no clear division of labor to attribute a particular patient to a particular degree of ASD. It is very hard for some patients to judge as autistic in that they have the least impaired linguistic structures (Kanner, 1943). Accordingly, it is asserted that there is a group who can produce fully correct sentences, a group who can produce ill-grammatical sentences and a group who cannot produce well-formed grammatical sentences. Inspired by patients with ill-formed structures, this research concerns itself with adverbs and tries to address the extent to which those patients in general can produce correct sentences, especially the adverbs. Moreover, adverbs require a great deal of effort to be mastered, and even the most advanced users of that language have difficulty in using them correctly (Leedham and Cai, 2013; Lei, 2012; Narita and Sugiura, 2006; Peacock, 2010). There are certain restrictions on adverb use such as the order and the tense. This may lead to certain mental processes which might be affected by the impairment of the ASD patients.

Furthermore, within the set of children who do acquire language, pragmatic skills have been found to be consistently poor whereas grammatical abilities can vary widely, even in high-functioning individuals with autism. Some children present with grammar in the average range (Kjelgaard and Tager-Flusberg, 2001; Tek *et al.*, 2014), while others have clear difficulties with grammar (Durreleman and Delage, 2016; Eigsti *et al.*, 2007; Modyanova *et al.*, 2017; Roberts *et al.*, 2004; Tek *et al.*, 2014). Several researchers have even suggested that a subset of children with ASD meet criteria for a co-morbid specific language impairment (SLI), as they appear to have primary difficulties with grammar despite normal cognitive abilities. However, this proposition has continued to be controversial e.g., (Riches *et al.*, 2010; Tuller *et al.*, 2017; Williams *et al.*, 2008), and requires extensive language testing from both populations to be established. The goal of this paper focuses instead on fleshing out the language heterogeneity within the ASD population; in particular, discovering the extent to which the ASD patient are able to use adverbs alone as it is part of the grammatical sentence.

This research investigates the adverbs use in Iraqi Autistic children of 7-10 years old who are supposed to produce fully correct adverbs as shown by normal children. The current study addresses the following questions:

1. Do ASD Children express adverbs the same way normal children do?
2. To what extent do ASD children express adverbs order in their sentence?
3. What are the means used by them to overcome a shortcoming, if any?

The core objective of the research is to measure the mental ability of a particular category of ASD patients in terms of processing the grammatical structure represented by adverbs. Another objective is to find out the alternative strategies used to convey adverbs. After visiting school of ASD patients, it is hypothesized that there are some patients who have discrepancy between what they have in mind and the adverbs that they should use. Taking adverbs alone is hoped to be helpful as ASD patients have been examined with the grammaticality of the sentences in general without paying attention in which item they find difficulty.

The research presents a theoretical overview about the adverbs of the Iraqi language. Then, the data are collected from a specializing person in teaching ASD children and measuring it with a control group of normal children at another school. The study is limited to Iraqi children of the age 7-10 years in the School of Hama'im Al-Salam for Language Impaired Children. A number of 25 patient students.

2. Literature Review

2.1. Adverbs

Adverbs are words that are used to describe a verb, adjective, another adverb, a preposition, a phrase, a clause, or a sentence, expressing some relation of manner or quality, place, time, degree, number, cause, opposition, affirmation, or denial, and in English also serving to connect and to express comment on clause content. <https://www.merriam-webster.com/dictionary/adverb>

Parrot (2000), also defines adverbs as different kinds of words with quite different functions which occupy a range of positions in the sentence. He believes that choosing where to place them is often a major problem for people having restricted language competence.

Hernandez (2006), mentions that there is a very common type of mistake which incompetent people make when they want to produce grammatical structures involving the use of adverbs, specifically misplacing them in the sentence. This is not supposed to be surprising since adverbs are more difficult to define than nouns, verbs, and adjectives. There are many kinds of meanings for adverbs and their grammar is quite complex. Concerning meaning, adverbs express ideas such as manner, time, and place (location or destination). Most adverbs of manner have a notable form; *that is, they start with (-), like (بسرعة) (bsir'a)*. However, some other adverbs cannot be easily recognized by their form because of the fact that they do not have a specific suffix. Besides, they may change or modify almost any kind of construction in English: nouns, verbs, adjectives, other adverbs, and even whole sentences.

Furthermore, many writers agree on the fact that adverbs are rather complex structures because of their various classifications, meanings and positions in the sentence. This complexity results from the syntactical and semantic behavior of the adverb which is determined by its position in the sentence. Adverb position may not only change the meaning of the sentence but also they can make the sentence grammatical or ungrammatical (Bing, 1989; Celce-Murcia and Larsen-Freeman, 1999; Parrot, 2000; Raimes, 2001).

On the other hand, adverbs are defined as words that can modify any part of language except the noun. http://mylanguages.org/arabic_adverbs.php

In the next headings, some modification types will be discussed.

2.1.1. As a Modifier of Verb

Regarding the adverb and the verb, the adverb answers certain questions about the verb, namely how, when, where, how often or to what extent and action takes place. In this case the adverbs is said to modify the verb.

e.g. امير غسل السيارة زين (Ameer ghisal alsayiara **zean**)- Ameer washed the car **well**.

2.1.2. As a Modifier of Adjective

The adverb may also modify or describe the adjective. Here the adverb come just before the adjective it modifies.

e.g. -الولد كلش طويل. (alwalad kullish tweel)- The boy is very tall.

2.1.3. As a Modifier of Adverb

The adverb can modify another adverb; in this case the modifying adverbs usually come after the modified adverb.

e.g. خالص الاكل بسرعة كلش. (khallas il-akil bsir'a *kullish*)- he finished the food *very fast*.

2.2. Types of Adverbs

As a classification, adverbs can be divided into three major types: (a) adverbs of time: now, soon, still, then, today...etc. (b) adverbs of place: by, down, here, near, up...etc. (c) adverbs of manner: bravely, fast, happily, hard, well, quickly...etc. Each group of these can be divided into other subclasses. For example, Adverbs of time can be subdivided into three kinds:

a. Adverbs of definite time: They answer the question "when?": yesterday, last week, at three o'clock, early, tomorrow, soon, late, now.

b. Adverbs of frequency: They answer the question "How long?": always, never, seldom, rarely, frequently, often, sometimes, generally.

c. Adverbs of duration: They answer the question "How long?": hours, for hours, a week, the whole night, until dawn, since yesterday (Beare, 2004).

Below is a list of the most common adverbs as per the classification above:

Table-1. List of Adverbs

Adverbs of Time	Adverb	Transliteration	Meaning
	امس	Ams	Yesterday
	البارحة	albarha	Yesterday
	الظهر	Aldhuhur	At noon
	العصر	Alasir	In the afternoon
	المغرب	Almaghrib	At sunset
	الصباح	Alsubuh	In the morning
	اليوم	Ilyom	Today
	بعدين	Ba'dean	Later
	بعد شوية	Ba'd shwayia	After a short time
	نوبات	Nobat	Rarely
	مرات	Marat	Sometimes
	بالليل	Billeal	At night
	يومية	Every day	Yomyia
	بعد اسبوع	Ba'ad isboo'	After one week
Adverbs of Place	هنا	Hna	Here
	هناك	Hnak	There
	بكل مكان	Bkul makan	Everywhere
	برة	Barra	Outside
	جوة	Jawwa	Inside
Adverbs of manner	كلش	Kullish	Very
	حيل	Heal	Very
	بسرعة	Bsur'a	Quickly
	على كيف	Ala keaf	At normal speed
	عل بطيء	Al batee'	Slowly
	كوة	Guwa	Hardly
	سوة	Swa	Together
	وحده او وحدها	Wahadha\ wahda	Alone
	تقريبا	Taqreeban	Almost

2.3. Language in Autism: Focus on Grammar

Tager-Flusberg *et al.* (2005), states that there are two major ranges for the children with ASD. The two distinctions he made are: the first one is that the children fail to acquire the spoken language skills just beyond the basic or minimal levels. In this case, the spoken words are fewer than 20-30 words and about 30% of the children with ASD fall in this type (Kasari *et al.*, 2013). Tager-Flusberg *et al.* (2005), said that the second group is the verbal group, that is, they go beyond the basic level of speaking. However, some of them show language deficit and difficulty even in producing and understanding grammar.

Researchers have found that there are some grammatical areas are problematic for them. Regarding the past ed and third person singular –s, Roberts *et al.* (2004) found that autistic children show fewer markers in comparison with the typically developing (TD) peers.

The other hand, spontaneous language samples have been taken and analyzed for diagnosing the concord. It has been found that there are omissions of agreement among the syntactic parts (Bartolucci *et al.*, 1980; Tager-Flusberg, 1989).

Eigsti *et al.* (2007) found that 5-year-old children with ASD, who were matched to younger TD children on vocabulary and non-verbal IQ, exhibited considerably less complex language than the younger TD group, producing fewer past tense markers as well as fewer Wh-questions. Grammatical errors are also seen in pronoun use. While pronoun reversals (e.g., “you” for “I”) are much less prominent than once thought, they are produced more frequently by preschoolers with ASD than TD peers (Naigles *et al.*, 2016).

On the part of pronouns, (Perovic *et al.*, 2013) have found that distinguishing personal and reflexive pronouns has also been found to be challenging for children with the first group.

To sum up, syntactic problems do arise in the ASD patients on different and various level. However, the focus was on the linguistic operations such as tense, concord, and others. Yet, none have tested the syntactic parts alone as they seem to be easy for normal people and people with ASD (whether kids or adults). This research has been dedicated to measure the abilities of the ASD patients on the parts of adverbs and has been limited with the second group as the first one fails to recognize natural language easily.

3. Methodology and Data Analysis

3.1. Methodology

The methodology which is adopted in this paper is summed by eliciting the data from participants through their natural corpus. The participants are students in Hama'im Al-Salam Center for Language Impaired Children. It has

been agreed with the teachers/ trainers that they ask the autistic students to narrate some stories about their everyday life in which the focus is done on the adverbs. 10 students are chosen which is the number found in that particular class. Their age is between 7-12 year old which qualifies them to narrate stories from their daily life. In cases where they cannot narrate stories, they are asked questions whose answers require supplying an adverb. Such questions include (why, where, when, how, and why).

The researcher's task is to record them narrating the stories and answers and elicit the data which manifested by the adverbs. Then, they were analyzed as per the types and possible positions of the adverbs. The process of recording lasted for two lectures as it is not possible to cover all the students in one lecture because they are used to learn through playing and not accustomed to such activities.

3.2. Data Analysis

3.2.1. Recognition

On the part of recognition, the sample patients were asked questions and they are to answer these questions about the adverbs. The recognition is considered wrong when they are asked a question and they fail to answer. They may say different things not related to the question. Then, the patient is supported with two contrastive answers. If he agrees with both, then, the researcher considers this as failing to recognize. For example:

Trainer: How many times do you come here per week?

Patient: Ah... My father brings me...

Trainer: You come three times, right?

Patient: Yes, three time.

Trainer: Or, four times?

Patient: Yes, four times.

Trainer: How many times?

Patient: Ah...yes. My father brings me.

From the example above, it is clear that the patient does not recognize the frequency adverb, both in terms of use and question. In this case, he resorts to the strategy of repeating the answer. This process has been repeated for all the types of adverbs and for all the ten patients. The researcher has formulated four questions for each type of adverbs except for the time adverbs. The time adverbs have got six questions as it contains three types. The questions have been given to the trainer to ask as he is familiar with the patients. The below table show their percentages on the recognition part.

Table-2. Recognition of Adverbs

Adverb Type	No. of Correct answers	Percentage	No. of wrong answers	Percentage
Time	15	25%	45	75%
Place	29	72.5%	11	27.5%
Manner	12	30%	28	70%
Total	56	40%	84	60%

As the table above shows, the time adverbs has the least correct answers as only 15 out of 60 questions are answered correctly by the patients. This may be justified that the patients cannot comprehend the time aspect well and they are aware of what happens in the present time. This reason is reinforced by requesting them to do things after a short while. The researcher requested the trainer to ask them to bring something after some minutes, but their either bring it in the time of speaking or they do not. The percentage of the wrong answers are 75% which is relatively high.

As far as the second type of adverbs is concerned, the patients are so aware of them. This is shown by the high percentage of the correct answers which mounts to 72.5%. The patients have answered most of the questions correctly and even if the question was repeated in a different way, they can answer it. Such questions included asking about the place of the things which are in front of them as well as questions about absent things like asking about the whereabouts of their fathers. The percentage of the incorrect answers was the least 27.5%.

Regarding the last type of the adverbs which is manner, the patients found difficulty in recognizing them. This shown in the percentage of the incorrect answers or the silence which they used as a strategy for answering them. The percentage of this kind of adverbs is near that of the first type. The could recognize only 12 questions out of the 40 ones, although in some of their stories used this kind.

The total of their recognition test shows that the patients are poor in dealing with the adverbs in general, although they show good performance on the second type. This might be because of the high mental processing the adverbs require in recognizing them as most of them belong to the abstract aspects of mind rather than the concrete and physical things which appear before their eyes.

3.2.2. Production

On the contrast of the recognition part, the production part was based on the stories or events they narrated, although short and few. However, the data of this part was taken from the questions and the spontaneous speech while they play without being disturbed by any one, in addition to the narrations.

In this part, some adverbs are used more than others and their usage is done in several ways, like changing the preposition of the adverb which results in wrong preposition. The patients also produce the prepositions in positions

which seem odd to the native speakers of Iraqi Arabic, yet understandable. The production part is summarized in the table below.

Table-3. Production of Adverbs

Adverb Type	No. of Use	No. of Odd Use	No. of Incorrect Use
Time	29	7	4
Place	54	15	7
Manner	21	4	3
Total	104	26	14

The table above shows that the patients has used adverbs in different ratios. The time adverbs have been used 29 times. As indicated in the recognition part, the questions are 60, so the use has somehow increased. Their corpus has supplied this number of adverbs among which some are used in a wrong way. The odd use of the time adverbs was like putting a preposition before the adverb which does not require a preposition. An example about that is:

Patient: بابا يجي بالعصر

- My father come in the afternoon.

The example above shows that the patient has put a preposition before the adverb. Actually, this adverb does not require a preposition, although the adverb of time (بالليل) (at night) requires a preposition, but (العصر) (noon) does not. It seems that the patient has confused them so that it results in an odd use of the adverb.

On the other hand, some of the adverbs have been wrongly used by the patients, the number of the incorrect uses were much less than the correct ones and also less than the odd ones. As the three numbers of the incorrect uses shows, the number of the incorrect adverb of place used is higher than the other types of adverbs. 7 out of 14 incorrect adverbs were that of place. This means that 50% of the incorrect adverbs are that of place.

Accordingly, the analysis of the uses above show that the patients are cable of using the adverbs; nevertheless, their use is not 100% correct. Still, they have had odd uses of the adverbs in addition to some incorrect uses. The odd use here can be considered as a strategy to avoid incorrectness. This means that they are aware of the incorrectness which is found in their language.

4. Discussions

As the percentages and the calculations mentioned above show, the patients seem to be better in production than in recognition. This is due to the fact that they have the freedom to use whatever adverbs they want even if the information is wrong. They sometimes make mistakes in the use of the adverbs if they want to give correct information. The adverbs of place are used more than others although the number of the odd use is more than others. The number of the odd use or incorrect use does not mean they do not know how to use these adverbs, but because they use it a lot as they are easier than others. The other adverbs may require more processing by the patients like the manner or time adverbs. This is the main reason why they do not use them a lot. Such adverbs are committed to the property of human language which is "Displacement". This property requires the users to talk about things which are absent as well about things which are present. Although the other adverbs are included in this property, but the time adverbs are inherently displaced. Consequently, this property requires higher mental skills and knowledge about the world. Therefore, their minds are not mature enough to express them freely as the normal children do in this age (Aitchison, 1999). Thus, the patients do not go hand in hand with the normal children in this type of adverbs.

As far as the far as the strategies of overcoming the misuse of the adverbs are concerned, the patients resort to a number of strategies most of which are paralinguistic ones. One obvious strategy is the silence. They tend to be silent when asked a question which they do not know how to answer as it requires supplying an adverb which is difficult for them to use. This is confirmed when they are immediately asked a question requiring another adverb which they are familiar with. Here, they use a very famous paralinguistic attitude which is rolling the eyes and not looking directly to the eyes of the asking person and this is a property found in almost all the patients with ASD. The second strategy is supplying a wrong adverb. It is wrong not in its syntactic usage, but it the information. Besides, they are aware of its wrongness and this is shown in their behaviour as they speak it and either ask about its correctness or they lough while saying it. the third and the last strategy is saying "no". they say just say no whatever the question is, even if the question requires a full answer like "When". The paralinguistic cue which they use here is nodding the head several times to show inability to use it and not wanting to commit a mistake.

Regarding the order of the adverbs, they require certain orderings in the sentence. Nevertheless, they are not like the English adverbs. Most of them are flexible in the ordering except for some of them. Therefore, the have not had many mistakes in this except for some. They put the adverbs at the end always or supply the answer with only adverbs and they are not aware of the flexibility which makes possible to use the adverbs at the beginning of the sentence. Consequently, this has led to the odd use of some adverbs.

5. Conclusions

The conclusions of the study are divided in two parts: on the recognition part and on the production part.

5.1. Recognition

1. The patients' use of the adverbs in general is questionable. This is shown by the percentage which mounts to 60%. This percentage is questionable for such age as the normal children would have far better percentage if not excellent users.
2. The adverb of time is the least adverb to be recognized by the patients.
3. Silence is the most used strategy to show their failure in not recognizing a specific adverb, in addition to other strategies.

5.2. Production

1. The patients use the adverbs of place more than other adverbs.
2. They have odd use of the adverbs in general represented by adding a particle or preposition in some adverbs.
3. The adverbs which require high mental processing are not used more. Most of such adverbs are related to the displacement property of human language.
4. The same strategy used in the recognition is used in the production viz the silence. However, they resort to three strategies to overcome the misuse of the adverbs: the silence strategy, the wrong answer and the refusal to answer.
5. There are two main paralinguistic cues found in the patients with ASD when using adverbs (and may be found in the patients in general). They are rolling of the eyes and nodding the head. Rolling the eyes is often accompanied by laughing or smiling.

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