

The Patterns of Sequential Organization of a Person with Asperger Syndrome: A Conversation Analysis

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Abstract

This study documents the patterns of conversational sequential organization, i.e., turn construction unit (TCU), of a person (pseudonym Samy, age 27) with Asperger's Syndrome (AS). The language data was audio recorded from two naturally occurring conversations (30 and 40 minutes long two different encounters) between the participant and the first author of this paper. Later, the data was transcribed and analyzed by using the tools of conversation analysis (CA). The results revealed the occurrences of unusual prosody, unusual pauses, invalid turns and word-finding difficulties, in the participant's TCUs. The findings of this research contribute to our knowledge on the interactional patterns of people with AS. It also draws attention to the efficacy of the CA method in investigating conversational structures of atypical people. The findings eventually prepare a dialogue for incorporating conversation analytical methods into clinical approaches to study the persons with AS.

Keywords: Turn Construction Unit (TCU); Unusual Prosody; Invalid Turns; Unusual Pauses and Word-finding Difficulties.

Introduction

In a talk-in-interaction interlocutors observe the actions of the participants through turn-taking, topic initiation, and topic maintenance besides keeping an eye for making sense of the available social, emotional, and contextual cues (Ninio & Snow, 1996; Valle, Plesa-Skwerer, & Tager-Flusberf, 2020; Wetherby, 2006). Studies rooted in the ideals of conversation analysis (CA) focus on the use of language from an interactional point of view where the researchers aim at explaining how the participants accomplish social actions through their talk in specific contexts (Hoey & Kendrick, 2017; Pallotti, 2007; Sidnell & Strivers, 2013).

Many clinicians' characterization of 'linguistic incompetency' of people with communication disorder might appear *too limited* since they are often inattentive to the linguistic or rather, a conversational structure of human life to offer an alternative understanding of language impairments (Neimi, Otsa, Evtyukova, & Niemi, 2013). CA is a complex method for explaining communicative patterns of an individual that provides a detailed analysis of structural organizations of communicative patterns of an individual including atypical people (Rendle-Short, 2003).

The current study documents the communicative patterns of an individual with Asperger Syndrome (AS) which is one of the variants of Autism Spectrum Disorder (ASD) acknowledged in DSM-V. AS, like other variants of ASD, is characterized by deficiencies of social interaction, impaired communication skills, peculiar speech, attention issues, and repetitive behaviors, and unusual eye contact (Feinstein, 2010; Turkington & Anan, 2007). In consideration of the scope of a linguistic approach to contribute in this field of study, this case study investigates the patterns of sequential organization, i.e., turn construction unit (TCU), of an adult diagnosed with Asperger Syndrome. Precisely, this research elucidates the difficulties faced by the participant as he takes and constructs his turns for any descriptive responses.

Overview of Asperger Syndrome (AS), Autism Spectrum Disorder (ASD)

One of our key claims in this paper is that “[d]ifficulties with language and communication are one of the defining features of autism” while individuals with Asperger, with high functioning autism, despite ‘good’ structural ability of language, their “communication and the social use of language remain impaired” (Bogdashina, 2005, pp. 13-15). Hence, a brief discussion on these three elements, i.e., AS, ASD and language use is necessary. Autism Spectrum Disorder (ASD) encompasses Asperger Syndrome into its broader category for referring to different types of autism disorders (Stuart-Hamilton, 2007).

The characteristics of Asperger Syndrome resemble High Functioning Autism (HFA), excluding cognitive and language development delays of HFA. Cognitive and language developments remain standard or close to the standard level. Despite “a satisfactory command of phonological, syntactic, and semantic language skill” children with AS and ASD “struggle with pragmatics” (Sirota, 2004, p. 232) which may include ability to paying attention, making eye contact, showing appropriate gestures, and facial expressions while communicating and developing peer relationships. Atypical reaction to surroundings, single-minded interest, repetitive activities, verbal and nonverbal communication problems are also common in Asperger Syndrome (Attwood, 2007; Feinstein, 2010; Turkington & Anan, 2007).

Persons with AS may produce grammatically correct sentences, but atypical inflection or repetition of words make their speech somewhat ‘odd’ (Attwood, 2007; Turkington & Anan, 2007). In a similar vein, researchers have also claimed that persons with AS and ASD show inability to use pragmatic awareness in most social settings (Klin et al., 2000). Their language use includes repetitive speech, peculiar speech, unconventional words, minimal talk, or in some cases ‘talkative behavior’ (Rendle-Short, 2014). Persons with AS are also poor in topic maintenance, problem repair, and management of uncertainties in talk

(Attwood, 2007). Because of these language impairments, persons with AS and ASD may suffer from anxiety that makes them avoid social interactions and ultimately 'bad' peer relationships.

Communication disorder and the field of conversation analysis (CA)

Conversation analysis (CA) is a popular and prominent method for investigating interaction patterns of atypical people (Neimi et al., 2013). The method's meticulous analysis may unravel specific interactional troubles, actions, and structural organizations in atypical talks (Rendle-Short, 2003). From naturally occurring recorded conversations, analysts show how people structure social 'actions' through talk in a particular context. Researchers also focus on the 'procedures' that the participants in an interaction do to achieve those actions (Drew & Heritage, 1992; Mazeland, 2006; Sidnell & Stivers, 2013).

CA's focus on activity, while analyzing interaction and language use, distinguishes it from other approaches. In CA, an utterance is attributed to a sense of action by turns at talk (Drew & Heritage, 1992). Turn-taking, turn construction unit (TCU), and sequence organization are among the principal organizations of talk-in-interaction within CA (Drew & Heritage, 1992; Jefferson, 1989; Mazeland, 2006; Sacks et al., 1974; Schegloff, 2007). Prosody is another important feature of TCU that clarifies the intonational properties of a turn (Filipe et al., 2014; Schegloff, 2007). It also serves to hint the completion or progressivity of a turn (Sidnell & Stivers, 2013).

Linguistic difficulties in Asperger Syndrome

Conversation analysts have used CA tools to examine how individuals with AS contribute in 'launching', or 'negotiating' narratives with family members (Solomon, 2004) and peers (Dean et al., 2013) despite certain difficulties. Researchers of CA suggest that unusual pauses are a common phenomenon in atypical talk. Therefore, conversational partners of Asperger people need to provide them extra time to facilitate a complete turn. Rendle-Short (2014), in a study on the interaction patterns of two children with Asperger, found that delayed responses are one of the prominent problems with the participants. Arie et al. (2008) made a similar observation in their study on High Functioning Autism (HFA) children; for them, HFA and AS share identical characteristics except for delayed cognitive and language development. In addition, two other studies, conducted by Geils and Knoetze (2008) and Rendle-Short (2003) can be cited to reiterate the issue of delayed responses, i.e., atypical pauses. One common aspect underlined by all these studies is that atypical people's use of unusual pauses increases with long and descriptive questions (Arie et al., 2008; Geils & Knoetze, 2008; Rendle-Short, 2003; Rendle-Short, 2014). According to Rendle-Short (2003), atypical language users may need more time to process information; therefore, given adequate time, the conversation can be saved from breaking down.

While unusual silences between talk is a vulnerability of losing a turn before it is complete, study of prosody can give signs of the progressivity or completion of a turn. Prosody also makes a turn effective by displaying its intonational coding. Filipe et al. (2014) investigated how persons with AS manage their prosody to convey grammatical meaning. Particularly, the way these atypical people distinguish their statements and questions in their prosodic features. In their study Filipe and associates adopted the methods of perceptual and acoustic measurement (Turn-End subset of PEPS-C) to analyze the data. The population of this research includes 29 Portuguese children. There were 12 Asperger children and 17 typically developing peers. The research findings show that people with AS are competent to use their prosodic features for distinguishing statements and questions sentences. The acoustic measurements showed that there were no differences between the AS and TD group's prosodic productions. No doubt that unusual pauses and prosody of atypical people challenge the norms of conversation; but these difficulties can be fixed or minimized by their conversational partners to sustain communication. The willingness of conversational partners to give time and scattering questions can help atypical people to

contribute to their turn at talk. However, question remains despite such managed talks, can such atypical people take part in complex and constructive discussions.

Studies have also revealed that persons with AS are ‘poor’ in topic maintenance in conversation. In other words, they fail to take and construct proper turns for complex and unpredictable questions (Geils & Knoetze, 2008; Neimi et al., 2013; Rendle-Short, 2003). Rendle-Short (2003), in her study on interactional pattern of a female child with Asperger found that the participant ‘failed’ to provide the Second Pair Parts (SPPs) for complex and unpredictable questions; the participant also lacked the interactional techniques to fix the problems. On the other hand, Neimi et al. (2013) found that turn construction units (TCUs) of persons with AS are ‘unusual’; they often miss turn openings and closings in addition to making unexpected topic shifts. They also make use of fewer lexical items than their typical counterparts. Analysis also shows that they do not share inter-subjectivity with their conversational partners. Paul et al. (2009) found that people suffering from AS and HFA cannot maintain coherent intersubjective talk and struggle to recognize necessary information to go ahead with the conversation. McCormack (2012) added that in some cases atypical people fail to respond to scaffolded questions too because they lack the Theory of Mind (TOM). TOM is the ability to understand other’s intentions (McCormack, 2012).

Research Methodology

Participation selection

The participation selection for the current study includes contacting the government Social Welfare Office (SWO) to get a list of people with Autism Spectrum Disorder (ASD) in Maijdee, a municipality in the district of Noakhali, Bangladesh. SWO, under the Ministry of Social Welfare, provides services to the people with disabilities (PWDs), unprivileged, helpless, neglected, and handicapped for empowering them. An application with an explanation of the study purpose was submitted to the SWO requesting a list of ASD people. The SWO provided a detailed list of atypical people; it contained records of the persons’ disorder type, name, age, sex, education, and address. There were ten names on the list; no listed persons had any educational background except one. Using the address provided in the list from the SWO, the first author of this paper contacted the participant’s guardian and both the parents and the participant agreed to volunteer.

Participant’s background

Samy (pseudonym) is a 27-year-old man with Asperger Syndrome. As a government listed person with autism spectrum disorder, he receives monthly stipends from the SWO Noakhali. Samy was diagnosed with AS, at the age of 8 by a professional. The severity of the disorder is moderate. Though cognitive and language development were typical, language impairment is a noticeable phenomenon in his case. Because of the ineptness in social interactions, he has trouble developing peer relationships. Moderate visual impairment is another condition Samy suffers from; his eye movement is irregular sometimes. Samy has studied up to class ten in a mainstream school, but he did not take the Secondary School Certificate (SSC) examination. He has no prior job experience. Currently, he is in search of employment.

Samy lives in a joint family. Besides his parents he has two other siblings; other family members are his uncle, one aunt, two male cousins, and his paternal grandparents. Samy’s father is a political leader by profession while his mother is a homemaker. Samy’s younger sister and an aunt from the father’s side have autism too. Samy likes to stay at his home; he would spend his time mostly by watching TV and playing mobile games and rarely would meet a set of selected friends and spend time with them.

Data collection

The first author had three meetings with the participant. There were ten days of intervals between the meetings. However, the data reported here has been from the last two meetings. The first meeting was not recorded as it was a short introductory meeting with an aim to establish rapport with the participant. The total duration of the two discussions is 70 minutes. The first discussion (recorded) lasted for 40 minutes, and the other, 30 minutes. The first discussion happened only between the first author and the participant (Samy), but the second discussion involved three interlocutors: the participant, the first author and one of his friends. For the second discussion, the third individual was brought to facilitate the participant's interest and comfort in talking. The participant had previously shown curiosity about this third companion in the first discussion. The discussions were audio-recorded with an android phone; there was no objection or discomfort from the participant about the recording.

The discussions happened both in indoor and outdoor settings; the interlocutors conversed as they sat and walked both inside and outside the participant's home. Except for a minute of talk at a walk, the first discussion took place inside the participant's house. The discussion started outside of the participant's house as the first author met him outside; they conversed for a minute as they walked to the participant's home. The second discussion took place both inside and outside the house; most parts of the discussion took place outdoors (by the pond side of the participant's house). The first 10 minutes of the discussion happened inside the home, and the rest of the 20 minutes happened outdoors. The conversations mostly covered topics about the participant's daily activities, health, hobbies, future-plans, study, friends, family, travel, etc. The recorded conversation was transcribed by using Jeffersonian protocol (see appendix) widely used in transcribing CA data.

Data Analysis

The analysis shows that Samy had remarkable issues with turn construction units (TCU). The problems include unusual pauses, word-finding difficulties, and unusual prosody; frequent unusual pauses delay the turn progressivity. On some occasions, late turn-taking and failing to construct valid turns are also noticeable. Particularly, Samy failed to construct valid turns for responses that are analytic and descriptive. However, despite the difficulties, Samy could complete his turns (except the complex analytical ones) that allowed the turn exchange system to operate; the syntactic, morphological, and phonetic structures of the turns serve to deliver the intended information and turn relevance place (TRP).

Unusual prosody

Samy was found to have trouble in making the right use of prosody in his TCUs. The problem of the prosody occurred in both short and lengthy turns. But, they were most noticeable in those turns which were lengthy and descriptive. In lengthy turns, Samy could not maintain prosody adequately. He encountered difficulties mostly in maintaining the balance of his pitch throughout the turn. The pitch of his voice fluctuated inconsistently. In his turns, without any pragmatic coherence, one or chunk of words were suddenly spoken in a very low voice, and sometimes the pitch was so lowered that they became inaudible too. This created a problem for the listener to grasp what is being uttered, emphasized or highlighted within the turn. As an important determinant of any TCU, prosody's role is to clarify the intonational factors of a turn (Schegloff, 2007), and the TRPs (Sidnell & Strivers, 2013). The following excerpts elucidate the problem with prosody in Samy's talk.

Extract 4.6 (Transcription 2)

140. A: সোনাপুরের পরে আড়ি
After Sonapur yea
141. →S: এঃ >হিয়ানে< °হিয়ানেও গেছি°↓ (3.5) এই আ↑ড়ি আ↓র °আর তো মনে আইয়ে ↓না°
Eh went there, there too (3.5) that's all and I don't remember anymore
142. A: খৈয়াছড়ি ↑কি ওই কলেজ থেকে- স্কুল থেকে নিছিলো আপনাকে ↑না
To khoiachhori you were taken, was it from school, nah?
143. S: না না না:
No no no
144. A: তাই↑লে
Then?
145. →S: নানার ↑ওইঃ >আমার নানার< নানার বাড়িতে গে↑ছিঃ ঐখানেঃ মা ম >মামারা< গেছে
Grandfather's oi went to my grandfather's there went my maternal uncles
146. আর↓কি(.)
actually (.)
147. °আমরা সবাই গেছি° আমার নানার °বাড়িতে গেছি° আর ↑ডিসেম্বরে
All of us went° my grandparents' °house we went° in last December.
148. (3.0)

In line 141, Samy's use of prosody for constructing the turn is not consistent. Most of the part in that utterance is spoken in a very soft voice. The turn is initiated with a normal pitch, but suddenly the pitch gets very low until the intra turn pause of 3.5 seconds. Next, the pitch is raised to a normal range before it gets lowered again in the end part. Similarly, in line 147, chunks of words are very softly spoken whose falling pitch is not smooth. The act of intervention here should be to help Samy redesign the soft-spoken delivery – make him realize that in everyday conversation participants must be audible to one another in order for an effective conversation to take place. This can be compared with Dean et al.'s (2013, p. 157) study on Cindy's whose peers found her “singsong phrases” and “stories” almost “tiresome” as she spoke in an increased volume albeit being asked not to or to “change” the topic.

Extract 5 (Transcription 2)

348. A: তো এখন আমরা চলি যাওয়ার পরে ↑কি কর↓বেন
So what are you going to do after we leave
349. →S: এখন গোসল করমু °গোসল গা ধু↓ই না↓মাজ ↓হরি° আজান দিলে নামাজ ফরম
Now I will take a bath, after bathing I will pray will say my prayer after Azan.
350. নামাজ পড়ি খাই দাঃই >কতক্ষন< শুমু (.) শুইঃ: একটু হাঁটা:ছটা: কর↓মু আরকি ()
After prayer I will eat something then lie down sometime /I lie down sometime. [Then] I will take a walk perhaps/ that's all ()

In line 349-350, Samy describes his routine for the rest of the day. Right after beginning the turn, he suddenly lowers his pitch of voice for a chunk of words than the preceding sounds. Also, he ends his turn with an inaudible word. But, the unusual prosody did not affect the information provided with the turn –

the information provided was sufficient to draw out his plans for the rest of the day. The inaudible talk in the end does not hold much significance because TRP is achieved with its preceding word ‘aarki’ translated as ‘that’s all’ in this context.

Samy’s TCU in line 251 ends with five consecutive low-pitched words. In lines 254, and 258-259, see below, there are both inaudible and soft-spoken words. None of the low-pitched words contains any distinct information. Nor was such prosody used purposely to highlight any bits of information.

Extract 1.4 (Transcription 1)

250. E: >তাই< ↑কবে গে↑ছিলেন
Oh when did you go [there]
251. S: এই::: ↓একবার গেছি↓লা:ম আ↓মার °কাকাকে° ↑আন্তে গেছি↓লাম আবার আমার
Ah I went once I went to bring my uncle over then
252. আ↑ব্বুর সাথে
With my father
253. →একবার গেছিলাম (.)
Went once
(2.5)
254. ↑ফাইভ এ: <থাকতে>আ:রকি↓ ↓ঐ °একবার° ↑গেছিলা↓ম °ঐ চোখের ডাক্তার এর কাছে°
when in standard five° I went to see an eye doctor°
255. E: চোখের ডাক্তার এর কাছে: (.)
To an eye doctor (.)
256. তা চোখের ডাক্তার দেখানের পর কি চোখের ইয়া হইসে(.)
So after seeing the eye doctor has anything happened to the eyes (.)
257. ভালো হইসে কিছু
has it got any better
258. →S: উম: না: ওরা- মানি চোখের- না একটু হইসে আরকি (1.3) ()
Um no they actually eye’s- no a little better u see (1.3) ()
259. চশমা (.) °দিতে বলসে° -বলসে আরকি
they told to wear glasses you know

Like the previous examples, line 469 in the following excerpt shows chunks of words that were spoken very softly in the middle of an utterance for no specific purpose. Certainly, this unusual act does not tamper with the information passed with the turn; it does not affect the TRP projectability either.

Extract 1.7 (Transcription 1)

466. S: ↑মানি চুলকা(h)য় না ↓আরকি (.) এমনি: >চোখে< পানি বারো:য় (.) ↑আ, ড্রপ আনছি
I mean it doesn't itch you know (.) just watery eyes (.) Ah I brought a drop yesterday
467. কালকা
Yesterday
468. E: ড্রপ আনছেন:
You brought a drop
469. →S: হুম ড্র ↓ড্রপ দিমু °ড্রপ আনিচে ডাক্তারএর থাইকা°
Hm I will use drop I have brought an [eye] drop from a doctor
470. ↑উ:: ও:ই: ↑এ ↑চোখেও উঠছিলো:
Oh this eye got infected too
471. এ চোখে আবার ↑এখন নাই (.) এখন এ চো↓খে আছে
Now again I don't have it anymore on this eye I have [the infection] in this [other] eye now ((putting a finger on the eye))

Line 212, in extract 2.3 shows two instances of inaudible prosody; chunks of words were spoken so softly that they were not audible at all to the listener. This 'inability' to include other participants within a conversation has been defined by Ochs and Solomon as atypical individuals' inattentiveness "to norms, preferences, and expectations that are tied to participation in culturally configured social situation" (Ochs & Solomon, 2004, p. 141). However, the other adjoining words serve to deliver the intended information. The TRP is also projectable because there was no gap between the turn changes in line 212.

Extract 2.3 (Transcription 1)

205. E: এই কোরোনার মধ্যে তো:- অনেক সময় মসজিদে ইয়া করে দিছিলো িনা (.)
During this corona many of the mosques were [sealed off] right?
206. প্রথমে দিকে নামাজ পড়া বন্ধ ছিলো↓ (.)
During the first of those days praying [inside the mosque] was stopped/ not allowed
207. তখন আপনারা >কোথায়< নামাজ পড়তেন (.)
Where do you used to say your prayer then
208. মসজিদ কি হইতো আপনাদের:র
Did you get to do the praying in your mosque
209. S: এই >আমাদের< মাঁনি (.) িমাঝে মইধ্যে: মসজিদে: পৈরতম(.)
You know actually ours once in a while we used to pray in the mosque
210. ↓এই আমাদের এই মসজিদে↓
you know in our mosque
211. E: হ্যা:
I see
212. →S: পড়তাম আর↓কি () >মাঁনি< এই (3.0) >এই< >যোহর এর নামা↓জ< ()
Used to pray you know () actually this (3.0) the Johor prayer ()
213. E: আপনারা এদিকে কেউ অসুস্থ হইছে করোনা রোগে
Is anyone in your area has fallen ill with Corona

Unusual pauses and word finding difficulties

Besides the presence of unusual prosody, frequent unusual pauses and word searching difficulties are prominent conversational features noticed in Samy's TCUs – they are more noticeable during long responses. The duration of the pauses exceeded the typical duration, which according to Jefferson (1989), is 1-second. The longest intra-turn pause found in Samy's turns was 7.0 seconds. The longer the turn was, the more was the frequency of pauses. The turn progressivity was delayed by Samy as he took frequent unusual pauses while searching for words. Although the conversation was filled with word-finding problems, Samy could reserve his speakership through his turns' syntactic structures to indicate turn progressivity and relevance places. Syntax, along with other resources like prosody and pragmatics, plays a crucial role to project the TRP of a turn (Sidnell & Stivers, 2013). In the conversation, giving Samy extra time enabled him accomplishing successful TCUs; a similar observation on persons with AS is made by Rendle-Short (2003). In this regard, it must be noted that unusual pauses are common problems also faced by persons with ASD (Arie et al., 2008; Wikinson, 2019).

Extract 2.8 (Transcription 1)

109. E: আপনার এমন িকি করতে ভাল্লাগে (.) কোন জিনিসগুলো কর↓তে ভাল্লাগে (1.8)
 What do you usually like to do (.) which are the things that you like doing (1.8)
110. কোন জিনিসে: সময় বেশি কাটা:ন
 In doing which things do you spend most of your time
111. →S: এ এ:ই: ↓টিভি: °দেখি° > মাঝে মইধ্যে< টিভি দেখি, (4.5)
 You know °I watch° TV >once in a while< I watch TV (4.5)
112. °এই° (2.0) মাঝে মধ্যে, °বই পড়ি°
 °You know° (2.0) once in a while °I read books°
113. এ, িবই প↓ড়ি °রাতেরবেলা:° (3.0) °এই:° (2.0) °এ::°
 Ah I read books at nights (3.0) you know (2.0) ah::
114. E: আপনি কি কুরআন শরীফ িপড়তে িপারেন
 Do you know how to recite Quran

In lines 111 and 113, Samy gives an account of how he typically spends his time. He struggles to find words to complete the turn as he tries to give an account of it. To complete the turn Samy takes pauses four times; the duration of the pauses are above Jeffersonian 1-second standard. Because of the issue with word-finding, the total duration of pauses in his turn comes to a total of 11.5 seconds. Despite atypical pauses, Samy retains his turn because the syntactic design projects the turn's continuity. Samy's quick pace with his words before the first pause suggests he has more to add. The Bangla filler 'ei' has been translated into English as "you know," "this" and "ah" depending on the context and indicates turn continuity. Also, the turn continuity is recognized in the stretching of the preceding word before the third pause and in the filler 'ei' before the last pause. However, as the turn was getting unusually long the interlocutor took up his turn in the relevance place after the last pause.

In addition to the filler "ei", Samy used "aar" which can be literally translated as "and" i.e., an addition marker. But in Bangla "aar" can also be an indicator for adding up any new information in the form of listing. In the following excerpt Samy combines "aar" with "ei" and "oi" (often used as a variant of *ei* in order to distinguish this [ei] from that [oi]).

Extract 3.1 (Transcription 1)

234. E: ভারতীয় বাংলা িকোন ছবি দেখ↑ছেন
 Which Indian Bangla films you have watched
235. →S: ওই জিৎ এর আ:র দেব, °আর° (3.0) ↓এই ↓আড়ি °জিৎ দেব:° (5.0) িপ্রসঞ্জিৎ এর,
 Oi Jeet them all and Dev and (3.0) ei them all that's all Jeet Dev (5.0) of Proshenjit
236. °এই আড়ি°
 That's all

The syntactic structure of the turn in line 235 did not produce a descriptive answer; however, there are two unusual pauses of a total of 8 seconds in this turn. The syntactic structure of the turn allowed Samy to reserve his speakership and complete the turn. The first pause, which is of 3 seconds, has a preceding word ‘and’ indicating that the turn construction is still in progress. Also, in the case of the 5 seconds pause, Samy’s name listing flow suggests that there are more names to follow; which is confirmed with the addition of another name after 5 seconds. This is not unusual that given adequate time individuals with AS and ASD can list items or categories. For instance, Ochs et al., found that the participants in their study listed “systematically” or “contrasted members or features of sets, structuring their conversation as a series of taxonomies” (2004, p. 172).

Extract 1.6 (Transcription 1)

280. E: কি ↑কিকি দেখলেন ওই জায়গায়: >আমি এখনো যাই নাই<=

What did you see there I have not been in that place yet

281. S: =↑এহ

Eh

282. E: মহামায়া এখনো [যাই নাই]আমি

I have not been to Mohamaya yet

283. →S: [না এই] ওই স্টিমার দেখলাম আবার (5.0) °এই:° নৌকা, ()

Nah this that I have seen ships then (5.0) you know boats ()

284. → নৌকা দেখ↓লাম (.) ↓আরো ↓কতকিছু °দেখলাম° (3.0)

I have seen boats and many other things (3.0)

285. ↑খৈয়াছড়ি °তেও গেছি°

I have been to Khoiachori too

In lines 283-285, Samy describes his experience of a tour in a place called Mohamaya. The two long pauses (5.0, and 3.0 seconds) occur in this turn because Samy struggles to find the words to describe his experience, just as he struggled in extract 3.1 and 2.8. The ‘and’ word used prior to the 5.0 seconds pause is a signal for turn progressivity, and the clause in the end ‘been to Khoiachori also’ indicates the end of the turn and the Turn Relevance Place (TRP).

Late turn-takings and invalid turns

Another crucial feature of Samy’s talk includes late turn-takings, often ending up in constructing invalid turns. This feature is associated with but distinct from his word-searching and taking long pauses in his turns. Samy showed difficulties in constructing valid turns when he has to provide a descriptive answer by using analytical skill. People with Asperger Syndrome are found to fail to respond to complex questions, claims Rendle-Short (2003). Mostly, these invalid turns are preceded by late turn-taking. The turns fail to deliver the Second Pair Part (SPP). The invalid turns lack syntactic composition and transition relevance places (TRP). A valid turn should project the TRP, the action being performed within the turn, and it should be in sync with its prior utterance (Schegloff, 2007; Sidnell & Stivers, 2013). ‘Faulty’ turn design usually results in communication breakdown.

In the following excerpt the Samy was asked an open question which required him to show an ability to list down items and provide specific details by using analytical skills,

Extract 4 (Transcription 2)

4. E: সময় কাটাচ্ছেন কিভাবে এখন
How do you spend your time nowadays
5. (2.0)
6. →S: এ্যা (4.0)
ae (4.0)
7. E: আপনার কি খেলাধুলা করেননা িনা
Don't you guys play any games
8. S: না,
No

In line 4 of the above excerpt, the interlocutor's question to Samy was aimed at getting a descriptive answer where Samy had to reflect on his daily routine and to gather some notable points in an organized manner. Samy started his turn with a delay of 2 seconds but he failed to provide the required second pair part (SPP) in line 6. In his turn, line 6, he initiated his answer with the filler 'ae' followed by 4 seconds of silence, which indicates his withdrawal from the turn construction process and makes the turn invalid. Also, the turn does not supply the required turn relevance place (TRP) which is needed for exchanging turns between the interlocutors. Noticing the incompetency, the first speaker changes the question in line 7. The 2 seconds delay in turn-taking, and the intra-turn pause of 4 seconds exceeded the standard Jeffersonian pause time in taking turns (Jefferson, 1989).

Another attempt in building conversation by asking an open question is cited below. In the following example, Samy is heard developing a narrative on his school days.

Extract 1.8 (Transcription 1)

104. E: >আচ্ছা ভাইয়া আপনার< (.) এই: ইয়া: (.) যখন স্কুলে িপড়তে:ন (.)
Brother ae ye when you were in school
105. তখন স্কুলের কোনো <একটা> গল্প টল্ল বল:ন শুনি:
Tell me any story from your school days
106. →S: °school° (1.5) (এ) (4.0) () (7.0) এ::=
School (1.5) (a) (4.0) () (7.0) a
107. E: =পিকনিক এ গেঁছেন কখাঁনো স্কুল থেঁকে
Have you ever gone to any picnic from your school

The question in line 104 is an attempt to examine Samy's story-telling ability where he had to choose and focus on some important experiences from his school days and present them orderly. Samy's turn-taking without any delay in line 106 indicates that he understands the kind of information that is requested for. However, he fails to construct his turn with the necessary information. He tries to construct that turn but fails to complete a valid utterance. Thus his turn contains only one word 'school', too many unusual pauses (1.5, 4.0, and 7.0 secs), and the use of filler 'ae.' The TRP is not recognizable in this turn because of the prolonged pauses. However, a more complex topic is discussed in the next excerpt. The discussion was conducted to observe Samy's ability to reflect on his being, in other words, the way he sees himself as a person with different or differing abilities.

Extract 4.8 (Transcription 2)

316. E: আপনার কি কোনো মতামত আছে এই বিষয়ে

Do you have any opinion on this matter

317. →(2.0)

318. →S: ()

319. E: যে কিভাবে: যাদের এ ধরনের হয়তো কোনো সমস্যা হয় অসুখ হয়=

That how and who face such problems or they have it

320. S: =এ

ae

321. E: তাদেরকে কিভাবে সাহায্য করা উচিত (.) কি কি পদক্ষেপ নেয়া উচিত (.)

How should be they helped (.) what steps should be taken (.)

322. কি মনে হয় আপনার

what do you think

323. →(3.0)

324. →E: >যেমন< আপনার কথা বলতে পারেন (.)

Like you can talk about yourself (.)

325. আপনার >কি ধরনের কোনো সমস্যা< ফেস করেন কি কোথাও (.)

The types of problems you face what sorts of problems

326. চাকরির জন্য গেলে: বা কোনো স্কুলে: (.)

when you go for any job or in school (.)

327. কোনো বিষয়ে কারো সাথে, মেলামেশার সময়ে

when you are doing some activities with others

327. →(5.0)

328. →S: হেঁটা () () (1.5) এ (4.5)

that

329. E: >আচ্ছা তাহলে অন্য কিছু বলেন<

Okay then talk about something else

The excerpt above shows Samy's struggles in taking and constructing descriptive turns by using analytic skills. In line 316, the first speaker asks Samy whether he wishes to give any opinion regarding persons with AS. This question is followed by a 2-second pause and an inaudible short turn. Considering the pause, and the inaudible answer, the question was reformulated in lines 319 and 321 to get an answer. However, the question is responded by a 3-second pause as Samy did not take his turn. In lines 324-326, the question is again scattered with clues for Samy to answer. Finally, in line 328, Samy takes his turn after a 5-second pause but produces an invalid turn.

The turn, as it misses the TRP, contains unusual pauses, a single word, and two inaudible sounds. The desired communicative action in this excerpt, i.e., to enable Samy produce a narrative about himself, has not been accomplished. Hence, the speaker had to end the topic construction activities and initiate another topic by saying: "Okay then talk about something else." Notably, any high functioning children with autism or Asperger's Syndrome may have difficulties in for instance, "cotelling a coherent narrative of personal experience" or "understanding the overall gist of a discussion" etc. (Ochs & Solomon, 2010, p. 79). Instead of interpreting the situation as a sign of Samy's 'incompetency' in building a narrative, one can refer to the concept of 'proximal relevance' (Ochs & Solomon, 2010) where a hasty intervention is treated with a caution. Existing literature shows that the utterances produced by atypical individuals are "at times [can be] roughly relevant but seemed to drift from the topic of the previous utterance or set of utterances" (Ochs & Solomon, 2010, p. 78).

Conclusion

This paper explained a set of common problems (i.e., invalid turns, unusual prosody, unusual pauses, and word-finding difficulties) within the Turn Construction Units (TCU) of a person with Asperger Syndrome. Two interconnected areas were prominent, the participant's 'ineffective' control of prosody in lengthy descriptive turns and hearer's investment of extra effort to decipher the meaning of a turn. The use of unusual pauses and word-finding difficulties also increased depending on the length of a turn. In other words, the progress of the TCUs was hindered because of the unusual pauses and difficulty in the participant's ability to find 'suitable' words. The findings also reveal Samy's difficulties in listing ideas, initiating topics and developing abstract narrative. One of the most prominent findings was that when Samy was allocated ample time to respond to a question, it resulted in simple valid turns, while the techniques failed for complex turns. Excluding his limited ability to formulate complex responses, Samy's TCU problems (prosody, unusual pauses, and word-finding difficulties) did not hamper the action accomplished within the turns. Neither did they alter the TRP projectability of the turns.

The findings of the research complement the existing literature in this area. It is expected that the findings from this study will facilitate intervention programs, particularly, by developing the awareness. The initiative should be directed toward instilling the consciousness that individuals with Asperger Syndrome, despite their adequate grammatical and semantic skills, need assistance to improve their pragmatic understanding of a communication event. It is apparent that an accurate identification and comprehension of any problem is the first and foremost requirement to solve the problem. Thus, findings of the current research can be useful to strengthen the existing clinical approach to study individuals with AS.

Also, through simulation and creating appropriate environment, people suffering from AS can be taught how to initiate a topic, sustain a sequence and produce a narrative against a concrete background. It is apparent that CA not only identifies the problems but also provides detailed measures for intervention in this regard. Therefore, it is possible to offer CA as a possible candidate for developing a set of efficient talk-in-interaction tools mentioned above to offer a solution to language impairments in persons with Asperger Syndrome and other atypical people. Once these individuals with language impairments are understood better, they would be able to contribute more effectively in institutional settings.

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Ethics Statements

We, hereby, state that we have conducted the research and prepared the manuscript following the protocol of research and publications ethics. We are solely responsible if any deviation or mistake (in content and language) is identified in the manuscript.

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Appendix

Transcription Conventions

(0.3)	a pause of 0.3 second
(1.0)	a pause of one second.
?	rising intonation, not necessarily a question
↑↓	an upward arrow denotes marked rising shift in intonation, while a downward arrow denotes a marked falling shift in intonation
:::	one or more colons indicate lengthening of the preceding sound; each additional colon represents a lengthening of one beat
no-	a hyphen indicates an abrupt cut-off, with level pitch
°°	degree sign indicates decreased volume, often a whisper
’hhh	in-drawn breaths
hhh	laughter tokens
>...<	indicates speeded up delivery relative to the surrounding talk
<...>	indicates slowed down delivery relative to the surrounding talk

((coughs)) verbal description of actions noted in the transcript, including
 non-verbal actions
() indicates a stretch of talk that is unintelligible to the analyst
 probable item



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