Crosslinguistic Differences in Autistic Children’s 
Comprehension of Pronouns: English vs. Greek

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1. Introduction

Autism Spectrum Disorder (ASD) is a developmental disorder characterized 
by atypical reciprocal social interaction, atypical communication, and restricted 
repetitive and stereotyped patterns of behavior, interests and activities (ICD-10, 
with ASD has mostly focused on pragmatics and prosody – a consequence of the 
fact that, cross-linguistically, autism implicates impairments in discourse 
abilities and pragmatics (Tager-Flusberg 1999) and atypical expressive prosody 
(McCann and Peppé 2003). In contrast, grammatical aspects of children with 
ASD have received much less attention, and when they do, they often ask 
different research questions, such as, the relation and input of elements of 
graham to communication and social interaction (Hobson et al. 2010). On the 
other hand, the few existing studies that investigate grammatical abilities in 
ASD have focused on English-speaking children. Therefore, it is unclear 
whether the findings are specific to English or they can be generalized to other 
languages. The present study addresses the grammatical abilities of children 
with ASD by investigating morpho-syntactic skills of high functioning Greek-
speaking children, and constitutes the first large scale study of the grammatical 
abilities of Greek-speaking children with ASD. Hence, it enables us to bring in a 
cross-linguistic dimension to the study of language abilities in autism, while 
starting to profile the language abilities of the Greek-speaking population.

1.1. Morpho-syntactic abilities in children with autism

Earlier studies on the acquisition of morpho-syntax in children with ASD 
have often concluded that they do not differ from typically developing (TD) 
children (Tager-Flusberg et al. 1990). Nevertheless, many of these studies have 
not taken into close account the significant heterogeneity among children with
autism in terms of their verbal and non-verbal abilities, with the result that aspects of their linguistic profile, such as difficulties in morpho-syntax, often remained undetected (Bartolucci et al. 1980). More recent studies, however, have identified subgroups of children with ASD on the basis of standardized assessments measuring verbal and non-verbal abilities (e.g., Kjelgaard and Tager-Flusberg 2001; Roberts et al. 2004). These have shown that some children with ASD have normal language skills on all standardized tests, whereas others perform below their chronological age, and, to some extent, similarly to children with Specific Language Impairment (SLI). Roberts et al. (2004) also compared the performance of children with ASD (aged 5 to 15) to children with SLI on tense marking, a domain that has been claimed to be a clinical marker for SLI in English. This study included three groups of participants with ASD based on their scores on the Peabody Picture Vocabulary Test (PPVT) (Dunn and Dunn 1977): Group 1 with PPVT scores within the normal range (85 or higher), Group 2 with PPVT scores between 1 and 2 standard deviations from the mean (70-84), and Group 3 with PPVT scores below 2 or more standard deviations below the mean. In terms of non-verbal IQ, all participants from Group 1 performed within the normal range, whereas this was the case in less than half of the children in Group 2 and only in 4 out of the 19 participants from Group 3. In the production of tense morphology, Group 3 was less accurate than the other two groups in third person singular –s, regular and irregular past tense. Comparison between participants with ASD and SLI showed that the scores of Group 3 on third person singular –s and regular past tense were worse than those of children with SLI in the same age range. Moreover, error patterns were different: low functioning ASD participants used echolalic responses, insisted on previous responses and used semantically inappropriate, off-topic responses. The first two properties were considered to reflect difficulties in understanding the task, whereas the latter, deficits in pragmatics. However, the language impaired participants with ASD had low non-verbal IQ, whereas the non-verbal IQ of the children with SLI was within norms. Therefore, it is unclear whether the difference between the two groups was associated with children’s non-verbal abilities. Finally, it is unclear whether ASD participants with normal language and non-verbal abilities showed age-appropriate production of tense marking because the study did not include a TD control group.

A recent study that included a TD control group was the study by Eigsti and Bennetto (2009), using a grammaticality judgment task to test a wide range of morpho-syntactic phenomena in high-functioning English-speaking autistic children and TD controls matched on age, verbal and non-verbal abilities. Results showed that ASD children had lower sensitivity to morpho-syntactic violations than TD controls only in two phenomena: omission of third person singular –s and progressive aspect –ing. This finding differs from children with SLI, and the researchers concluded that it is consistent with a more general ‘learnability’ explanation for the linguistic abilities of children with ASD.

A TD control group was also included in a recent study by Riches et al. (2010) that used a sentence repetition task to compare the morpho-syntactic
abilities of adolescents with ASD and language impairment (ALI) to adolescents with SLI. The three groups had non-verbal abilities within norms and the adolescents with ALI and SLI had verbal abilities of -1.5 SD or below. The sentence repetition task consisted of subject and object relative clauses, structures that are difficult for children with SLI. The results showed that adolescents with ALI and SLI were less accurate than controls in repeating sentences but there was no significant difference between language impaired children in their overall accuracy. However, there were some important differences between the two groups: adolescents with SLI were affected more than adolescents with ALI from the complexity of the sentences and the former made more object to subject transformations than the latter. This finding is in contrast to Roberts et al. (2004), who showed better performance in children with SLI compared to language impaired participants with ASD. However, this difference could relate to non-verbal abilities. Most language impaired participants with ASD in Roberts et al. had below average non-verbal IQ, whereas the ASD children in Riches et al. had non-verbal IQ within norms.

Finally, Perovic et al. (to appear) investigated morpho-syntactic abilities of children with ASD focusing on the comprehension of pronouns and reflexives in children and adolescents. Pronouns and reflexives have been argued to be affected in children with SLI, although the issue is currently under debate (cf. Novogrodsky and Friedmann 2010). The participants with autism in the above study had low language and non-verbal abilities and were compared to two groups of younger TD children, one matched on language and the other on non-verbal abilities. The study used a two-choice picture selection task, adapted from Wexler and Chien. The participants with ASD performed similarly to the two control groups in the comprehension of pronouns, but their performance was disproportionately affected in the comprehension of reflexives. Perovic et al. argued that this reflects impairment in grammatical knowledge, instead of a general language delay or cognitive deficits. To conclude, it is unclear whether the difficulties in morpho-syntax that children with ASD demonstrate are only attested in children with low verbal and non-verbal abilities, and also whether these involve phenomena that are vulnerable in children with SLI as well. Finally, most studies on the grammatical/morpho-syntactic abilities of children with ASD have focused on English-speaking children. Therefore, it is unclear whether or not the difficulties attested hold cross-linguistically.

The present study is part of a larger one that addresses competence in two areas of grammar that have been found problematic either in children with ASD or in children with SLI, or are especially delayed in TD language: reference of pronouns (Binding Principles) and non-active morphology. In order to address whether these two areas relate to verbal and non-verbal abilities, the study followed strict inclusion and exclusion criteria. Only children within a narrow age range and with high verbal and non-verbal abilities participated. In this manner developmental issues can be factored out and it can be revealed whether autism per se is responsible for difficulties in morpho-syntax. Finally, by
focusing on Greek-speaking children with ASD it investigates whether previous findings on grammatical difficulties in autism hold cross-linguistically.

1.2. Acquisition of Greek pronouns by TD and language impaired children

Greek, along with very many Romance, Germanic (although not English), and Slavic languages, distinguishes personal object pronouns into strong (or full) pronouns, as in (1), and clitic pronouns (or clitics), as in (2).

(1) O Kostas ide ahton
    the Kostas saw him-full pronoun
(2) O Kostas ton ide.
    the Kostas him-clitic pronoun saw
    ‘Kostas saw him.’

Besides the obvious difference that strong pronouns carry lexical stress, whereas clitic pronouns are unstressed and cliticize on the verb, the two types of pronouns differ in many other ways, namely, syntactically, semantically, phonologically, and pragmatically (see Mavrogiorgos 2011 for a recent thorough review). On the other hand, they share similarities as well. First, both inflect for gender, number, and case. Moreover, they are subject to Principle B of Binding theory, as a result of which they cannot have an antecedent in the same clause, hence, ahton ‘him’ in (1) and ton ‘him’ in (2) cannot refer to Kostas.

Research on the acquisition of Binding in Greek has demonstrated that TD children master Principle B very early and do not make errors comprehending neither strong nor clitic pronouns (Varlokosta 1999), by contrast to what seems to be the case in many other languages with strong pronouns, e.g. English (Chien and Wexler 1990, among many others, but see Conroy et al. 2009 for criticisms). Other languages with both types of pronouns, e.g. Italian, show delay in the acquisition of the binding of strong pronouns, but not of clitics.

Varlokosta (1999) has attributed Greek-speaking children’s early mastery of (strong) pronoun reference to the fact that Greek strong pronouns are (also) demonstratives, as is illustrated in example (3).

(3) Ida ahton ton anthropo
    1-saw this the man
    ‘I saw this man.’

A consequence of this status of Greek ‘strong pronouns’ is that they cannot establish accidental coreference with their antecedents, by contrast to strong pronouns in other languages, including English. Thus, sentences such as (4) cannot be grammatical in Greek with ‘him’ referring to John.

(4) I know what Mary, Sue and Bill have in common. Mary likes him, Sue likes him, and Bill likes him too.
Research on the acquisition of pronouns of Greek-speaking children with SLI has shown that they have no difficulties in producing strong pronouns, but show a considerable omission of clitics (Tsimpli and Stavrakaki 1999, Varlokosta 2000, Stavrakaki and van der Lely 2010). A similar picture emerges in terms of comprehension of strong pronouns and clitics. Stavrakaki and van der Lely (2010) found that children with SLI have intact comprehension of strong pronouns, but they make errors in the comprehension of clitics. Interestingly, the predominant errors in the comprehension of clitics involved thematic role reversal, and the second highest number of errors involved interpretation of clitics as reflexives. Finally, Chondrogianni et al. 2010, in an on-line self-paced listening task found that Greek children with SLI are not sensitive to clitic omission when they process sentences in real-time. Given the difficulties of Greek children with SLI with clitics, clitics have been proposed to be clinical markers for SLI in Greek (Tsimpli and Stavrakaki 1999).

Turning to reflexive pronouns, these are complex forms in Greek, (5). They consist of a reflexive element ‘eafos’, inflected for case and number, preceded by the definite article and followed by the possessive pronoun.

(5) O Kostas agapai ton eafos tu.

the Kostas loves the self his

‘Kostas loves himself.’

Greek reflexives are subject to Principle A, namely, they have to have an antecedent within the same clause, hence, Kostas does not love anyone else but himself in (5) above (although, as Iatridou (1988) first pointed out, this is an unusual set up, since the reflexive is subject to Principle A, but the pronominal that accompanies it to Principle B). More recently, Anagnostopoulo and Everaert (1999) revisited Greek reflexives in an attempt to place them within the classificatory system of Reinhart and Reuland (1993). They conclude that Greek reflexive pronouns are substantially different from those of other languages, including English himself/herself. An important consequence of their differences is that they incorporate into the predicate they reflexivize, and do not enter into chain formation with their antecedents, as this would violate Reinhart and Reuland’s (1993) Chain Condition.

Language acquisition research has shown that Greek reflexives are acquired early by TD children, in a pattern that is similar to that of other languages (Varlokosta 1999/2000, 2002). Children with SLI are slightly less accurate than TD children in the comprehension of reflexives in Greek, but they do not demonstrate an unusual pattern (Varlokosta 2002). With the above in mind, we set off to investigate the Binding properties of Greek-speaking autistic children’s pronouns. As said, a strong motivation for this research were the findings of Perovic et al. (to appear), in which reflexive pronouns of English-speaking children and adolescents with ASD were substantially worse than those of matched controls and also substantially worse than their pronouns.
2. The study
2.1. Participants

The study included twenty 5 to 8 years old children with autism (mean age 79.8 months) and twenty typically developing children of similar chronological age (t (38) = 0.429, p > 0.1). ASD children were clinically diagnosed with an Autism Spectrum Disorder using DSM-IV-TR criteria (APA 1994) and the diagnosis was corroborated with the use of Autism Diagnostic Observation Schedule - ADOS (Lord et al. 2000). All children had non-verbal abilities of 80 and above on the Raven’s Coloured Progressive matrices Raven 1998). ASD and TD children were individually matched (+/-5 points) on the raw score of a vocabulary test based on Peabody, with maximum score of 204. The ASD children were recruited from intervention centers in Athens specialized for ASD. The TD children were recruited from mainstream schools in Patras.

2.2. Procedures

Baseline tasks

A battery of baseline tasks was used to ascertain children’s verbal and non-verbal abilities: The Raven’s Coloured Progressive matrices (Raven 1998) for non-verbal abilities, the Diagnostic Test of Verbal Intelligence (DVIQ, Stavrakaki and Tsimpli 2000) for morpho-syntactic abilities, a picture pointing vocabulary task based on PPVT (Dunn and Dunn 1997), and a pragmatics task based on the DELV (Seymour et al. 2005) pragmatics subtest. Table 1 below shows children’s performance on the baseline tasks.

Table 1: Participant characteristics

<table>
<thead>
<tr>
<th>Group</th>
<th>Age (in months)</th>
<th>Non-verbal IQ*</th>
<th>DVIQ†</th>
<th>Vocabulary†</th>
<th>Pragmatics†</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASD children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>79.8</td>
<td>103.5</td>
<td>19.9</td>
<td>102.3</td>
<td>16.6</td>
</tr>
<tr>
<td>SD</td>
<td>10.4</td>
<td>13.1</td>
<td>2.9</td>
<td>22.7</td>
<td>3.6</td>
</tr>
<tr>
<td>Range</td>
<td>61-107</td>
<td>80-135</td>
<td>12-24</td>
<td>57-143</td>
<td>5-22</td>
</tr>
<tr>
<td>TD children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>81.1</td>
<td>98</td>
<td>21.3</td>
<td>102.7</td>
<td>19.5</td>
</tr>
<tr>
<td>SD</td>
<td>8.7</td>
<td>11.1</td>
<td>1.6</td>
<td>22.8</td>
<td>3.1</td>
</tr>
<tr>
<td>Range</td>
<td>66-96</td>
<td>80-120</td>
<td>19-24</td>
<td>62-141</td>
<td>12-24</td>
</tr>
</tbody>
</table>

*Non-verbal IQ: standard score, †DVIQ, Vocabulary, Pragmatics: raw score
The two groups did not differ from each other in their non-verbal abilities (t (38) = -1.436, p > 0.1) and in their vocabulary (t (38) = 0.49, p = 0.1). The children with ASD had a slightly lower performance in the production of morpho-syntax, but this difference did not approach significance (t (38) = 1.809, p = 0.078). Finally, the ASD children had a significantly lower score in the pragmatics test compared to the TD children (t (38) = 2.674, p = 0.01).

**Experimental task**

A picture selection task was designed to assess the interpretation of pronouns. The task included three conditions testing: 1) strong pronouns, 2) clitic pronouns, 3) reflexive pronouns, and another three testing non-active morphology that are beyond the scope of this paper. Six sentences were created for each condition. Each one was presented together with three pictures; one was the target picture and the other two foils. The sentences were pre-recorded by two female native speakers of Greek using normal speed and natural intonation in a noise isolated booth. Adobe Audition was used to edit the recorded sentences. The pictures were designed by a professional designer and care was taken to avoid biases due to the size and prominence of the figures/persons.

**Materials**

**Condition 1: Strong pronouns**

Six actional verbs were used to create the sentences involving strong pronouns (pleni ‘wash’, luzi ‘shampoo’, dini ‘dress’, skupizi ‘wipe’, skepazi ‘cover’, haidevi ‘caress’). The subject of each sentence was a proper name or a kinship term and the strong pronoun was always the object of the sentence:

(6) Ι Μαρια πλενι αφτιν.
the Mary washes she-strong pronoun-acc
‘Mary is washing her.

Subjects and objects had the same gender, masculine or feminine (half and half). In example (6), the strong pronoun corresponded to the aunt. So, the target picture showed Maria washing a lady identified as the aunt. The second picture depicted the same persons with their thematic-roles reversed, i.e., the aunt was washing Maria (theta-role reversal in Table 3). The third picture depicted the subject of the sentence doing a reflexive action (reflexive interpretation in Table 3). Hence, in this particular example, the third picture showed Maria washing herself. To make all pictures similar in terms of the number of participants, the pictures with the reflexive action included the second person, in this example the aunt, watching nearby.

**Condition 2: Clitic pronouns**

The six verbs used with strong pronouns were also used with clitic pronouns. Again, the subject of each sentence was a proper name or a kinship term, but this time the object was a clitic pronoun, as shown in (7) below, and different persons were associated with each verb than in the previous condition.
The target picture for (7) showed mom washing Katy. As in the condition with strong pronouns, the second picture showed the same pictures with the thematic roles reversed (theta-role reversal), and the third picture depicted the subject of the sentence (mom) doing a reflexive action (washing herself) while Kate was watching nearby (reflexive interpretation).

**Condition 3: Reflexive pronouns**

Three of the verbs used in Conditions 1 and 2 were also used in Condition 3 (skupizi ‘wipe’, skepazi ‘cover’, haidevi ‘caress’) together with three other verbs that are grammatical with a reflexive pronoun as their object (zografizi ‘paint’, agalitazi ‘cuddle’, kitazi ‘look at’). The three verbs of the previous two conditions that were not used in Condition 3 were more natural with non-active verbal morphology to express reflexivity (rather than with active verbs followed by a reflexive pronoun). As previously, the subject of each sentence was a proper name or a kinship term, but this time the object was a reflexive pronoun, as shown in (8), and different persons were associated with each verb.

(8) O Giorgos skepazi ton eafto tu.

‘George is covering himself.’

The target picture for (8) showed Giorgos covering himself and a second person (the grandfather) standing nearby. The second picture depicted the person corresponding to the subject of the sentence (Giorgos) doing the action associated with the verb of the sentence (cover) upon another person (the grandfather). This is the pronoun interpretation in Table 3. The third picture depicted the same reflexive action as in the target picture, but the agent is the second person and not the subject of the sentence, i.e., the grandfather covering himself while Giorgos was standing nearby (reflexive interpretation – different agent in Table 3).

All children completed first the baseline tasks in one 45 minute session. In the next session they completed the experimental task, which was presented on a laptop using PowerPoint. Children sat in front of the laptop and in each trial they first saw the pictures, then they listened to the sentence, and they had to choose one picture out of a choice of three. Before administering the experimental task, children were shown a picture with all the persons appearing in the various sentences/pictures of the task and were introduced to each of them by giving their name, i.e., mom, dad, grandma, grandpa, Kostas, Maria, etc. This picture remained next to the children during the experiment, so that they could identify easily the persons in the course of the task, assisted by the fact that the name of each person was written underneath it in this picture. Moreover, at the beginning of each trial, the experimenter introduced each participant with their names in
order to ensure that the children could identify the characters. Two practice trials were used with all children to familiarize them with the task.

3. Results

Table 2 below shows the children’s accuracy in the comprehension of strong pronouns, clitics, and reflexive pronouns:

<table>
<thead>
<tr>
<th>Group</th>
<th>Strong pronouns</th>
<th>Clitics</th>
<th>Reflexives</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASD children</td>
<td>94.9</td>
<td>88.3</td>
<td>97.5</td>
</tr>
<tr>
<td>Mean</td>
<td>8</td>
<td>17.2</td>
<td>6.2</td>
</tr>
<tr>
<td>SD</td>
<td>83-100</td>
<td>50-100</td>
<td>83-100</td>
</tr>
<tr>
<td>TD children</td>
<td>93.3</td>
<td>99.2</td>
<td>99.2</td>
</tr>
<tr>
<td>Mean</td>
<td>13.7</td>
<td>3.8</td>
<td>3.8</td>
</tr>
<tr>
<td>SD</td>
<td>50-100</td>
<td>83-100</td>
<td>83-100</td>
</tr>
</tbody>
</table>

To investigate differences between the two groups and the three pronoun types, we conducted an ANOVA with Group as a between subjects factor (ASD, TD), and Pronoun Type as a within subjects factor (full pronouns, clitics, reflexives). We obtained a significant interaction between Group and Pronoun Type (F (1, 38) = 4.27, p = 0.017, \( \eta^2 = 0.101 \)) reflecting differences between the groups in the comprehension of pronouns. One-way ANOVAs showed no significant differences between pronouns in each group, and there were no significant differences between the two groups on full pronouns and reflexives. However, children with ASD were significantly less accurate than TD children in the comprehension of clitics (F (1, 38) = 7.62, p = 0.009).¹

To uncover the error pattern in the two groups, we analyzed responses in terms of the choices children made when their response was inaccurate. As seen in Table 3, in all three conditions a very small number of errors involved

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¹ The accuracy of two children with ASD was at 50%, which is 2 standard deviations below the mean of the group (88.3%), hence, they could be classified as outliers. To investigate whether the significant difference between the two groups was caused by these two children, we excluded their data and re-run the same analyses. These showed also a significant difference between the two groups (F (1, 36) = 5.68, p = 0.023) indicating that the difference between groups was not caused by these two children.
children interpreting the subject of the sentence as the agent of the action depicted in the picture giving rise to the interpretation of strong pronouns as reflexives and vice versa. In clitic pronouns, however, the majority of errors of children with ASD (10 out of 14) involved theta-role reversal, that is, children interpreting the subject of the sentence as the patient. Thus, clitic pronouns differed from strong pronouns, for which no such error was found.

### Table 3: Error analysis (number of errors per type)

<table>
<thead>
<tr>
<th></th>
<th>ASD</th>
<th>TD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strong Pronouns</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reflexive interpretation</td>
<td>6/6</td>
<td>8/8</td>
</tr>
<tr>
<td>Theta-role reversal</td>
<td>0/6</td>
<td>0/8</td>
</tr>
<tr>
<td><strong>Clitics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reflexive interpretation</td>
<td>4/14</td>
<td>0/1</td>
</tr>
<tr>
<td>Theta-role reversal</td>
<td>10/14</td>
<td>1/1</td>
</tr>
<tr>
<td><strong>Reflexive Pronouns</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pronoun interpretation</td>
<td>3/3</td>
<td>1/1</td>
</tr>
<tr>
<td>Reflexive interpretation, different agent</td>
<td>0/3</td>
<td>0/1</td>
</tr>
</tbody>
</table>

### 4. Discussion

Our study found that high functioning Greek-speaking children with autism behaved differently from TD children only with respect to comprehending the binding properties of clitic pronouns. Even then, however, although ASD children performed significantly lower than TD children, they still performed quite well (88.3% correct). Therefore, given recent findings on the binding properties of English-speaking ASD children’s pronouns, we need to explain two aspects of our findings: a) why Greek-speaking children did not perform low on reflexive pronouns, by contrast to the English-speaking children in the study of Perovic et al. (to appear), and b) what is the source of Greek-speaking ASD children’s low(er) performance on clitics when compared to TD children.

#### 4.1. Greek-speaking vs. English-speaking ASD children on reflexives

There are at least three factors that can explain the good performance of the ASD children of our study on reflexives: a) the study of Perovic et al., which found disproportionally low performance of English-speaking children on
reflexives used a picture-selection task with sets of two pictures to choose from, but was complicated in ways ours was not. In particular, the referent of the pronoun was contained in a possessive DP (although c-commanding effects were factored out by the authors). This is not to say that our study was too easy, as children performed only 66% correct on passives sentences, for instance. b) Greek reflexives are different from their English counterparts in relevant ways, as mentioned in section 1.2. Thus, it is possible that Greek reflexive pronouns, by contrast to their English ones, are not interpreted via chain formation with their antecedents, and this may explain why children do not encounter problems in Greek. c) the current study focused only on high functioning ASD children, while the study of Perovic et al. included mostly low functioning. That the last factor is certainly implicated in the different findings on reflexives between the above study and ours is supported by recent results of Modyanova et al. (this conference). This study investigated high functioning English-speaking children via both a picture selection task and a truth value task, and found that high functioning children performed almost at ceiling on reflexives.

4.2. ASD children’s lower performance on clitics

Our study revealed that comprehension of the reference of clitics is weak even among high functioning children with autism. We believe that children’s problems may stem from problems with clitics per se, rather than with binding, in ways that have to be made clear. There are two factors that support such a direction. First, as was reported to us by the speech pathologists of the ASD children that were tested, these children seem to have problems with producing clitics, in the sense that they produce either the corresponding strong pronouns or the full NPs, where TD children or adults would give clitics instead. Regardless of how precisely such a behavior relates to problems with reference of clitics, we are currently investigating whether this anecdotal information is true, i.e., whether Greek-speaking children with ASD indeed produce fewer clitics than the TD children matched with them.²

In addition to the above observation, the type of errors that children made leads us to another direction, which is not necessarily incompatible with the previous one. Note that the predominant error of ASD children is what we called ‘theta-role reversal’. This interpretation can be the result of mistaking a sentence such as (7), as a clitic left dislocation structure as in (9) below.³

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² If ASD children indeed produce fewer clitics, it is possible that their most common error in binding is such only by default. Their only alternative would be to interpret clitics as reflexives, a pattern that is not encountered in children’s interpretation of clitics.

³ As mentioned in section 1.2., a similar error pattern was found for Greek-speaking SLI children by Stavrakaki and van der Lely (2010). It is attributed to problems in feature checking associated with complex structures that involve movement.
All it takes for such a mistake to arise, however, is problems with case, namely, mistaking *i* ‘the-nom’ as *ti* ‘the-acc’. In order to see whether this line of reasoning is on the right track, what we need to do, and we are currently also doing, is a study of ASD children’s knowledge of case.

Acknowledgments

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