

THE PRODUCTION OF OBJECT CLITIC PRONOUNS IN DEVELOPMENTAL LANGUAGE DISORDER: EVIDENCE FROM GREEK-SPEAKING CHILDREN

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ABSTRACT

The present study investigates the production of object clitic pronouns in Greek-speaking children with Developmental Language Disorder. Previous studies have shown that the production of object clitic pronouns is problematic for children with Developmental Language Disorder, especially in 3rd person singular. This deviant performance is conceivably due to the involvement of the morphosyntactic level, which is impaired in Developmental Language Disorder. In the present study, we tested ten (N=10) children with Developmental Language Disorder and ten (N=10) non-impaired peers. We used an elicitation task in order to depict the production of object clitic pronouns in Greek-speaking monolingual children with and without Developmental Language Disorder. Our results suggest that children with Developmental Language Disorder, indeed, scored lower than their non-impaired peers. As previous studies indicate the Developmental Language Disorder group avoided to use the object clitic pronouns and preferred to use the full determiner phrase instead of the object clitic pronoun. In addition, errors in gender and case, and to a lesser extend in number, were observed. By contrast, this performance was not observed in the control non-impaired group, who scored at ceiling and produced the object clitic pronouns. From our results we conclude that object clitic pronouns in the 3rd person are particularly problematic for Greek-speaking children with Developmental Language Disorder.

Keywords: Developmental Language Disorder, object clitic pronouns, production, elicitation task.

INTRODUCTION

Object clitic pronouns lie both in morphosyntax and discourse. Children with Developmental Language Disorder (DLD) face problems in the use of clitic pronouns; conceivably due to morphosyntactic and/or discourse management difficulties. Previous studies focused on 3rd person clitic use identifying morphosyntactic problems. There is a vast majority of previous studies that have found that direct object clitics are problematic for children with DLD cross-linguistically (Guasti 1994; Leonard & Bortolini 1998; Jakobson & Schwartz 2002; Paradis & Crago 2002; Bortolini et al. 2006; Gavarró 2012). Often this group omits clitics even in obligatory contexts and even when production starts quite early (at 19 months) and it is almost fully acquired by the age of 2;6 (Marinis 2000; Tsimpli 2005).

Data from Greek speaking children are not in consensus. Thus, some studies claim that object clitic pronouns are omitted by Greek-speaking children with DLD (Tsimpli & Stavrakaki 1999; Tsimpli 2001); while others observe normal production of clitics (Varlokosta 2002; Tsakali & Wexler 2003; Terzi 2007; Manika, Varlokosta & Wexler 2011) but low sensitivity

to the omission of them (Chondrogianni et al. 2014). These confounding results may arise from differences in methodology. Despite the confounding results, the errors in clitics in young children seem to be affected by the interpretability issues (Tsimpli & Stavrakaki 1999; Mastropavlou 2006; Tsimpli & Mastropavlou 2007). Hence, with age, children decrease clitic omissions and increase clitic substitution (Paradis & Gopnik 1997; Tsimpli & Mastropavlou 2007; Chondrogianni et al. 2014); and although they produce clitics, they still face problems in gender, case and number. Moreover, children with DLD often prefer to use full determiner phrases (DPs) instead of direct object clitic pronouns (Arosio et al. 2014).

LITERATURE REVIEW

The acquisition of morphosyntax in DLD is more deviant, particularly, at early developmental stages (Leonard 1997; Bishop 1979; Bishop 1994; Clahsen et al. 1997). Children with DLD omit the same grammatical morphemes when the sentence processing is online (Montgomery and Leonard 2006). English-speaking children with DLD face problems with tense, especially in production (Rice and Wexler 1996). However, problems with tense are not deviant in all languages. For instance, in Greek tense do not seem to be problematic (Tsimpli and Papadopoulou 2009). Another deviant morphosyntactic phenomenon is clitic pronouns. Hence, Greek-speaking children with DLD tend to omit clitics in obligatory contexts. Nevertheless, the clitic production begins in very early stages in TD children (19 months) and reaches ceiling performance until the age of 2;6 years (Marinis 2000; Tsimpli 2005). Some found that the largest proportions of 3rd person object clitic are omitted by Greek-speaking children with DLD (Tsimpli and Stavrakaki, 1999; Tsimpli 2001); whereas others suggested that they have low comprehension of ungrammaticality of omissions (Chondrogianni et al. 2014), but high production of clitic pronouns (Manika, Varlokosta and Wexler 2011; Terzi 2007; Tsakali and Wexler 2003; Varlokosta 2002).

In Greek and in Romance languages, children with DLD omit clitic pronouns and definite articles in production (Jakubowicz et al. 1998; Tsimpli 2001). Especially, in French and Italian languages, the definite article and the third object clitic pronouns are omitted by children with DLD (Jacuwicz et al. 1998; Bortolini et al. 2002; Paradis, Cargo and Genesee 2005). However, French children with DLD demonstrate better comprehension than production of clitic pronouns (Jakubowicz and Nash 2006). The acquisition of clitic pronouns and definite articles in Greek-speaking children with DLD is a significant clinical indicator. However, the strong pronouns and the indefinite articles remain intact (Tsimpli and Stavrakaki 1999; Varlokosta 2000; Diamanti 2000). Greek-speaking children with DLD seem to prefer to produce DPs, i.e. *I Maria klotsise tin bala*. “The Mary kicked the ball” (Tsimpli and Stavrakaki 1999). The performance of the clitic pronouns of children with DLD may be varied to severity of the deficit and the chronological age of children with DLD (Stavrakaki 2006).

Italian-speaking children with DLD demonstrate a difficulty to produce a sentence containing a clitic pronoun, when they should produce this as a sentence or the production demands are increased. Often, they cannot retrieve the appropriate clitic form simultaneously (Laurence, Leonard and Dispaldro 2013). French-speaking individuals with DLD present a weakness with the accusative clitic production. A strong age effect for accusative clitic production is 6-11 years old in TD children. Thus, the difficulty with accusative clitic production occurs from non-optimal functioning of extra-linguistic systems, which illustrate a weakness to the complexity of linguistic operations (Tuller et al. 2011).

In on-line processing of articles and clitic pronouns by Greek-speaking children with DLD the following findings are observed; firstly, children with DLD omitted the definite articles and the stronger effect was in definite articles in the subject in compare to the object position. Secondly, they often omitted the indefinite articles as indicated by the significantly longer reaction times (RTs) in ungrammatical in compare to grammatical conditions. Thirdly, they omitted clitic pronouns as exhibited by the lack of grammaticality effect in this condition (Chondrogianni, Marinis and Edwards 2010).

A cross-linguistic study of the acquisition of clitic and pronoun production that developed a method to examine the acquisition of 3rd person pronominal objects for 16 languages in 5-year-old children found high rates of pronominal production in children with relevant pragmatic and morphosyntactic knowledge that involved in the production of pronominals. However, a child 5 years old was not able to produce few or any pronominal and it was a child with high risk for language impairment (Varlokosta et al. 2015). Italian-speaking children with DLD aged 6-11 years old tend to produce a lexical noun that introduced by full DPs instead of direct object clitic production. Direct object clitic production includes complex morphosyntactic operations in which children with DLD demonstrated a failure to produce those (Arosio et al. 2014). According to a study that investigated the comprehension and production of pronouns by Greek-speaking children with DLD found that these children were significantly impaired in the comprehension and production of clitics that included complex syntactic dependencies with checking features through movement. In Greek-speaking children with DLD the deficits in object clitics occur from a domain specific impairment with syntactic dependencies that incur feature checking at the level of clause with the use of movement (Stavrakaki and van der Lely 2010). Serbian-speaking children with DLD tend to omit clitics and auxiliary verbs. Moreover, the rate of the above omissions does not decrease with the increasing of their chronological age. Thus, as in other languages, Serbian-speaking children with DLD exhibit particular difficulty with clitics and auxiliary verbs (Vukovic and Stojanovic 2011). Greek preschool children with DLD tend to omit object clitics more significantly than typically developing children with the same chronological age. However, they demonstrate fewer difficulties in definite articles, whereas genitive possessive clitics performance is high (Smith et al. 2008).

METHODOLOGY

Participants

In the present study participated twenty (N=20) monolingual Greek-speaking children aged 5.8-9.1. They formed two groups: (a) ten (N=10) children with Developmental Language Disorder formed the DLD group (mean age: 7.5 years; SD: 1.1) and (b) ten (N=10) typically developing children formed the control group (mean age: 8.1 years; SD: 0.9). The two groups were age matched and did not differ in terms of their chronological age ($U = 19.500$, $z = 1.319$, $p = .195$). The DLD group was recruited by speech and language therapists in Thessaloniki and the control group was recruited by Greek public schools. Both groups were also matched in terms of their socioeconomic status.

Material

We administered three (N=3) tests in all participants; two baseline tasks and an elicitation task (see COST ISO804; for further details see Prevost 2013). The baseline tasks outlined participants' profile of their verbal and non-verbal abilities. The first baseline task was an expressive vocabulary task in Greek (Vogindroukas et al. 2009), in which participants named the picture of an object. The second baseline task tested participants' non-verbal fluid

intelligence (Raven et al. 1998), in order to exclude from the study any participants with non-typical fluid intelligence.

The third task was the elicitation task that tested the production of object clitic pronouns. It was designed to evaluate 3rd person singular object clitic pronouns. It consisted of twelve (N=12) target sentences and five (N=5) filler sentences. All pictures depicted an animate character, who carried out an action to another animate character or to an inanimate one (i.e. object). The researcher introduced the main characters/ objects to the participant and asked the participant ‘*what is X doing to/ with Y?*’. In both questions and answers the researcher and the participant used simple present.

Figure 1. Sample target item from the COST ISO804



Researcher: *Cita! Eđo ine ena koritsi ce eđo ine mia kamilopardali.*

‘Look! This is a girl and there is a giraffe.

Pezmu, ti kani to koritsi stin kamilopardali?

Tell me: What is the girl doing with the giraffe?’

Target response: *Tin pleni* (she-CL washes)

She (the girl) is washing it (the giraffe).

A warm-up session preceded the main procedure, in order to familiarize participants with the task. The total score was 12 (1 point per sentence); fillers were not marked.

RESULTS

In the following analyses, we used non-parametric tests (*Mann Whitney U*), since our groups were small in number and the distribution was not normal.

The results of the baseline tasks show that in the non-verbal intelligence task no differences were attested between the two groups ($U=25.000$, $z=2.875$, $p=.067$). The finding suggests that the two groups are comparable to each other.

By contrast, differences were observed in the vocabulary task ($U=.000$, $z=-3.371$, $p=.001$), the control group outperformed, as expected, the DLD group (see Table 1).

Table 1. Participants’ performance on the baseline tasks.

<i>Group</i>	Vocabulary task (/50) (SD)	Non-verbal intelligence task (/36) (SD)
<i>DLD</i>	30.1 (9.9)	27.7 (4.5)
<i>controls</i>	41.4 (1.4)	25.5 (3.5)

Similarly, in the elicitation task of the clitics, differences were observed between the groups ($U=9.000$, $z=-2.478$, $p=.013$). Hence the control group scored higher than the DLD group (83.3% and 33.3%, respectively). Further qualitative analyses exhibited that in most of the cases participants of both groups produced full DPs instead of clitics. In addition, children with DLD produced errors in gender (73.2%), in case (26.4%) and few errors in number (0.4%). Some of their errors are presented below, in Table 2.

Table 2. Errors of the DLD group.

Features	Target sentence	Participants' utterances
Gender	<i>Tin</i> pleni. She (the girl) is washing it (the giraffe).	* <i>To</i> (neutral) pleni.
Case	<i>Tin</i> petai. He (the boy) throws it (the ball).	* <i>Tu</i> (genitive) petai.
Number	<i>Tin</i> pleni. She (the girl) is washing it (the giraffe).	* <i>Tus</i> (plural masculine) pleni.

The aforementioned errors suggest that most of the problems are found in gender, where neutral is overused. In terms of the case they used genitive in some cases and in very few cases they used plural instead of singular.

DISCUSSION

This study aimed to test the production of object clitic pronouns in monolingual Greek-speaking children with DLD using a picture-based elicitation task. The results in the baseline tasks have confirmed previous studies, since they have shown that children with DLD do not differ in terms of their non-verbal fluid intelligence; by contrast differences were found in terms of their vocabulary knowledge (Leonard 1997).

Similarly, the findings in the clitic task confirm previous studies (Tsimpli & Stavrakaki 1999; Tsimpli 2001; Stavrakaki, Chrysomallis & Petraki 2011; Chondrogianni et al. 2014), suggesting that the clitics remains demanding for these children. Therefore, this group avoid to use object clitic pronouns and prefer to use full DPs (Arosio et al. 2014), since they do not require movements (Stavrakaki and van der Lely 2010). In the present study, we did not observed omissions of clitic pronouns (in contrast to previous studies, see Tsimpli & Stavrakaki 1999; Tsimpli 2001); conceivably because our participants are older. As found in previous studies, children decrease clitic omissions and increase clitic substitution (Paradis & Gopnik 1997; Tsimpli & Mastropavlou 2007; Chondrogianni et al. 2014).

The present study also confirms previous findings that claim children with DLD tend to omit object clitics more significantly than typically developing children with the same chronological age. Moreover, they manifested no difficulties in define articles, and the genitive possessive clitics performance is higher (in line with previous studies, see Smith et al. 2008). Interpretability seems to affect DLD group's performance (Tsimpli & Stavrakaki 1999; Mastropavlou 2006; Tsimpli & Mastropavlou 2007), since errors were observed in case; nonetheless the errors in animate gender that observed in the present study does not agree with the interpretability hypothesis (Tsimpli & Stavrakaki 1999; Mastropavlou 2006; Tsimpli & Mastropavlou 2007). Therefore, the issue remains open for further discussion.

The limitations of the present study are the following: comprehension of direct object clitic pronouns was not tested; a larger age span should be tested in order to observe the production of clitics in younger and older children; finally a free production task, such as a narrative task would exhibit the spontaneous use of direct object clitic pronouns.

CONCLUSIONS

The present study tested the production of object clitic pronouns by means of an elicitation task in monolingual Greek-speaking children with Developmental Language Disorder. The present findings verify the outcomes of previous studies, indicating that the use of clitics remains problematic for this group. More specifically, we observed that the children with Developmental Language Disorder tended to avoid the object clitic pronouns; instead, they preferred to use full determiner phrases. The outcome is expected since the use of the clitic pronoun requires a movement, which is more demanding for this group that faces problems in morphosyntax and more specifically in gender and case and to a lesser extent to number. Finally, the present findings suggest that the production of object clitic pronouns remains impaired even in older ages and even after language interventions; however, at this point, we should note that these children did not attend focused interventions working on clitic pronouns (see Ebbels & van der Lely 2001; Ebbels 2007).

ACKNOWLEDGEMENTS

We would like to thank the children and their parents for their participation in this study and the speech and language therapists for their constant support.

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