

Bar-Ilan University

**Individual differences in discourse abilities among young children with autism
during an interaction with a peer in relation to the nature of the social situation**

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Abstract

Background. Language acquisition is an important milestone in the development of preschool children. One of the language categories is the use of language in a social and communicative way, also known as pragmatics. Pragmatics forms a base for social interaction (Bates, 1976). The pragmatics of the language is a known deficiency for children with Autism Spectrum Disorder (ASD) (Rapin & Dunn, 2003). Most of the known research is based on interactions of children with ASD towards adults, or adolescents with ASD, but not much is known about interactions with preschoolers (Lam & Yeung, 2012; Paul, Orlovski, Marcinko & Volkmar, 2009).

Study aims. This study aims to find the individual differences in discourse abilities among young children with ASD during an interaction with a peer in relation to the nature of the social situation and in relation to their chronological age, the severity of the disability and their cognition (IQ).

Hypotheses. The first hypothesis was that differences will be seen in the discourse components and pragmatic abilities of ASD children in the different situations. A less structured situation will show more pragmatic deficiencies within the ASD preschoolers. In addition, we hypothesized that children with a higher IQ (verbal and non-verbal) show better discourse components and pragmatic abilities. Then we hypothesized that the severity of the disability will correlate with the ability of discourse and pragmatics. High-functioning ASD children will show better discourse and pragmatics components in their interaction. Last we hypothesized that the chronological age will have no effect on the discourse and pragmatics among the children.

Method. This study researched how the social situation in which ASD children have an interaction affect the discourse and pragmatic abilities. In addition, we researched the correlation with the chronological age, the severity of the disability and cognitive abilities. Sixty four children participated in this study, aged 3-6 years, with high

functioning ASD. Every participant had one or two peers with a normal development, chosen by the teacher. The children were taped during two different situations, a meal, which represents a semi-structured situation, and free-play, which represents a non-structured situation. The tapes were evaluated according to a discourse scale which was used in a previous work at Bar Ilan University based on Bedrosian's scale (Bedrosian, 1985) and the PRS (Pragmatic Rating Scale) (Landa et al., 1992) which was adapted for young children (Bauminger et al., 2014).

Results. According to the first hypothesis, a difference was found between the different situations. However, in contrast with the hypothesis, the results showed that according to the discourse scale, the discourse and pragmatic abilities among the ASD children were higher during the free play situation, hence the non-structured situation. However, the PRS-scale showed no difference between the situations, other than two specific behaviors: a bigger lack of synchronization with the topic of conversation during the free play situation compared to the snack time situation and a lower speech intelligibility during snack time situation compared to the free play situation. According to the second hypothesis, we looked for correlations between the discourse components (discourse and PRS scale) and developmental characteristics (verbal and non-verbal IQ, chronological age and the severity of the disability). The results showed a correlation between the verbal and non-verbal IQ with the use of social type of speech and an argumentative type. Also, a higher verbal and non-verbal IQ show better pragmatic abilities according to the PRS scale. Another interesting result shows that children with a higher score on the ADOS, which shows lower functioning ASD, had less discourse skills. At last, we found that the higher the chronological age the better skills they have at relating to the listener and at using pragmatic skills according to the discourse scale.

Discussion. Most of the research shows discourse skills and pragmatic abilities of children with ASD during interactions with adults. This work is innovative because it examined the discourse skills and pragmatic abilities of children with ASD during

a peer-interaction. These skills were examined in relation to the social situation (non-structured versus semi structured). In contrast to what was hypothesized, the results showed more and better discourse skills during a non-structured situation (free play), compared to a semi-structured situation (snack time). It is possible that, during the free play situation, although it being non-structured, the activity and the toys were a foundation for the interaction and the discourse. That being said, even though the situation is non-structured, and so it is expected to be a harder situation for ASD children, the research found better discourse skills and better pragmatics abilities. The results showed that during the non-structured interaction, free-play, more speech acts appeared that were about the activity itself, and less social discourse, which is known as a primary difficulty for ASD children.

The primary limitation of this research is in the sensitivity of the scales. In a further study, with a more sensitive discourse scale, bigger differences can be found between the different situations. Despite this limitation, this research found important results which sheds a light on the differences and the impact of different social situations, non-structured versus semi-structured. These findings can be a base for building intervention programs. Most of the intervention programs are using structured or semi-structured situations. But according to this research, it may be worthwhile to try an intervention program that matches a non-structured situation as during free play. Meaning that, this work could be a new way of building an intervention program for ASD children in preschools and as inclusion programs for ASD children in regular preschools. It is possible that a social and pragmatic intervention will show more results during a non-structured situations, as in free play for instance, while the situation itself is a base for the development of discourse skills, and the toys are supporting the social discourse. Another important fact that we know is that the partner in the interaction plays an important role in the discourse and pragmatic skills that ASD children show. That is why it would be interesting and important, in further research, to evaluate the discourse skills and pragmatic abilities

of the normal developing children which are the communicative partners and peers during the interaction and to see how they influence on the ASD children's abilities.