## Introduction

siblings is striking.

Autistic Spectrum Disorder (ASD) is defined as a communicative-social disorder (APA, 2013). In the past, children with ASD were described as deliberately avoiding social TEL AVIV אוניברסיטת UNIVERSITY תלאביב interaction and as lacking any social abilities (Kanner, 1943).

paucity of research on these children's interaction with their introduced to the system.

Contemporary research has shown that these children do

possess social abilities, and that these depend both on the

social partner with whom they are interacting as well as the

context of interaction. For example, Kimhi & Bauminger-Zviely

friend' rather than with a 'non-friend' partner. Better skills were

also found when this friend was a child with typical

**Objectives** 

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Interaction among siblings that one of them has ASD - parameters for examination This poster is based on:



\*Presenting a set of parameters which 1) appear in interactions between children with ASD and their TD siblings; 2) Enable comparison of the sibling interaction to the interaction of the ASD children with other social partners, (2012) found better social skills with a partner defined as 'a specifically with mothers and TD peers, in an inter-subject design, using INTERACT: a software for collecting and analyzing in detail observational data. \*Presenting data from 4 case studies analyzed using these parameters.

In order to evaluate the appearance of the parameters in interactions

## development (TD) as compared to a friend who also had ASD Methodology (Bauminger-Zvieli, 2013). Children with ASD were found to have more Based on previous literature on TD sibling interaction (Abramovitch et al., 1986;

reciprocal conversations when talking with other children as 1987), sibling interaction where one of them has ASD (Knott, Lewis, & Williams, 1995;

opposed to when talking with adults (Nadig et al., 2010). These 2007), peer interaction regarding ASD children (Bauminger-Zvieli, 2013; Hauck et al., findings accentuate the significant impact social partners have 1995), and mother-child interaction (Adamson, Bakeman, Deckner & Romski, 2009), the on the ability of a child with ASD to execute social skills. following set of parameters was selected for our study: Intensity of Sibling relationships are often the longest and most interaction; quality of interaction; dominancy of partners; types of actions; significant relationships in a lifetime, with the potential to variety of actions; joint engagement. deeply influence personality, social and cognitive skills (Boer, Literature was reviewed in order to find coding systems used to collect Dunn, & Dunn, 2013; Gass, Jenkins, & Dunn, 2007; Noller, 2005). Research on data in sibling interaction studies. A coding system that was used to collect the development of TD young children's social skills highlights data from sibling interactions, peer interactions, peer interactions, and from dyadic sibling interactions, peer interactions, peer interactions, and from sibling interactions.

the significant role of sibling interaction as one of the most interactions involving a child with ASD was chosen as a prototype (Abramovitch

enhancing contexts for acquiring communicative and social et al., 1986; Knott, Lewis, & Williams, 1995). In light of literature on interactions of

skills (Brody, 2004; Dunn, 1992). Considering the fact that children with ASD and their TD peers (Bauminger-Zvieli, 2013; Hauck et al., 1995), and

communicative-social impairments are fundamental in ASD, the due to the specific needs of our inter-subject design, small changes were

Very few studies have looked at sibling interaction where one between children with ASD and their TD siblings, and to test the child has ASD and compared it to interaction between siblings effectiveness of the parameters in the comparison of the sibling interaction who were both TD, or where one had a disability other than versus the interaction with other social partners, we conducted detailed, ASD (Kaminsky & Dewey, 2001; Knott, Lewis, & Williams, 1995; 2007). In such frame-by-frame analyses of four case study videos: 2 dyads of mother-child studies researchers concluded that dyads containing all interactions where one child has ASD and one is TD, and the interaction of all participant with ASD were inferior to both other groups in child with ASD with his mother compared to his interaction with his sister in terms of the intensity, complexity, and reciprocity of their social an inter-subject design. Figure 1. presents the coding system used in the interaction, and also contained less rivalry between siblings present analysis. Table 1. presents the behavioral operative definitions for (Knott et al., 1995, 2007). Relationships between siblings in the each category. In addition, in order to evaluate joint engagement, for every experimental group were characterized by less intimacy and moment and for each partner, it was coded whether he or she was on task or fewer prosocial behaviors than in the relationships of two TD off task, and synchrony between partners was checked. siblings or sibling dyads containing a child with Down syndrome The present analysis: Participants: 1st dyad: a preschool-aged TD child (A) (Kaminsky & Dewey, 2001). However, it is difficult to learn about the and his mother. 2<sup>nd</sup> dyad: a preschool-aged child diagnosed with ASD (B) and unique contribution of the sibling relationship to the social his mother. 3rd dyad: a preschool-aged child diagnosed with ASD (C) and his skills of a child with ASD when using such comparison groups. mother. 4th dyad: the same preschool child diagnosed with ASD (C) and his

Such methodology highlights the deficits in the siblings' dyadic older 8-year-old sister. Instruments: \*A set of stimuli to encourage interaction—attributed to the disabilities of the child with ASD— interaction during video-recorded observations (a game, a book, free-play instead of highlighting abilities. In our study we utilize a session). \*The coding system designed to collect and analyze data from the different methodological approach. Rather than compare observation (see fig.1). \*INTERACT software developed by Mangold groups on the basis of averaged data, our aim was to examine International. *Procedures:* All observations were videotaped in the in detail the characteristics of sibling interactions, while children's homes. Every observation was viewed and analyzed three times: identifying variables that require direct attention and 1) Starting points and switching from task to task were marked. 2) For each measuring those variables in great detail. partner it was coded whether he/she was on task or off task, with reference This poster presents the parameters we used in order to to qualitative remarks regarding joint engagement. 3) Each new action was examine sibling interactions in an inter-subject design. The set coded according to the coding system in order to evaluate the quality of of parameters we present, as well as the description of the interaction. For each action it was coded who is the conducting partner, in procedures we used while analyzing data with INTERACT order to evaluate dominancy of partner. All actions were tallied, and the software, aims to narrow the gap in the literature regarding total time (in seconds) was divided in the total sum of actions conducted, in sibling interactions in a family with a child with ASD. order to evaluate the **intensity** of the interaction.

Discussion

Rum, Y., Dromi, E. (2016). *Interaction among siblings that one of them has special needs – parameters for examination*. Paper presented at the 52th Conference of the Israeli Speech, Hearing and Language Association (ISHLA). (Hebrew). \*Please see bibliography attached

In line with other studies (Adamson et al., 2009) the present analysis clearly demonstrates that children with ASD

Interaction

Fig. 1: categories of the coding system

Table 1: Behavioral definitions of the coding system categories

# are capable of some joint engagement tend to be engaged with their social partner for a substantial amount

of time. The pattern of joint engagement in the interaction of a child with ASD and his sister resembled that of a TD child and his mother, with joint engagement for nearly the entire period of observation. This finding supports the assumption made about the special role played by TD siblings of children with ASD, in terms of the impacting the social abilities of these children.

Intensity of interaction in all three mother-child dyads was similar, while the interaction in dyad 4 was less intense. In all four dyads the child was less dominant than his partner. This findings may indicate that the interaction in the sibling dyad was more balanced than the interactions in mother-child dyads. It is possible that the fact that the interaction in dyad 4 was less intense was due to intuitive matching done by the sister to her brother's pace of action initiation. If this is the case, it is in line with findings of El-Ghoroury and Romanczyk (1999), who noted that children with ASD directed more verbal initiations towards their

'less-effortful' siblings than towards their parents. They suggested L. Low Level interaction: Verbal or nonverbal behaviors that denote communicative intent to participate in an that parents try to compensate for lacks in the communication, interaction, however the initiation is not completed: the participant makes it only 'halfway', and his partner is not necessarily aware of the initiation: vague looking while siblings allow a less didactic, more reciprocal interaction. without eve contact; imitating or verbalizations with no addition of spontaneous social behaviors; echolalia; move This explanation relates to another finding in the present analysis: In both dyads of mother-child with ASD (2,3) a large part of the provocative); ritualized interaction (an initiation that starts a preset specific interaction). interaction was coded as discourse-related (i.e., mostly questions **2. Imitation:** Following the partner to another room or another area in room; performing the same behavior as and answers), while in the case of dyad 1 (mother-TD child) and partner within 10 seconds (though not if an act is apparently elicited by the environment, such as bouncing a ball) dyad 4 (sister-child with ASD), a much larger part was coded as 6. Agonistic 4. Play related 5. Discourse 3. Pro-social

5.2.2. Taking turns

5.2.3. No response

6.1. Initiation 4.1. Initiation 5.1. Initiation 3.1. Initiation 6.1.1. Physical aggression 5.1.1. Asking 3.1.1. Give/share 4.1.1. Initiate play 6.1.2. Object struggle 5.1.2. Sharing 4.1.2. Initiate rough & tumble 3.1.2. Cooperate/help 6.1.3. Command 5.2. Response 4.1.3. Clowning 3.1.3. Request. 6.1.4. Insult/disapprova 5.2.1. Answering 3.1.4. Praise/approval 4.1.4. Establishing roles

4.1.5. Establishing rules/turn taking

4.2.1. Positive 3.1.7. Laugh/smile 4.2.2. Negative; 3.2. Response 3.2.1. Positive 4.2.3. No response

4.2. Response

3.2.3. No response.

3.1.5. Comfort/reassura

3.1.6. Physical affection

3.2.2. Negative

6.1.5. Verbal threat 6.1.6. Tattling 6.1.7. Competitive statement 6.1.8. Bribing/bargaining 6.1.9. Physical tease 6.2. Response 6.2.1. Submit

6.2.2. Counterattack. 6.2.3. No response

||play-related. All three dyads involving a child with ASD included actions coded as agonistic, while the interaction between a TD child and his mother did not include even one agonistic action observed. Communicative difficulties are core characteristics in ASD, and those may influence the actions of both partners, as well as the quality of the interaction. It is important to keep in mind the restrictedness of drawing conclusions from a few case studies, especially considering the huge variety among children with ASD and their families. To conclude, despite its limitations, this study makes an

important contribution to the study of social-communicative The set of parameters was found to be effective and informative. The coding system was abilities of children with ASD, by providing a description of applied successfully into INTERACT, and allowed to analyze the data from 4 dyads and draw informative analyzed case studies, and more importantly, by interaction in families of children with ASD. Meticulous analysis

some interesting conclusions. Table 2. Present data collected using INTERACT from 4 case outlining a path and supplying tools for studying sibling studies, focusing parameters: intensity, quality, dominancy, joint engagement.



% as imitation actions (interestingly executed by the mother imitating as Low-Level interaction behaviors.

quality~low level quality~discourse quality~play quality~proscoail The sister was found to be more dominant in the interaction

engagement in the task.

he **light green** line represents duration of mother C being 'on task' The dark brown represents duration of mother C being 'off task' The <mark>light brown</mark> line represents duration of child C being 'on task'

The dark green line represents duration of child C being 'on task' Mother was on task during almost the entire observation, while ch

seconds in which mother was off task were in a transition point from

task to task, while talking to observer.

The <mark>dark brown</mark> line represents duration of sibling being 'on task' The **red** represents duration of sibling being 'off task' The **light brown** line represents duration of child C being 'on task' The green line represents duration of child C being 'on task' Sister was on task during almost the entire observation. Qualitative notes indicate that the few seconds in which the sister was off task were

when she tried to catch child C's attention and bring him back to

fig. 9: J.E dyad 4

of recorded observations using the INTERACT software can contribute significantly to learning about social **communication** of children with and without ASD.

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## Interaction among siblings that one of them has ASD - parameters for examination

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