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# The acquisition of the clitic *ci* among typically developing Italian preschoolers: preliminary data \*

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**Abstract:** This paper explores the acquisitional patterns of the Italian *ci* morpheme and its potential role as a clinical marker for Developmental Language Disorder (DLD) in Italian-speaking children, taking into account its distributional, sociolinguistic, and typological properties. To this purpose, we (i) administered a test for the elicited production of clitic pronouns in Italian – which we will refer to as “T-PEC” in the following – to 126 school-aged Italian speakers and (ii) developed a novel test focused on the *ci* morpheme in order to investigate its production by five-year-old typically developing children. The results and their theoretical interpretations are of particular interest since they could shed light on the acquisition of the morpheme, thus helping understand both typical and atypical grammar development. Given the continuity of the two, it could also be applied to the diagnosis and rehabilitation of DLD, which remains a major challenge for child neuropsychiatrists, psychologists, and speech-language therapists.

## Introduction

The study of clitic elements presents a major challenge to researchers in linguistics. From a theoretical perspective, such elements display high cross-linguistic variation. Therefore, it is difficult for researchers to generalize about their nature, syntactic behavior, and meaning (cf. Aikhenvald 2002; Sadock 1995; Zwicky 1977). Moreover, the subgroup of clitic elements this study focuses on, namely Italian clitic pronouns, is characterized by a severe structural deficiency (cf. Cardinaletti/Starke 1999) that is responsible for their prosodic/phonological weakness – i. e., lack of prominence and impossibility of bearing accents – as well as for their syntactic limitations: they cannot be focused, topicalized, uttered in isolation, and coordinated (cf. Cardinaletti/Starke 1999; Kayne 1975). From an acquisitional perspective, a narrower subgroup of clitic pronouns – third-person direct-object pronouns – appear to be the most difficult to acquire by typically developing Italian preschoolers. Children start producing such clitics at the age of two and optionally omit them up to the age of four (cf. Caprin/Guasti 2009). Additionally, these elements have proven to be reliable markers of developmental language disorder (DLD) for Italian preschoolers: children with DLD continue omitting these clitics up to the ages of 10–11 or until the beginning of logopaedic treatments (cf. Arosio et al. 2014; Leonard/Dispaldro 2013). Several

studies on language acquisition (cf. Bortolini/ Leonard/Caselli 1998; Bottari et al. 2001) have stated that the grammar of typically developing children and that of language-impaired children differ in degree rather than type, thereby posing the same processes and restrictions for both. Particularly, according to Leonard (2014), there is a strong link between the difficulty of acquiring a linguistic element by typically developing children and its likelihood of being a clinical marker of DLD. To account for the omission of third-person direct-object clitics among both typical and atypical developers, several reasons have been proposed by, among others, Bortolini et al. (2002); Bortolini et al. (2006); Gavarrò (2012); Leonard/Dispaldro (2013).

However, from a theoretical point of view, third-person direct-object clitics are not the most complex clitics that the Italian language displays. As a matter of fact, the clitic *ci* – in its instrumental and locative functions – appears to be more difficult than third-person direct-object clitics from different points of view: distributional/semantic (cf. Leonard 2014), socio- linguistic (cf. Berruto 2012; Simone 1993), and typological (cf. Berretta 1986; Bybee 1985; Greenberg 1966). Moreover, the acquisitional pattern of clitics by those who are learning Italian as a second language confirms these intuitions, given that the instrumental and locative *ci* is learned after the paradigm of third-person direct-object clitics (cf. Berretta 1989).

Given these premises, this study aims to investigate the acquisition pattern of the clitic *ci* in its different functions among typically developing preschoolers to check whether its theoretical difficulty can be confirmed by empirical data. To address this aim, an elicited production test was carried out that focused on five different functions of the clitic *ci*, i. e., instrumental, locative, accusative (first plural person), dative (first plural person), and inflected forms of the verb *esserci*. Both functions of the clitic and linguistic contexts of the test are based on a small corpus of semi-spontaneous speech of five-year-old Italian speakers. A broader purpose of the study is identifying the most difficult functions of the form *ci*, which could serve as a starting point for future research on new possible markers of DLD for Italian preschoolers.

The paper will be structured as follows: first, it will present an overview of the Italian system of clitics together with a brief summary of their role as clinical markers of DLD (Sections 2.1 and 2.2). Second, the distributional, socio-linguistic, and typological properties of the clitic *ci* will be described and compared with the main hypotheses in the literature to explain the difficulties in the production of third-person direct-object clitics (Sections 2.3, 2.4 and 2.5). Third, the performed experiments will be reported and results discussed in light of previous literature (Sections 3 and 4). Finally, the outcomes of the study will be summarized and general conclusions will be drawn (Section 5).

## Background: Italian clitics and the T-PEC test

### *An insight into Italian clitic pronouns*

The Italian language possesses a complex and rich pronominal system, which consists of two complete series, one strong (tonic) and one clitic, in complementary distribution. Moreover, it also owns weak pronouns, according to the hierarchical tripartition of pronouns proposed by Cardinaletti/Starke (1999): *egli.ella* ‘he/she,’ *esso.essa* ‘it.M/it.F,’ and *loro* ‘them’ which are in complementary distribution with the strong ones *lui.lei* ‘he/she’ and the homonymous *loro* ‘them.’

Italian personal pronouns are marked for person (first/second/third), number (singular/plural), and grammatical function (subject/direct object/indirect object), associated with a vestigial case inherited from Latin. Additionally, third-person pronouns are marked for gender (masculine/ feminine). Clitic pronouns cannot occur in the subject position and, therefore, display a slightly different functional distinction: direct object/indirect object/secondary complements (e. g., loc-ative, instrumental). Instrumental, locative and genitive clitics are only marked for case. Cases, forms, and grammatical functions are listed in Table 1

CASE	CLITIC PRONOUNS		GRAMMATICAL FUNCTIONS
	Singular	Plural	
Accusative	1 <sup>st</sup> : <i>mi</i> (‘me’)	1 <sup>st</sup> : <i>ci</i> (‘us’)	Direct object
	2 <sup>nd</sup> : <i>ti</i> (‘you’)	2 <sup>nd</sup> : <i>vi</i> (‘you’)	Copula comple-
	3 <sup>rd</sup> : <i>lo/la</i> (‘him/her’)	3 <sup>rd</sup> : <i>li/le</i> (‘them.M/them.F’)	ment
Dative	1 <sup>st</sup> : <i>mi</i> (‘to me’)	1 <sup>st</sup> : <i>ci</i> (‘to us’)	Indirect object
	2 <sup>nd</sup> : <i>ti</i> (‘to you’)	2 <sup>nd</sup> : <i>vi</i> (‘to you’)	(+ animate)
	3 <sup>rd</sup> : <i>gli/le</i> (‘to him/her’)	3 <sup>rd</sup> : <i>gli</i> (‘to them.M/to them.F’)	
Instrumental	<i>ci</i> (‘with it’)		Instrumental
Locative	<i>ci</i> (‘in it/to it’)		Locative
			Indirect object (- animate)
Genitive	<i>ne</i> (‘of it’)		Partitive
			Origin

**Table 1**

### Cases and grammatical functions of Italian clitics

Italian clitics (as well as clitics of the Romance languages) are adverbial, i. e., their host is always a verb. When the sentence only contains an inflected lexical verb, the verb is the host (*Anna lo=ama* ‘Anna loves=him’); when an auxiliary is present, it becomes the clitic host (*Anna lo=ha amato*, lit. ‘Anna him=has loved’). Moreover, with restructuring verbs (modal, aspectual, and motion verbs), the clitic can appear either proclitic on the superordinate verb (of which it is not an argument) or enclitic on the infinitival verb (*Voglio far=lo/Lo voglio fare*, ‘[I] want to do=it/[I] it=want to do’). This phenomenon is known as “clitic climbing”

and is explained assuming two different positions are available for the clitics: one is placed inside the functional projections (FP) in the extended projection of the lexical verb whose heads are the restructuring verbs and the other is placed within the lexical domain of the infinitival verb (cf. Cardinaletti 2015).

However, regardless of which host they select, these morphemes preserve a grammatically ruled alternation of enclisis/proclisis. They are proclitic with finite moods (1) and enclitic with non-finite verbal moods (2) and the imperative mood (3)

- (1) *Ti* *chiamo*  
you.2PDO-CL call.IND.PRS.1P.SG  
‘I call you’

(1)

- (2) *Chiamarti*  
call.INF–you.2PDO-CL  
‘to call you’

(2)

- (3) *Chiamami!*  
call.IMP.2P.SG–me.1PDO-CL  
‘Call me!’

(3)

Example (1) reveals another feature of Italian clitics: when they are proclitics, they deviate from the non-marked Italian order of constituents (Subject-Verb-Object, SVO), as the order in a sentence such as (1) is SOV. This is another source of complexity in the use of clitics (see Section 2.3 for further discussion) in addition to their prosodic weakness and the fact that clitics can only be used in de-emphatic contexts; otherwise, a strong pronoun is chosen. According to the scale of referring expressions proposed by Givón (1983), clitic pronouns together with grammatical agreement are used to mark the reference to a more continuous/accessible topic, i. e., antecedent, than strong pronouns. In other words, when the topic is continuous or easily retrievable from the (extra-)linguistic context, a clitic pronoun is chosen as its anaphora. On the contrary, when the topic changes or is less retrievable, a heavier anaphora is needed, i. e., a strong pronoun

When a past participle co-occurs with a clitic, the Italian language also requires gender and number agreement between the participle and pronoun (4)

- (4) *L'(a)*                      *hanno*                      *chiamata*  
her. 3PDO-CL.F.SG    have.AUX.3P.PL    call.PTCP.PST.F.SG  
'They called her'

(4)

### *Third-Person Direct Object Clitics (3PDO-CL) as a clinical marker for DLD*

The Developmental Language Disorder (DLD) (cf. APA 2013; Clasta/FLI 2019), previously known as Specific Language Impairment (SLI), is a neurodevelopmental disorder characterized by persistent language difficulties that cannot be explained by another cognitive, neurological, or sensory-motor condition (e. g., Down Syndrome, cerebral palsy, deafness). This clinical condition exists despite adequate language-learning opportunities. It is the most frequent developmental disorder in childhood, with an estimated overall prevalence of about 7% in pre-school-aged children (cf. Johnson et al. 1999; Tomblin et al. 1997). DLD can compromise all speech and language domains, affecting verbal expression as well as comprehension. It is also associated with dyslexia and other learning disabilities and, therefore, poses a risk for social- emotional behavioral disorders.

To cope with this issue, intensive work has been undertaken to pinpoint robust clinical markers of DLD, i. e., to identify measurable and quantifiable parameters that can act as an index for the timely identification of the pathology with high degrees of sensitivity and specificity. However, typically developing children display a high degree of inter-individual variability in developmental trajectories and rate of language acquisition. The early identification of this complex and heterogeneous condition is, thus, a longstanding scientific and therapeutic issue.

Expressive morphosyntactic difficulties have been identified as the most credible indicator of DLD in preschoolers. The general picture emerging from the literature is that children with DLD may present a variety of substitution/omission patterns of grammatical morphemes (cf. Cipriani et al. 1993; Cipriani et al. 1991). With respect to inflectional morphology, (present tense) third-person plural inflected forms appear to be the only forms of verbal inflection especially problematic for these children (cf. Bortolini et al. 2006), who often produce the third-person singular form as a substitute (e. g., *dorme* '[he/she] sleeps' instead of *dormono* '[they] sleep') (cf. Pizzuto/Caselli 1992). On the other hand, a wider range of difficulties was observed with function words: among free-standing morphemes, auxiliaries, copulas, definite articles (*il, lo, la, i, gli, le*), and third-person direct object clitics (3PDO-CL) are particularly vulnerable (cf. Arosio et al. 2014; Bortolini et al. 2002; Bortolini et al. 2006; Gavarrò 2012; Leonard/Dispaladro 2013).



This finding is often interpreted as a manifestation of the same immaturity characterizing “younger” typical children's grammar. In this regard, a number of linguistic studies examined the development of morphosyntax and the evidence accumulated so far for the Italian language indicate that the elements listed above are the most problematic during both the atypical and typical acquisition of the Italian language (cf. Caprin/Guasti 2009; Caselli et al. 1993; Dispaldro 2009). It has been observed as a general trend (cf. Leonard 2014) that the most fragile elements for DLD children are difficult to acquire for typically-developing peers as well, resulting in their omission/substitution. Consequently, the same underlying principle has often been proposed to account for such difficulties, e. g., the root infinitives or optional infinitives in the English languages which are explained with the Unique Checking Constraint (cf. Wexler 1994) or the Truncation Model (cf. Rizzi 1993/1994) for both typical-developers and DLD children.

Focusing on clitic pronouns, typically developing Italian children usually start producing direct object clitics (DO-CL) at around the age of two, using them in an adult-like fashion. For instance, they properly place DO-CL in a pre-verbal position in declarative sentences but use it post-verbally in imperative and nonfinite contexts, as expected (cf. Guasti 1993/1994). They go through a phase of optional use of these forms up to the age of four years. The resulting sentences, lacking the internal argument of the verb, are ungrammatical. Misplacement errors are rather rare; at times, children substitute the clitic pronoun with a full noun phrase (NP), producing a grammatical but pragmatically infelicitous sentence (cf. Caprin/Guasti 2009; Guasti 1993/1994; Schaeffer 2000). This period of optional use is usually prolonged in DLD; at the age of five, children suffering from language disorders still vacillate, whereas their typically developing peers use clitics in the vast majority of obligatory contexts. Furthermore, difficulties persist at least until the age of ten (cf. Arosio et al. 2014).

Since difficulties with 3PDO-CL are a hallmark characteristic of DLD in Italian, their omission is actually considered the main clinical marker for such a disorder. Thanks to a growing body of scientific evidence, the production of 3PDO-CL in combination with a non-word repetition task has been, to date, found to be highly successful in distinguishing Italian-speaking preschoolers with DLD from their typically developing peers, with 90.91% sensitivity and 100% specificity (cf. Bortolini et al. 2002; Bortolini et al. 2006).

### *The mastery of Italian 3PDO-CL: Sources of complexity*

Clitics are frequently interpreted as an interface phenomenon (cf. Tedeschi 2006, 2009) whose use requires the mastering of several aspects pertaining to different components of linguistic competence (i. e., phonology, morphosyntax, and pragmatics).

The main models proposed throughout the years to account for the optional stage of 3PDO-CL omission in Italian-speaking typical

Prosodic weakness is the cause of clitic omission, according to the Surface Hypothesis; this approach, originally proposed by Gerken (1991) to account for the omission of the definite article by English-speaking children and subsequently used (cf. Bortolini et al. 2002; Bortolini et al. 2006; Bortolini/Leonard 1996; Gerken 1994, 1996; Leonard 1998; Leonard/Bortolini 1998;) to explain the omission of 3PDO-CL by Italian-speaking children, states that children's initial verbal productions are shaped on a trochaic metrical template, i. e., one strong (tonic) syllable is followed by one weak (atone) syllable. Since clitics, when placed before the finite verb, do not fit into the trochaic metrical template, i. e., they are extrametrical. children tend to omit them.

- (5)

Therefore, other models challenge this interpretation and seek a reason for the high-rate of 3PDO-CL omission among other characteristics. It is the case of Schaeffer's Full Clause Hypothesis (2000), according to which the reason for the omission lies in pragmatics. Namely, child competence lacks the pragmatic principle of the "Concept of Non-Shared Knowledge" (i. e., the hearer's knowledge is independent of the speaker's) and, consequently, they are not always able to distinguish a discourse-related reference from a not discourse-related one

Another source of difficulty, which may account for the optionality stage and the 3PDO-CL omission in children with DLD, stems from the proclitic position of clitics when the mood of their host is finite. As a matter of fact, the preverbal position of clitics gives rise to a marked



SOV word order, while the unmarked Italian word order is SVO, which is maintained when the corresponding full NP is used instead of the clitic.

- (6) *Il papà mangia la mela*  
 The.DET.M.SG dad.M.SG eat.IND.PRS.3P.SG the.DET.F.SG apple.F.SG  
 (S) (V) (O)  
 ‘Dad eats the apple’

(6)

- (7) *Il papà la mangia*  
 The.DET.M.SG dad.M.SG her.3PDO-CL.F.SG eat.IND.PRS.3P.SG  
 (S) (O) (V)  
 ‘Dad eats it’

(7)

According to the Unique Checking Constraint (UCC) model proposed by Wexler (1998, 2004; Wexler/Gavarrò/Torrens 2004), the main source of difficulty in the use of 3PDO-CL, and the consequent cause of its omission, lies in the gender–number agreement between the 3PDO-CL and the past participle. The omission of clitics stems from the interaction of two principles, UCC (8) and Minimize Violations (9); also, while the former is operative only in child grammar, the latter characterizes both child and adult grammar.

- (8) UNIQUE CHECKING CONSTRAINT:  
 The D-feature of DP (Determiner Phrase) can only check against one functional category.

(8)

- (9) MINIMIZE VIOLATIONS:  
 Given an LF (Logical Form), choose a numeration, the derivation of which violates as few grammatical properties as possible. If the two numerations are both minimal violators, either one may be chosen.

(9)

The UCC principle states that in the early child grammar, during the developmental stage in which UCC is operative, the licensed derivations involve only one instance of feature checking by a given DP (cf. Gavarrò/Torrens/Wexler 2010; Gavarrò 2012; Wexler 1998, 2004). The realization of a constituent by means of a 3PDO-CL in languages with a past participle–clitic agreement entails checking against two functional features. This results in a violation of the UCC and, because of the Minimize Violations principle, the consequence is the omission of the 3PDO-CL. However, the UCC stops being operative when child grammar matures; the reason why DLD children continue to omit the clitic even when their typically developing peers produce it is that the developmental stage of their grammars (when UCC is operative) tend to last longer. This model, therefore, states that the principle underlying the 3PDO-CL omission is the same for typically developing children and children with DLD, and children with DLD only differ from their typically developing peers because of a slower maturation of grammar out of the stage when UCC is active (cf. Caprin/Guasti 2009; Gavarrò/

Torrens/Wexler 2010; Gavarrò 2012; Wexler 2004; Wexler/Gavarrò/Torrens 2004).

However, the literature review undertaken when researching for this paper did not reveal any study that had made conclusive findings regarding these models. It is not possible to establish whether the cause of the clitic omission is one of these sources of difficulty or a combination of them.

### *The morpheme ci: Linguistic properties and acquisitional patterns*

A number of studies focused on the third person direct object (accusative) clitics (3PDO-CL), which are well-known markers of DLD in Italian-speaking children, and several models have been proposed over the years to account for their omission, as already mentioned above. However, studies lack on another Italian clitic – the instrumental/locative clitic *ci* (INST-LOC- CL) – despite, from a theoretical point of view, this pronoun appearing to be more marked and more difficult under some aspects and less prominent than the 3PDO-CL from a distributional, typological, and sociolinguistic perspective. As a matter of fact, with the only exception of the UCC, all the sources of complexity identified so far for the 3PDO-CL also apply to the INST- LOC-CL; namely, phonological-prosodic weakness or extra-metricity, identification of the correct anaphoric antecedent with its grammatical values and marked word order due to the proclitic position of the pronoun. Additionally, other sources of difficulties exclusively pertaining to this clitic are found.

From a distributional point of view, the instrumental clitic (INST-CL) and locative clitic (LOC- CL) do not have corresponding strong pronouns, unlike the homonymous form *ci* ‘us/to us.’ Moreover, what is cliticized by means of the LOC-CL may be either an argument (with some verbs, e. g., *andare* ‘to go,’ *arrivare* ‘to arrive’) or a secondary complement. A secondary (instrumental) complement is what is cliticized through the INST-CL.

Without discussing in detail the theoretical implications of such a distinction that extend beyond the scope of this paper, it is useful to underline that INST-CL and LOC-CL exhibit a peculiar syntactic behavior. Different from the 3PDO-CL (10), they can be omitted without such omission compromising the grammaticality of the sentence, as in (11a); significantly, this is true even when the locative element is an argument, as in (11b).

- (10) *Cosa fa la nonna alla bambina?*  
 What do.IND.PRS.3P.SG the.DET.F.SG grand-mother. PREP.DAT.F.SG F.SG  
 'What does the grandmother do to the girl?'  
*La nonna la abbraccia.*  
 The.DET.F.SG grandmother. her.3PDo-CL.F.SG hug.IND.PRS.3P.SG  
 'The grandmother hugs her'  
 \**La nonna \_ abbraccia*  
 The.DET.F.SG grandmother.F.SG Ø hug.IND.PRS.3P.SG  
 '\*The grandmother hugs \_'

(10)

- (11a) *Cosa fai con la bambola?*  
 What do.IND.PRS.2P.SG with.PREP.INST The.DET.F.SG doll.F.SG  
 'What do you do with the doll?'  
*Ci gioco*  
 With it. INST-CL play.IND.PRS.1P.SG  
 'I play with it'  
*\_ Gioco*  
 Ø play.IND.PRS.1P.SG  
 'I play'
- (11b) *Il papà va al cinema in bici?*  
 The. dad. go.IND.PRS.3P.SG to-the. cinema. by. bicycle.  
 DET.M.SG M.SG LOC.M.SG M.SG PREP F.SG  
 'Does dad go to the cinema by bike?'  
*No, ci va in macchina.*  
 No there.LOC-CL go.IND.PRS.3P.SG by.PREP car.F.SG  
 'No, he goes there by car'  
*No, \_ va in macchina.*  
 No Ø go.IND.PRS.3P.SG by.PREP car.F.SG  
 'No, he goes by car'

(11a)

By comparing the sentences in (10) and (11a–b), it can be seen that, as far as grammaticality is concerned, the 3PDO-CL is obligatory while the INST-LOC-CL is not. According to Leonard (2014), optional grammatical devices are more complex to acquire for typically developing children because of the lack of systematicity in the input. For the same reason, non-systematic (i. e., optional) linguistic elements are particularly vulnerable in children with DLD, as they are less equipped to distinguish the contexts in which the device is requested than their typically developing peers. As a result, they tend to underuse them. The most extensively studied example of this generalized omission is provided by an optional perfective aspect marker in Mandarin and Cantonese (cf. Fletcher et al. 2005; Leonard 2014).

Observing languages with a morphological case system from a diachronic perspective, it is found that instrumental and locative cases are the weakest ones, and they are the first to disappear in case-reducing languages, where the case system is declining and the number of cases decreases. An example is offered in Proto-Indo-European: according to its reconstruction, this language counts eight cases, including

instrumental and locative cases (see, for instance, Beekes 1995; Kulikov 2006; Szemerényi 1997). These two cases are merged in Greek and Latin, developing into the ablative case, which then disappears in the transition from Ancient Greek to Modern Greek. In general, while the core-case system consists of argument-cases unlikely to be reduced or merged, the cases' coding adjuncts/secondary complements tend to undergo syncretism or disappear during a reduction process of the case system (cf. Kulikov 2006). This tendency confirms that the INST-LOC-CL is less prominent than the 3PDO-CL, where the latter clearly belongs to the core-case system.

From a sociolinguistic perspective, the complex process of restandardization of contemporary Italian witnesses the INST-LOC-CL altering its contexts of occurrence, with consequences to its production. First, in Italian, locative adjuncts can be expressed by two synonymous clitic pronouns, *ci* and *vi*. *Vi* is diaphasically marked and only occurs in *suprastandard* Italian varieties (e. g., bureaucratic, literary, or extremely formal varieties). Consequently, it is not used in spontaneous or informal speech and, more generally, in oral productions. *Ci* is undoubtedly more frequently used and has almost completely replaced *vi* (cf. Berruto 2012). However, it is still not perceived as a completely neutral alternative on the diaphasic axis because of the longstanding stigma surrounding its use. Rather, it is perceived as slightly marked in the opposite way, i. e., too informal and belonging to the *substandard* varieties of Italian. Therefore, it has been proposed that in certain contexts, the speakers may omit the locative pronoun in an attempt to compensate for the lack of a diaphasically neutral alternative (cf. Berruto 2012). On the other hand, *ci* is increasing its contexts of occurrence by means of the so-called “complex verbs” (cf. Simone 1993), i. e., verbs in which *ci* acts as a permanent valency, with an intensifying or actualizing value; indeed, this use of the pronoun is called “actualizing”. Many complex verbs are now lexicalized and independent from the resource- verbs (i. e., the corresponding verbs without *ci*) because of their semantic shift. Their meaning does not correspond to Verb meaning + Clitic meaning, as shown in (12), since the clitic pronoun is almost completely desemanticized. Instead, in other instances, the clitic only plays an intensifying function (13). Hence, while increasing its contexts of occurrence, *ci* undergoes a functional weakening

- (12) Resource verb:       Complex verb: *Metterci* ‘to take some time’  
       *Mettere* ‘to put’  
       Resource verb:       Complex verb: *Volerci* ‘to be necessary’  
       *Volere* ‘to want’

(12)

- (13) Resource verb:       Complex verb: *Vederci* ‘to see well, in a good way’  
       *Vedere* ‘to see’

(13)

This phenomenon may introduce a further source of difficulty in the use of *ci*. In these contexts of occurrence, *ci* has no meaning or antecedent; consequently, the identification of meaning and grammatical features of the antecedent may become more challenging when they are present.

From a typological point of view, the INST-LOC-CL is more marked than the 3PDO-CL. Italian clitics have been interpreted as “traces” of objective conjugation in the language (cf. Berretta 1989; Harris 1976; Vendryes 1921), i. e., every clitic pronoun is considered to be a marker of agreement between the verb and a syntactic role/constituent of the sentence different from the subject (direct object, indirect object, etc.). From a scholastic perspective, the only acknowledged agreement in Italian is the Subject–Verb one, as in (14), where the verb is singular because the subject is singular, while the direct object is plural

- (14) *Il ragazzo mangia le mele*  
 The.DET.M.SG boy.M.SG eat.IND.PRS.3P.SG the.DET.F.PL apple.F.PL  
 ‘The boy eats the apples’

(14)

However, through a cross-linguistic comparison, it is established that in other languages the agreement between verb and direct object, indirect object, as well as with instrumental and locative elements, is realized. The markers of the agreement (in this case, the clitics) are considered part of the verbal morphology. The categories which can be marked on the verb – which the verb can agree with – are hierarchically linked to each other; more specifically, they are linked by an implicational hierarchy (cf. Greenberg 1966; Bybee 1985):

Subject > Direct object > Indirect object > Instrumental/Locative

Such a relationship between elements postulates that the presence in a language of a marked- agreement between the verb and one of the elements necessarily implies an agreement between the verb and all previous elements (those left-placed). For instance, the presence of Indirect Object–Verb agreement implies that Subject–Verb agreement and Direct Object–Verb agreement are also realized in the same language. If clitics are considered as markers of verb- agreement, Italian will be placed among the languages with the richest verbal morphology (less than 28% of the world’s languages present a verbal morphology as rich as Italian (cf. Bybee 1985)). The pronoun *ci*, in its instrumental and locative functions, is the lowest ranked or most marked type of agreement in Italian. This is also confirmed by the acquisitional sequence of clitic pronouns by learners of Italian L2. The instrumental-locative pronoun is acquired after the third person direct object pronouns (cf. Berretta 1989).

A sequence of acquisition can also be traced focusing only on the different functions of *ci* (cf. Berretta 1989); specifically, the main functions of *ci*, considering both its homonymous forms (accusative/dative and instrumental/locative), are as follows:

1. First plural person accusative pronoun: *Ci chiama* ‘[He/She] calls us.’

2. First plural person dative pronoun: Ci parla ‘[He/She] speaks to us.’
3. Locative pronoun: Ci Andiamo ‘[We] go there.’
4. Instrumental pronoun: Ci gioca ‘[He/She] plays with it.’
5. Verbal inflection of esserci: C’è un albero ‘There is a tree.’

The verb *esserci* ‘to be there’ needs some additional specifications. Despite being a complex verb, it is always considered a *sui generis* form with respect to other complex verbs for various reasons: (i) its frequency is higher than that of all other complex verbs; (ii) it is used more frequently than its resource verb (*essere* ‘to be’); (iii) it occurs in special constructions, e. g., “presentative *c’è*”; and (iv) it is the oldest complex verb (first occurrences of *esserci* date back to XII–XIII centuries). The special *status* of *esserci* is confirmed by the order of acquisition of the pronoun functions (1–5). It is the first function to be acquired by learners of Italian L2, during the Basic Variety of the interlanguage, mostly as an uninflected form (*c’è* ‘there is’).

The full acquisitional order of the functions of *ci* developed by the learners during the Post- Basic Variety of the interlanguage is as follows:

Inflected *esserci* > Locative Pronoun > Accusative Pronoun > Dative Pronoun

The instrumental function (4) of the clitic pronoun has not been reported in the acquisitional sequence (which refers to the Post-Basic Variety) since it is the last *ci*-function acquired by the learners and its first occurrences appear later during the Post-Basic Variety.

The acquisition of L1 and L2 are different processes that should not be merged (cf. Cook, 2010). However, some similarities have been observed regarding the order in which linguistic elements are acquired; concerning the Italian language, it has been observed that for the system of Tense, Aspect, and Mood, the same acquisitional sequence can be traced for both Italian-speaking children and learners of Italian L2 (cf. Calleri et al. 2003). Particularly, the initial stages of both interlanguages and L1 acquisition, in spite of all their peculiar characteristics, can be seen as simplified varieties that progressively undergo complexification (cf. Andersen 1983), i. e., the speakers initially tend to use simpler elements and successively acquire and use the more complex ones. The first elements to be acquired can be considered simpler, while the last more complex (cf. Berruto 1990).

#### *Toward a simple and brief instrument for DLD screening: The T-PEC test*

Despite the extensive literature on the typical and atypical acquisition of clitic pronouns, there is no standardized diagnostic test to date for assessing their production in Italian.

Using the tasks proposed by Vender et al. (2016), Arosio et al. (2014), and Leonard/Dispaldro (2013) as a starting point, our research group developed a novel test called T-PEC (Test di Produzione Elicitata di



Clitici), which is specifically tailored to the brief assessment of DLD in Italian-speaking preschoolers (cf. Crocetti et al. 2021).

Compared to previous tests merely focused on the 3PDO-CL, T-PEC includes the clitic pronoun *ci* with both instrumental (INST-CL) and locative (LOC-CL) functions. The production of these forms is elicited by means of a picture. While proposing the visual stimulus, the experimenter describes the depicted situation with a declarative sentence; subsequently, a question is posed to the child, eliciting the sought clitic. In order to ease the completion of the task, the question includes the target clitic as a trigger. Examples are shown below for INST-CL (15) and LOC-CL (16).



(15)

#### INST-CL

Eliciting context: Guarda: sta tagliando la carta. Cosa **CI** fa con le forbici? 'Look, [he/she] is cutting the paper. What INST-CL = does [he/she] do with the scissors?'

Expected answer: Ø **Ci** taglia Ø them. INST-CL = cuts '[He/She] cuts=with them'

#### (16) Loc-CL



(16)

Eliciting context: Guarda: il papà va al parco. Come **ci** va il papà al parco? 'Look, dad is going to the park. How LOC-CL = does dad go to the park?' Expected answer: **Ci** va in bicicletta 'He goes there by bike'

At least two elements should characterize every expected answer:

1. All clitics should be proclitic, unless the answer contains a restructuring verb (i. e., modal, aspectual, or motion verbs);
2. The syntactic structure of the answer is [Subject +] Clitic + Verb; Italian being a prodrop language, the subject is frequently omitted.

The T-PEC test consists of eight items including the clitic *ci*, randomly ordered and mixed with twelve 3PDO-CL items: four sentences require an INST-CL and four a LOC-CL. A full list of the items is available in Appendix 1.

As already stated, a vast amount of literature exists on the acquisition of 3PDO-CL in both typical and atypical neurodevelopment. Contrarily, the role of INST-CL and LOC-CL as a reliable clinical marker for DLD in Italian has not been investigated by previous psycholinguistics researchers. This raises a critical question about the possibility of exploiting this morphological form and its effectiveness.

To provide first evidences on the psychometric properties of the test and establish preliminary norms, T-PEC was administered to 22 children diagnosed as language impaired and 48 children with normal cognitive and language development, ranging in age from 4.6 to 5.8 years (mean: 5.2, standard deviation:  $\pm 0.3$ ) (cf. Crocetti et al. 2021). While the 3PDO-CL test items have demonstrated adequate sensitivity and specificity for detecting DLD, INST-CL and LOC-CL items have shown low discriminative power in differentiating typical and atypical developing children.

However, due to the reduced sample sizes and a low number of items, it was not possible to draw firm conclusions. There are at least three possible reasons for this outcome (cf. Crocetti et al. 2021): (i) the task is not adequate in eliciting the production of the target clitic; (ii) preschoolers are not able to master the morpheme in an adult-like fashion; (iii) the morpheme *ci* is not a reliable clinical marker for DLD, as already observed for dative (cf. Caprin/Guasti 2009) and reflexive (cf. Arosio et al. 2014) clitics.

## Empirical Studies

First experiment. The T-PEC test: On the production and omission of Inst-Cl and Loc-Cl

In this section, the first part of our study will be briefly summarized. The study consisted of the administration of the T-PEC test to a sample of school-aged participants. Among the hypotheses formulated by the authors to explain the omission of INST-CL and LOC-CL by the preschoolers, the one investigated through this phase of the study is that preschoolers are unable to master the morpheme in an adult-like fashion. Therefore, our initial expectation was that the omission rate of the morpheme would have decreased as a function of increasing age and scholar grade (which relates to the knowledge of grammatical rules).

The relevance of this administration lies in its results, which were quite contradictory to our expectations and led to the creation of a new test.

We administered the test to 126 participants, all monolingual with typical cognitive and linguistic development, divided into four groups on the basis of their scholar grade:

- Group E: 32 children attending the fifth grade of primary school (male: 19; female: 13; mean age: 10;9 years; SD: 0;4). The children were recruited from the primary schools of Istituto Comprensivo Correggio 2 in Correggio, Italy.
- Group M: 36 individuals attending the second and third grades of middle school (male: 12; female: 24; mean age: 13;4 years; SD: 0;6). The individuals were recruited from the middle school of Istituto Comprensivo Correggio 2 in Correggio, Italy.
- Group L: 34 individuals attending fourth and fifth grades of high school and attending a Classical Lyceum (male: 8; female: 26; mean age: 18;3 years; SD: 0;7). The individuals were recruited from the Classical Lyceum Rinaldo Corso in Correggio, Italy.
- Group T: 24 individuals attending the fifth grade of high school and a technical institute (male: 5; female: 19; mean age: 19;3 years, SD: 0;7). The individuals were recruited from the Technical Institute Luigi Einaudi in Correggio, Italy.

The test was administered orally, and the results were transcribed by the researcher. The test with priming triggers (e. g., *Guarda: sta tagliando la carta. Cosa CI fa con le forbici?*) was administered to half the participants, while to the other half was administered the test without priming triggers (e. g., *Guarda: sta tagliando la carta. Cosa \_fa con le forbici?*) so that their facilitatory/inhibitory effects could be tested.

The performances of each group were compared to each other to observe whether there was an increase in the production of INST-CL and LOC-CL across the groups at an increasing age and scholar grade; in addition to this longitudinal analysis, the presence of group L and group T allowed a comparison of the performances of peers who attend different schools, thereby revealing the impact of different levels of grammatical knowledge on the test results.

The responses were classified following the methods of Vender et al. (2016), i. e., grouped into five classes (Target, Replacement, Omission, Other, NP; see Section 3.2.3 for a deeper discussion). Successively, they were analyzed considering separately (i) the responses to the items eliciting the production of a 3PDO-CL; (ii) the responses to the items eliciting the production of the INST-CL; and (iii) the responses to the items eliciting the production of the LOC-CL. The statistical analysis of the results was performed using R (R Development Core Team 2008). In order to compare the non-Gaussian distributions of the target responses both between groups considering the same type of clitic and within groups considering a different type of clitics, the non-parametric Kolmogorov-Smirnov test was performed. Therefore, every

p-value reported from then on was obtained through the Kolmogorov-Smirnov test (cf. Kolmogorov 1933; Smirnov 1948).

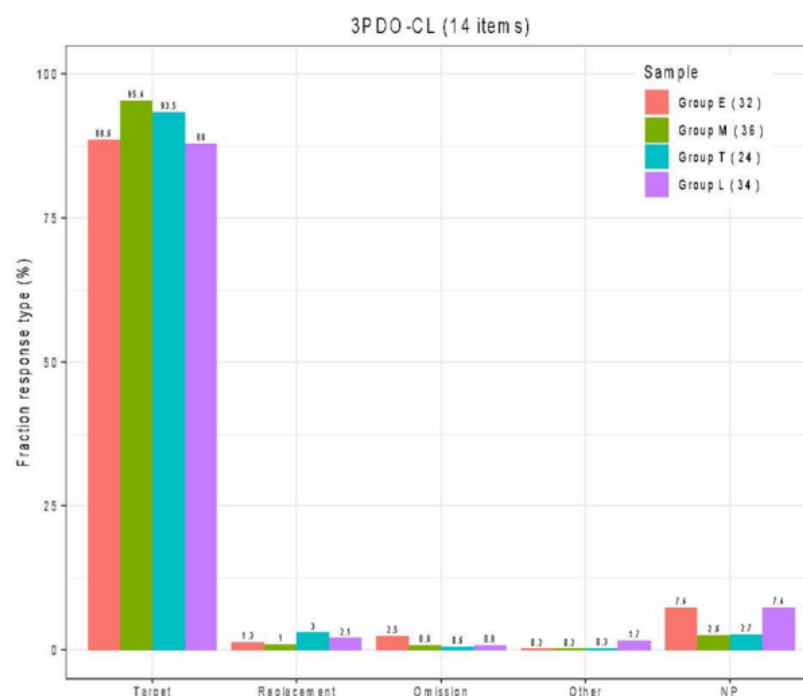
Before discussing the results, further clarification is required: the classification proposed by Vender et al. (2016) was explicitly designed for the production of 3PDO-CL. One, out of the five classes, is slightly inappropriate when considering INST-CL and LOC-CL, i. e., NP category. As a matter of fact, full NPs are produced to replace only 3PDO-CL while in the case of INST-CL and LOC-CL, full PPs occur. Therefore, when referring to INST-CL and LOC-CL, the fifth category will be named PP. The results of the T-PEC test administration are described in the following section.

### Results

1. (i) Priming triggers have no facilitatory/inhibitory effects. No differences were found between the two experimental conditions (p-value > 0.05).
2. (ii) In the case of the 3PDO-CL, all individuals produced the clitic in an adult-like fashion, i. e., in correct gender–number agreement with the antecedent NP and without using the NP itself to replace the clitic. No significant differences (a difference is considered significant if its p-value is < 0.05) were observed across the groups, neither in the longitudinal analysis (i.e., across groups E, M, and T/L) nor in the cross-sectional one (i. e., across groups T and L). Table 2 outlines the mean and standard deviation (SD) values of all the response types for 3PDO-CL items (out of a total of 14 items). Figure 1 shows the fractions of response types for the same items.

**Table 2**  
Mean ( $\pm$  SD) for each response type given by each group for 3PDO-CL items

	Target	Replacement	Omission	Other	NP
Group E	12.4 ( $\pm 2.69$ )	0.18 ( $\pm 0.39$ )	0.34 ( $\pm 0.6$ )	0.31 ( $\pm 0.17$ )	1.03 ( $\pm 2.6$ )
Group M	13.36 ( $\pm 1.33$ )	0.13 ( $\pm 0.42$ )	0.11 ( $\pm 0.39$ )	0.27 ( $\pm 0.16$ )	0.36 ( $\pm 1.15$ )
Group T	13.08 ( $\pm 1.41$ )	0.41 ( $\pm 0.82$ )	0.08 ( $\pm 0.28$ )	0.04 ( $\pm 0.2$ )	0.37 ( $\pm 0.76$ )
Group L	12.42 ( $\pm 2.43$ )	0.29 ( $\pm 0.46$ )	0.11 ( $\pm 0.32$ )	0.23 ( $\pm 0.55$ )	1.02 ( $\pm 2.02$ )



**Figure 1**

Percentages of response types given by each group, for 3PDO-CL items

For the INST-CL, the rate of clitic production was significantly lower than for the 3PDO-CL and a vast majority of the responses were classified as Omission, i. e., responses containing the verb but not the clitic. E. g., [Lui] \_disegna '[He] Ø draws' instead of *ci* disegna '[He] with it-draws.' As in the case of 3PDO-CL, no significant difference was found across the groups, neither in a longitudinal nor in a transverse analysis, while significant differences ( $p$ -value < 0.05) were observed when comparing the mean values of 3PDO-CL and INST- CL Target responses. Table 3 outlines mean and SD values of all response types for INST- CL items (out of a total of 4 items). Figure 2 shows the fractions of response types for the same items

Table 3

Mean ( $\pm$  SD) for each response type given by each group, for INST-CL items

	Target	Replacement	Omission	Other	PP
Group E	0.37 ( $\pm 0.65$ )	0.37 ( $\pm 0.49$ )	3.00 ( $\pm 1.07$ )	0 ( $\pm 0$ )	0.25 ( $\pm 0.56$ )
Group M	0.36 ( $\pm 0.63$ )	0.61 ( $\pm 0.76$ )	2.78 ( $\pm 1.98$ )	0 ( $\pm 0$ )	0.25 ( $\pm 0.75$ )
Group T	0.62 ( $\pm 0.71$ )	0.79 ( $\pm 0.93$ )	2.37 ( $\pm 1.17$ )	0 ( $\pm 0$ )	0.20 ( $\pm 0.41$ )
Group L	0.47 ( $\pm 0.78$ )	1.29 ( $\pm 1.19$ )	1.91 ( $\pm 1.28$ )	0.02 ( $\pm 0.17$ )	0.26 ( $\pm 0.62$ )

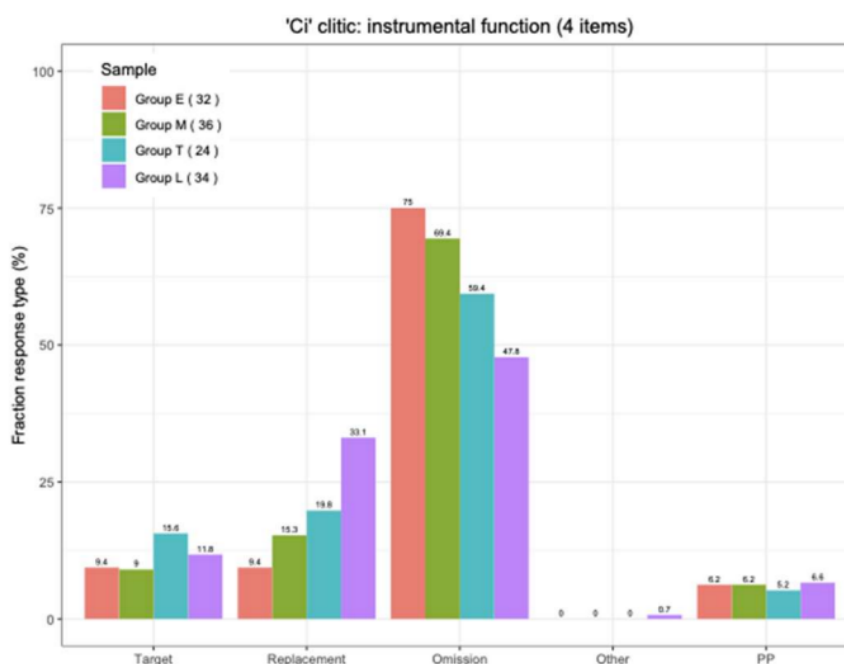


Figure 2

Percentages of response types given by each group, for INST-CL items

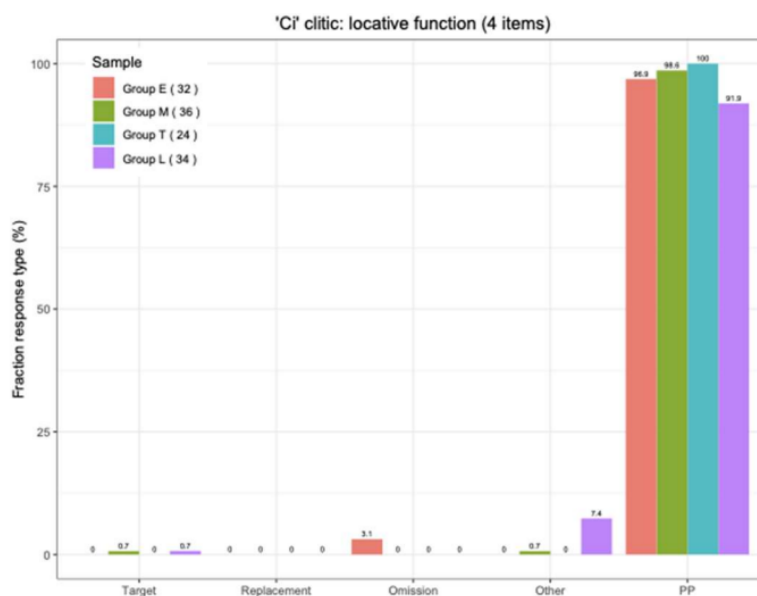
The responses to the LOC-CL items presented a homogeneous scenario, almost specular to the one of 3PDO-CL, with the fraction of four response types out of five being zero or consistent with zero and almost all the responses belonging to the PP category. It appears relevant that the responses categorized as PP in this case do not contain either the verb or the clitic: the omission of the clitic is a consequence of the verb omission, given that in Romance languages clitics are ad-verbal. On the contrary, responses coded as Omission contain the verb but not the clitic; therefore, only in these responses the omission of the clitic is not



due to the verb omission E. g., Vanno al cinema. Come ci vanno al cinema? '[They] go to the cinema. How do they there-go to cinema?' In macchina 'By car.'. Also note that, in this case, no significant difference was found across the groups, neither in a longitudinal nor transverse analysis of the results, and the only significant difference is observed when comparing the 3PDO-CL and LOC-CL Target responses. Table 4 outlines the mean and SD values of all the response types for LOC-CL items (out of a total of 4 items). Figure 3 displays the fractions of response types for the same items

**Table 4**  
Mean ( $\pm$  SD) for each response type given by each group, for LOC-CL items

	Target	Replacement	Omission	Other	PP
Group E	0.00 ( $\pm 0.00$ )	0.00 ( $\pm 0.00$ )	0.12 ( $\pm 0.33$ )	0.00 ( $\pm 0.00$ )	3.85 ( $\pm 0.33$ )
Group M	0.02 ( $\pm 0.16$ )	0.00 ( $\pm 0.00$ )	0.00 ( $\pm 0.00$ )	0.02 ( $\pm 0.16$ )	3.94 ( $\pm 0.23$ )
Group T	0.00 ( $\pm 0.00$ )	0.00 ( $\pm 0.00$ )	0.00 ( $\pm 0.00$ )	0.00 ( $\pm 0.00$ )	4.00 ( $\pm 0.00$ )
Group L	0.02 ( $\pm 0.17$ )	0.00 ( $\pm 0.00$ )	0.00 ( $\pm 0.00$ )	0.29 ( $\pm 0.67$ )	3.64 ( $\pm 0.73$ )



**Figure 3**  
Percentages of response types given by each group, for LOC-CL items

To summarize, the analysis of the T-PEC test administration results highlighted that (i) priming triggers have no facilitatory/inhibitory effects; (ii) for the 3PDO-CL items, a vast majority of Target responses were provided; (iii) for the INST-CL items, the most frequent response type was found to be Omission, followed by Replacement; (iv) for the LOC-CL items, almost the totality of the responses were classifiable as PP.

In relation to (ii), the 3PDO-CL system is mastered in an adult-like fashion by all the groups, even by the youngest individuals (group E); thus, its acquisition appears to be already complete among typically developing children at the age of ten. In group E, however, the fraction of NP responses (i. e., responses where the antecedent NP is repeated instead of being replaced by the anaphoric clitic) is slightly larger than in others. This phenomenon is consistent with analogous observations in DLD school-aged children. DLD children tend to repeat the antecedent NP instead of producing the clitic (Arosio et al. 2014), and this phenomenon is interpreted as related to the internal growth of their linguistic competence.

As for (iii) and (iv), given the high rate of clitic omission even among twenty-year-old individuals, one may erroneously conclude that the INST-CL and LOC-CL are never produced and acquired. This affirmation is clearly unacceptable and contradicts the findings of corpus analyses of spontaneous speech (cf. Berretta 1986; van Gysel 2010). In order to explain the omission of the two morphemes, we focused on the T-PEC test structure. What emerged, through a qualitative analysis of the responses and by eliciting contexts, is that the omission of the INST-CL and LOC-CL pronouns is attributable to the elicitation strategies employed in the test. More specifically, the same elicitation strategy has been used for the 3PDO-CL, INST-CL, and LOC-CL, without considering an important difference: the former codifies an argument and its presence is, therefore, obligatory to produce a grammatical sentence; contrarily, the INST-CL and LOC-CL codify secondary complements, whose presence is non-obligatory in the sentence. Consequently, they must be perceived as necessary in the communication in order to be produced by the speaker. This condition is not satisfied by the T-PEC test eliciting contexts.

As for the INST-CL, because the adjunct referred to by the clitic is entailed by the verbal meaning as a shadow argument – according to Pustejovsky's arguments (1995) – and as it is continuous and accessible within the linguistic context, the speaker does not need to produce the anaphoric clitic: instead, they produce a zero anaphora, consistently with Givón's (1983) scale. This results in an Omission response, as shown in example

- (17) *Sta tagliando la carta. Cosa ci fa con le forbici?*      *Taglia* instead of *Ci taglia*  
 'He/She is cutting the paper. What does he do with the scissors?'      'He/She cuts' instead of 'He/She cuts with them'

(17)

The Italian verb *tagliare* 'to cut' entails, in its meaning, the instrument used for cutting; the instrument is its shadow argument, which is further specified by the direct object. Also, *taglio la carta* '[I] cut the paper' entails that I am cutting with scissors, while *taglio il pane* '[I] cut the bread' entails that I am doing it with a knife. The instrument is, therefore, already present in the context and produced in the eliciting question by the experimenter (furthermore, an image of scissors in the act of cutting was shown to the participants as part of the eliciting context). Consequently, the speaker does not need to produce the anaphoric INST-CL to reactivate the adjunct in such a context.

The excessive prominence is also responsible for the high rate of PP responses registered for the LOC-CL items. A peculiarity of these responses is that they do not contain the verb. Since Italian clitics are ad-verbal, a clitic cannot be produced in the absence of the verb (i. e., its host). We concluded that in the LOC-CL eliciting contexts, the verb was perceived as too accessible and, consequently, was not repeated in the response. The absence of the verb causes the omission of the LOC-CL, as shown in example (18)

- (18) *Stasera vanno al cinema. Quando ci vanno al cinema?*       $\emptyset \emptyset$  *Stasera* instead of *Ci vanno stasera*  
 'Tonight [they] go to the cinema. When do [they] go to the cinema?'      'Tonight' instead of '[They] go there tonight.'

(18)

The response in this example does not contain the verb. Such an answer, however, is fully acceptable, grammatical, pragmatically felicitous as well as fully informative and frequent in a natural context of spontaneous speech. Therefore, it is the eliciting context that determines the excessive prominence of both clitic and verb, rendering their repetition unnecessary in the response.

After the initial administration, we thus concluded that the T-PEC test is not adequate in eliciting the production of the INST-CL and LOC-CL morphemes. Hence, to continue investigating the production/omission of the INST-CL and LOC-CL, it appeared appropriate to create a new test of the elicited production of the *ci* clitic after finding special elicitation strategies designed to make this clitic necessary in a sentence.

*Second experiment. A new test on the production and omission rates of the ci clitic*

The creation of a new test was aimed at investigating the production/omission of the *ci* clitic, with an ad hoc effective instrument; for this, the full range of elicitable functions was considered, including the homonymous *ci* (i. e., the first plural person of direct and indirect object clitic ‘us’, ‘to us’). The presence of different functions of the morpheme enables us to study the influence of a specific function on the production of the same form and perform comparisons. However, in order to effectively elicit the instrumental and locative functions, original and specific strategies had to be developed. The newly created test was administered to a sample of Italian preschoolers. The data collected through this preliminary administration adequately implemented with future administrations can also be applied to investigate the INST-CL and LOC-CL as potential markers of DLD in Italian-speaking children. Through a cross-linguistic comparison, it appeared that all DLD markers, despite being language-specifics, have a common denominator: “all areas of special weakness correspond to details of language that are relatively difficult for typically developing children to acquire” (cf. Leonard, 2014: 6). Since, from a theoretical point of view, INST-LOC-CL is more marked, less prominent, and generally more difficult than 3PDO-CL, this morpheme seems an effective potential new marker of DLD in Italian-speaking children. The newly created test was, hence, administered to a sample of Italian preschoolers.

*Materials and methods*

The new test exclusively focused on the elicitation of the *ci* clitic, and our first aim was to elicit its locative and instrumental functions in order to draw conclusions about its production by typically developing five-year-old children. However, it appeared interesting to elicit other functions of the clitic as well to perform comparisons with the two above-mentioned functions.

Given the nature of the new test, which has no direct precedent in the literature on clitics, its structure is slightly peculiar and inspired from different sources. As for its general traits, mostly due to the age of the sample used, the test itself was developed following previous examples of 3PDO-CL elicited production (cf. Arosio et al. 2014; Leonard/Dispaldro 2013; Vender et al. 2016), thereby maintaining the following of their features: the inclusion of drawings, oral administration, and a warm-up section. On the contrary, the functions the test elicits and the linguistic material it is based upon (i. e., verbs and nouns constituting the eliciting contexts) are all derived from a small semi-spontaneous speech corpus of typically developing five-year-old children, collected over a period of one year. The linguistic and structural basis of the test emerges from such a corpus analyzed using AntConc (Anthony 2019). The decision to shape the linguistic material on the corpus was justified by the desire to be as

close as possible to the real linguistic datum (i. e., real verbal productions) on the one hand and, on the other, by the fact that this would help ensure that the verbs, nouns, etc. known by five-year-old children were used.

The several occurrences of *ci* found in the corpus were successively manually divided depending on the function of the clitic and listed according to their frequency. The resulting list is reported below.

1. 84 occurrences of inflected forms of “*esserci*” lexeme;
2. 31 occurrences of locative function;
3. 20 occurrences of accusative function (*ci* ‘us’; first plural person direct object clitic pro- noun);
4. 17 occurrences of dative function (*ci* ‘to us’; first plural person indirect object clitic pro- noun);
5. 1 occurrence of instrumental function, co-occurring with the verb *giocare* ‘to play

Two items were created for the elicitation of each function (1–5); therefore, the test consists of ten items. Moreover, two items were used as a warm-up section. Not all of the items are associated with a drawing; instead, eight drawings were realized, one of which was used for the warm-up section.

Through the analysis of the T-PEC test, it was found that INST-CL and LOC-CL were not produced because their anaphoric antecedent was perceived as too prominent in the linguistic context and, therefore, the anaphoric clitic was considered unnecessary. For instance, in example (17), the antecedent *con le forbici* is uttered by the researcher immediately before the participant’s response (the scissors are also present as visual stimulus); therefore, the participants do not need to produce the anaphora *ci* (i. e., the clitic is omitted).

Given the structural prominence of the anaphoric antecedent, an answer not containing the clitic is perfectly acceptable and grammatical. To avoid the excessive structural prominence of the anaphoric antecedent, which causes the omission of INST-CL and LOC-CL, the elicitation method chosen for the new test was a sentence completion task. For the same reason, the test was structured as a continuous story; every item is contained in a long sentence which, in turn, is part of a narrative. This particular structure, as well as the peculiar task, allows for the creation of longer and more embedded sentences, which subsequently enable the production of the clitic. Also, the length of the sentence and its embedding (i. e., the presence of subordinate clauses) are two techniques aimed at creating a distance, both linear and syntactic, between the antecedent and the anaphora and at decreasing its structural prominence (cf. Palermo 2013). The more distant the antecedent is (linearly and syntactically) from the anaphora, the less its structural prominence and the more necessary and likely is the anaphora production. Some examples of the test items are presented below.



(19)

### Item 1 – Locative function

Eliciting context:

Due fratelli vogliono andare al parco per giocare. La bambina chiede alla mamma: «Possiamo andare al parco?». La mamma risponde «No, perché piove». La bambina allora chiede: «Allora quando?». 'Two siblings want to go to the park to play. The sister asks to her mother: "Can we go to the park?". The mother answers: "No, because it's raining!". The child, then, asks: "But, then, when \_?" Response: Ci andiamo? 'Can we go there?



(20)

### Item 3 – Inflected forms of esserci:

context: Dopo avere giocato per un po', il bambino guarda fuori dalla finestra e grida: «Mamma, guarda! Adesso fuori » 'After having played for a while, the child stares out of the window and shouts: "Mom, look! Now outside "' Response C'è il sole! 'There is the sun!'





(21)

#### Item 8 – Instrumental function

context: Al parco, la mamma ha tirato fuori dallo zaino una palla per giocare, e infatti adesso la mamma e bambini . 'At the park, the mom pulled a ball out of her backpack so as to play and now she and her kids .' Response: Ci giocano/Ci stanno giocando 'They play with it/They are playing with it'

During the administration, the researcher read the story, stopping themselves in correspondence with the item so that the child could complete the sentence. A great deal of importance was attributed to the visual stimuli. While speaking, the administrator pointed at the drawing or at some elements of the drawing. For instance, considering the example (20) above, the administrator pointed at the sun while uttering the sentence.

Finally, all clitics in the elicited responses were expected to be proclitic, with the only exception of the item 4, which elicited the verb *mettere* 'put' in a non-finite mood: thus, the clitic was expected to be enclitic

#### Participants

The new test was administered to a sample of 36 participants, divided into two groups according to their age.

- Group B (i. e., 'Bambini'): 21 children attending the last year of preschool (male: 10, female: 11; mean age: 5.4 years; SD: 0;3). The children were recruited at the kindergarten Gigi e Pupa Ferrari in Correggio, Italy.
- Group A (i. e., 'Adulti'): 15 adults (male: 9, female: 7; mean age: 42.2 years; SD: 14;2). This group has been used as the benchmark for evaluating the performance of group B

Group B was tested by means of three standardized instruments:  
(i) Raven's Coloured Progressive Matrices test (cf. Raven/Raven/Court

2003; Italian standardization by Belacchi et al. 2008), a non-verbal cognitive ability test; (ii) Prove di Memoria e Apprendimento per l'Età Evolutiva (PROMEA) - Ripetizione di non parole (cf. Vicari 2007), a non-words repetition task; and (iii) Test di ripetizione di frasi con clitico – IRCCS Stella Maris (Bottari/Cipriani/Chilosi 1998), a sentence repetition task. It should be noted that (ii) and (iii) are specially aimed at the diagnosis of DLD in preschoolers and, therefore, contain Italian markers of DLD. Through this preliminary administration, we could ensure that group B was entirely composed of typical developers, in relation to both cognitive and linguistic developments. Five out of 26 children did not meet the inclusion criteria due to low performances and were excluded from the sample. Thus, as illustrated above, group B consists of 21 children.

### *Response classification*

The responses have been classified following Vender et al. (2016) and Crocetti et al. (2021), with slight changes due to the particular nature of the INST-CL and LOC-CL responses with respect to previous tests. The answers have been grouped into five classes:

- a) Target: Answers containing the target pronoun (i. e., the *ci* clitic in the function elicited by the item, in correct positioning) regardless of the chosen verb and of the verb tense.
- b) Replacement: Answers (1b) containing a clitic different from *ci* in number or person (for accusative or dative items); (2b) containing a clitic with a grammatical function that is different from the elicited one (e. g., an inflected form of *esserci* instead of a LOC-CL); or (3b) not containing a clitic, where its absence is due to the chosen verb (i. e., the verb does not allow the presence of a clitic).
- c) Omission: Answers not containing the clitic, including those where the verb is different from the expected one but would still allow the presence of the clitic.
- d) Other: Answers that are (1d) not relevant, (2d) not given, or (3d) semantically different from the expected ones (i. e., entailing a different or unexpected interpretation of the item).
- e) NP/PP (Noun Phrase/Prepositional Phrase): Answers containing the full PP or NP instead of the clitic (e. g., *Giocano con la palla* '[They] play with the ball' instead of *Ci giocano* '[They] play-with it').

Class (a) was assigned a score of 2 and class (b) a score of 1, while the other classes [(c)-(e)] were assigned a score of zero. Such a scoring method is chosen to make the results comparable with the ones from previous studies. Concerning the grammaticality of the responses, apart from the items eliciting the instrumental and locative functions (plus one out of the two items eliciting the dative functions that may be grammatical

without the clitic), all the responses where the clitic is omitted are ungrammatical.

### Results

In this section, the results of the test administered to Groups A and B are reported, accounting for the different functions of the *ci* clitic. A statistical comparison between the two groups is also presented. The statistical analysis of the results was performed using R (R Development Core Team 2008). As in the previous experiment, the Kolmogorov-Smirnov test was applied to compare the different distributions of response types. The p-values reported from now on derive from such a test.

Taking as a starting point the theoretical proposals that account for the omission of 3PDO-CL and that can also be applied to the *ci* clitic – namely the Surface Hypothesis, the UCC, and the Principle of Non-Shared Knowledge – some predictions on the production of the clitic can be sketched. (i) According to the Surface Hypothesis, the reason for the omission is the prosodic weakness and extra-metricity. Consequently, the expectation is that no difference will be found depending on the different functions elicited. (ii) According to the UCC, what causes the omission is the clitic–past participle agreement. The expectation is that the accusative function of *ci* will be the most omitted since it is the only one triggering such an agreement. (iii) According to the Concept of Non-Shared Knowledge, children sometimes fail to distinguish discourse-related references from non-discourse-related ones. One should expect that the omission will not depend on the function investigated. The way our data interact with these models will be elaborated on Section 4.

Considering the entire test, Group A reported an average score of 13.60, with an SD of 2.44. Group B reported an average score of 10.63 (out of a maximum possible score of 20.00), with an SD of 3.05. Tables 5 and 6 outline the mean and SD values of all the response types [(a)-(e), as listed above] for the whole test, aggregating all the explored functions of the *ci* clitic

Table 5

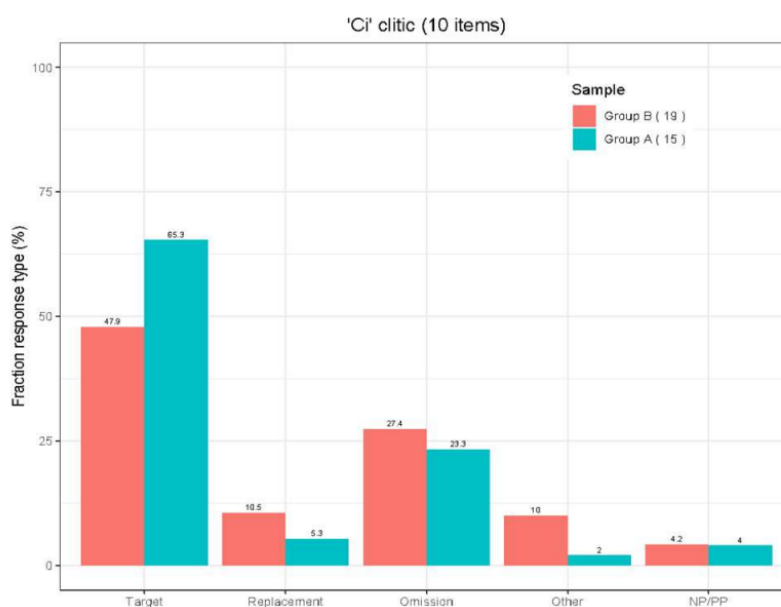
Group A	Target	Replacement	Omission	Other	NP/PP
Mean	6.53	0.53	2.33	0.20	0.40
SD	1.35	0.63	1.23	0.41	0.63

Mean and SD for all response types; Group A, overall test

**Table 6**  
Mean and SD for all response types; Group B, overall test

Group B	Target	Replacement	Omission	Other	NP/PP
Mean	4.78	1.05	2.73	1.00	0.40
SD	1.68	0.77	0.99	0.74	0.60

Although Group A (consisting of adults) reported a higher average score than group B (consisting of preschoolers), the difference between the two groups (not considering the single functions) is not significant ( $p$ -value = 0.18). However, this difference hints toward a slightly more complete mastery of some functions of the *ci* clitic by the adults, which will be more noticeable when considering each function separately



**Figure 4**  
Percentages of response types in each group, for all the functions of *ci* clitic

#### *Accusative function*

Group A reported an average score of 3.93, with  $SD = 0.25$ . Group B reported an average score of 2.73 (out of a maximum possible score of 4.00), with  $SD = 1.44$ . Tables 7 and 8 present the mean and SD values of all the response types for the accusative items, for Groups A and B, respectively. Figure 5 shows the fractions of response types for the same items

Table 7

Table 7: Mean and SD for all response types; Group A, accusative items

Group A	Target	Replacement	Omission	Other	NP
Mean	1.93	0.06	0.00	0.00	0.00
SD	0.25	0.25	0.00	0.00	0.00

Table 8

Mean and SD for all response types; Group B, accusative items

Group B	Target	Replacement	Omission	Other	NP
Mean	1.15	0.42	0.31	0.05	0.05
SD	0.89	0.69	0.58	0.22	0.22

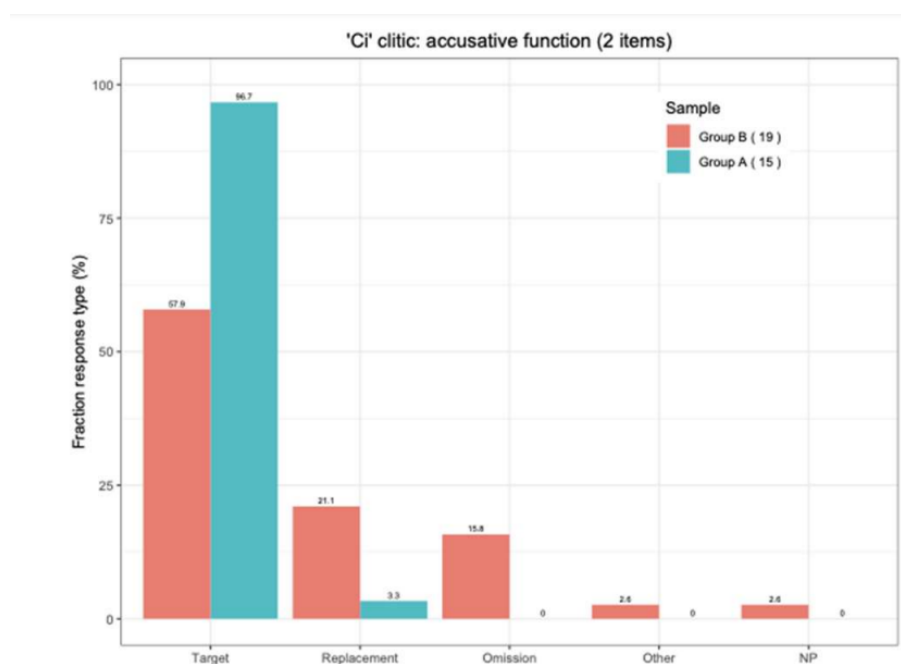


Figure 5

Percentages of response types in each group, for the accusative function of the *ci* clitic

Group B reported on average 1.15 Target responses out of 2.00; on one hand, this means that five-year-old children are able to produce the *ci* clitic in its accusative function since the Target category has the highest average value; on the other, comparing the performances of Groups A and B, it seems that the accusative function is not firmly mastered by the former since the production of the clitic is not systematic (1 clitic out of 2 on average), while the latter masters it completely, with an average value of 1.93 Target responses out of 2.00. The difference between the two groups is nearly significant ( $p$ -value = 0.06). Our previously made statement

- adults master some of the functions of the clitic slightly better – thus appears to be confirmed for the accusative function.

### *Dative function*

As for the dative function, Group A reported an average score of 3.33, with SD = 0.97 while group B had an average of 1.63 (out of a maximum of 4.00), with SD = 0.89. Tables 9 and 10 indicate the mean and SD values of all the response types for the dative items, for Groups A and B respectively. Figure 6 shows the fractions of response types for the same items.

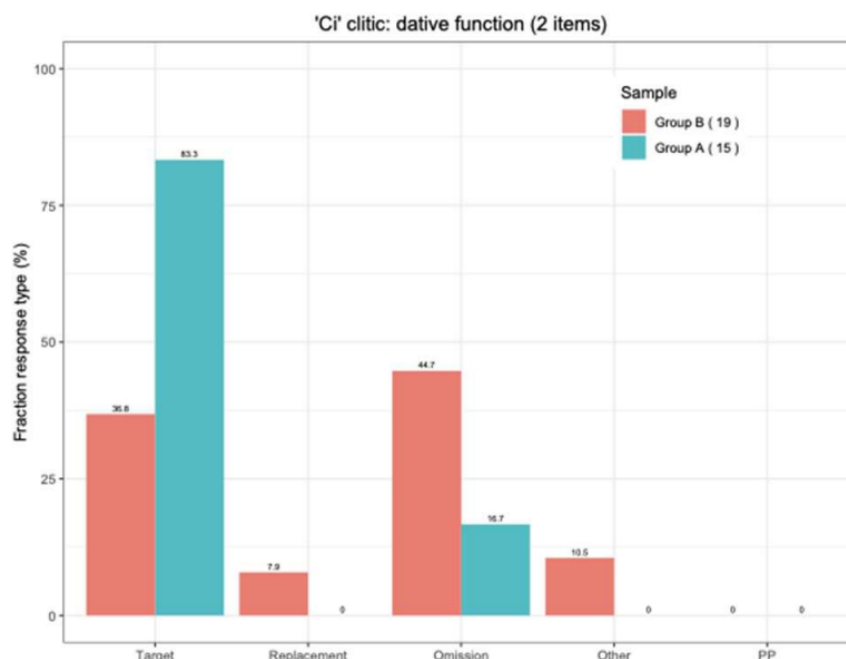
**Tables 9**  
Mean and SD for all response types; Group A, dative items

Group A	Target	Replacement	Omission	Other	PP
Mean	1.66	0.00	0.33	0.00	0.00
SD	0.48	0.00	0.48	0.00	0.00

**Table 10**  
Mean and SD for all response types; Group B, dative items

Group B	Target	Replacement	Omission	Other	PP
Mean	0.73	0.15	0.89	0.21	0.00
SD	0.73	0.37	0.65	0.41	0.00





**Figure 6**

Percentages of response types in each group for the dative function of the *ci* clitic

Group A produced the dative clitic. On the contrary, Group B produced few clitics with the dative function. As a matter of fact, the category with the highest average value is Omission. We observed, among the children, a tendency to omit the clitic in spite of producing the expected verb. The difference between the groups (comparing the Target responses) is significant ( $p\text{-value} = 0.02$ ).

### *Instrumental function*

Group A reported an average score of 0.26, with  $SD = 1.03$ . Group B reported an average score of 0.26 (out of a maximum of 4.00), with  $SD = 0.65$ . Tables 11 and 12 illustrate the mean and SD values of all the response types for the instrumental items, for Groups A and B respectively. Figure 7 shows the fractions of response types for the same items

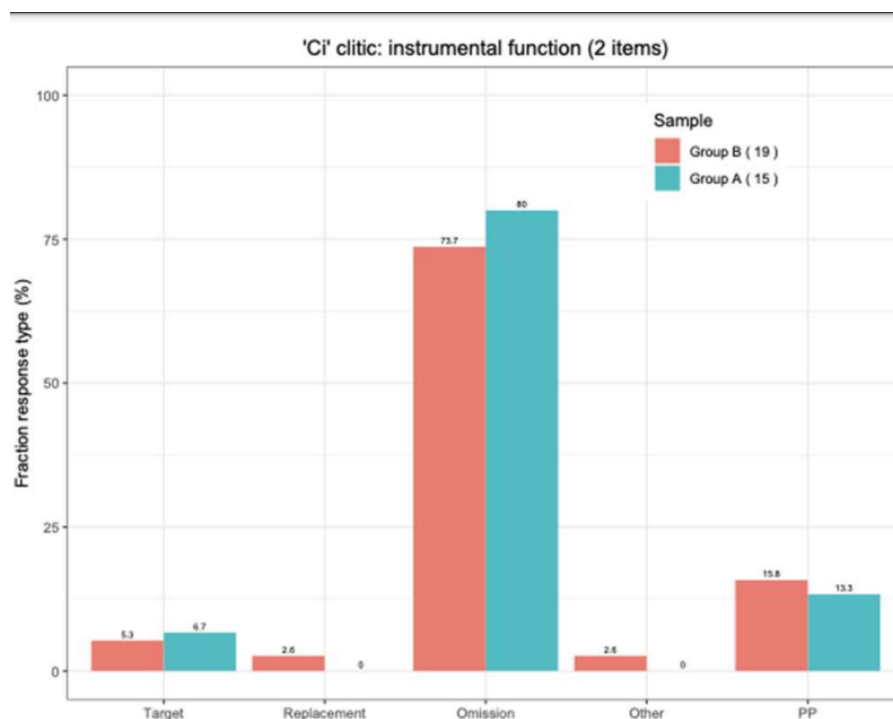
**Tables 11**

Mean and SD for all response types; Group A, instrumental items

Group A	Target	Replacement	Omission	Other	PP
Mean	0.13	0.00	1.60	0.00	0.26
SD	0.51	0.00	0.63	0.00	0.45

**Table 12**  
Mean and SD for all response types; group B, instrumental items

Group B	Target	Replacement	Omission	Other	PP
Mean	0.10	0.05	1.47	0.05	0.31
SD	0.31	0.22	0.51	0.22	0.47



**Figure 7**  
Percentages of response types in each group, for the instrumental function of the ci clitic

The INST-CL is the least produced form; the average values of Target responses are analogous for Groups A and B and no statistically relevant difference is found. The category of responses with the highest average value is Omission in both the groups, i. e., the strategy most frequently used is the clitic omission, in spite of producing the expected verb.

### *Locative function*

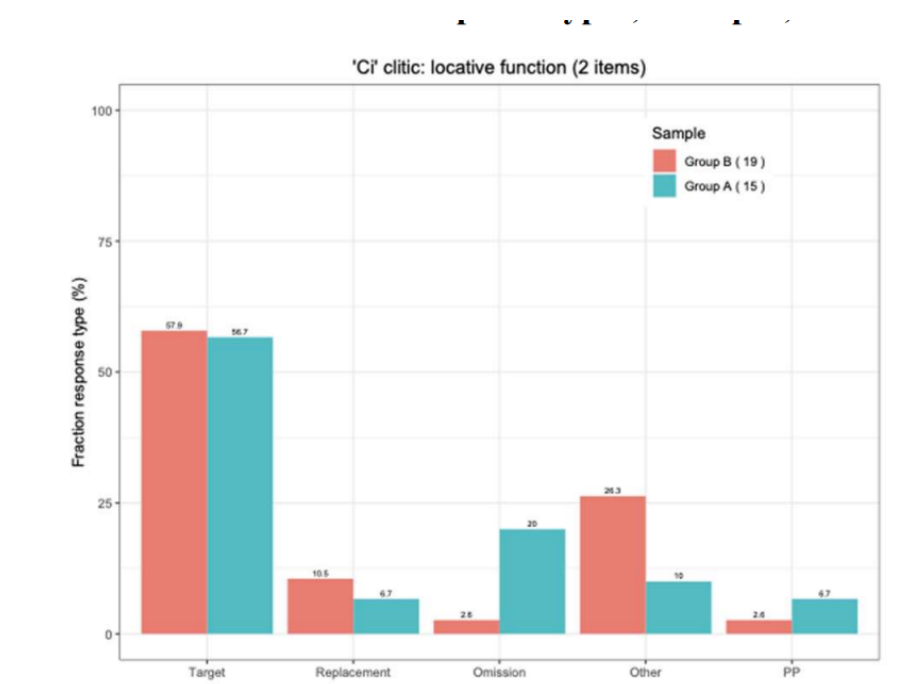
Group A reported an average score of 2.40, with SD = 1.18. Group B reported an average score of 2.52 (out of a maximum of 4.00), with SD = 0.90. Tables 13 and 14 outline the mean and SD values of all the response types for the locative items, for Groups A and B respectively. Figure 8 shows the fractions of response types for the same items

**Table 13**  
Mean and SD for all response types; Group A, locative items

Group A	Target	Replacement	Omission	Other	PP
Mean	1.13	0.13	0.40	0.20	0.13
SD	0.63	0.35	0.50	0.41	0.35

**Table 14**  
Mean and SD for all response types; Group B, locative items

Group B	Target	Replacement	Omission	Other	PP
Mean	1.57	0.21	0.05	0.52	0.05
SD	0.50	0.41	0.22	0.51	0.22



**Figure 8**  
Percentages of response types in each group, for the locative function of the ci clitic

Group B reported a large value of Target responses. The relevant datum is that, when comparing the Target responses of Groups A and B, it emerges that Group B actually provided, on average, a larger number of such responses.

### *Locative function*

Group A reported an average score of 2.40, with SD = 1.18. Group B reported an average score of 2.52 (out of a maximum of 4.00), with SD = 0.90. Tables 13 and 14 outline the mean and SD values of all the response

types for the locative items, for Groups A and B respectively. Figure 8 shows the fractions of response types for the same items

**Table 15**

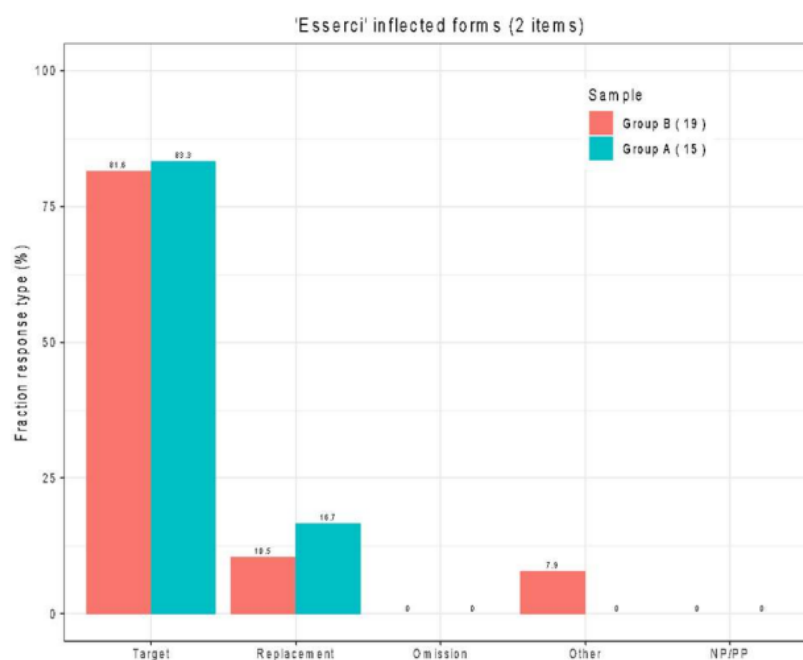
Mean and SD for all response types; Group A, esserci items

Group A	Target	Replacement	Omission	Other	PP
Mean	1.66	0.33	0.00	0.00	0.00
SD	0.48	0.48	0.00	0.00	0.00

**Table 16**

Mean and SD for all response types; Group B, esserci items

Group B	Target	Replacement	Omission	Other	PP
Mean	1.63	0.21	0.00	0.15	0.00
SD	0.49	0.41	0.00	0.37	0.00



**Figure 9**

Percentages of response types in each group, for the esserci inflected forms of the ci clitic

In both the groups, the highest average values belong to the Target response category. No statistically significant difference is found when comparing the two groups.

## Discussion

The first study reported in this article demonstrated that the T-PEC test is not efficient in eliciting the production of the INST-CL and LOC-CL, given their peculiar syntactic behavior and their non-obligatoriness, which requires specific strategies of elicitation. Moreover, the study suggested the need for a more reliable test to draw preliminary conclusions about the acquisition and production of the INST-CL and LOC-CL and open prospects for future investigation of their potential use as a new DLD marker for Italian preschoolers.

Following such remarks, the first step of the second study consisted of the creation of a new test on the basis of a corpus of semi-spontaneous speech by five-year-old children; through the quantitative and qualitative analysis of the corpus, it emerged that (i) children at the age of five produce all the functions of the *ci* clitic in contexts of spontaneous speech and (ii) different functions impact the clitic production frequency.

The functions ordered by frequency of occurrence are recalled in (22):

- (22) Inflected forms of *esserci* > Locative > Accusative > Dative > Instrumental

(22)

The administration of the new test proved the effectiveness of this new instrument in eliciting the clitic *ci*, demonstrating that typically developing children at the age of five produce the clitic in contexts of elicited production. Moreover, it confirmed the influence of different clitic functions on the frequency of clitic production. Namely, ordering the five elicited functions of the clitic in terms of production frequency, we obtain the list shown in (24)

- (23) Group B:

Inflected forms of *esserci* > Locative > Accusative > Dative > Instrumental

(23)

By comparing (22) and (23), it appears that the production frequency of *ci*-functions in elicited contexts is identical to the one in spontaneous contexts. This datum becomes even more relevant when comparing (22) and (23) to the acquisitional sequence traced by Berretta (1986), reported in (Section 2.4) and (24)

- (24) Inflected forms of *esserci* > Locative > Accusative > Dative

(24)

The sequences traced in (22) and (23) precisely reflect the acquisitional order of *ci*-functions in (24); the only function not named in (24) is the instrumental one. This function is the last one to be acquired, and the L2 learners of Italian longitudinally studied by Berretta (1989) never produce it; since such study involved participants with different levels of proficiency, it can be hypothesized that the instrumental function of the clitic *ci* is developed later during the Post-Basic variety.

(25) Group A:

Accusative > Inflected forms of *esserci*/Dative > Locative > Instrumental

(25)

In other words, adults tend to produce the functions corresponding to internal arguments of the verb (i. e., accusative and dative) with a higher frequency. They appear to be more aware of the obligatoriness of the clitic in such contexts. On the other hand, in this case, the instrumental function is the least produced.

Our data, even if preliminary, can be discussed in light of the models proposed to account for the omission of 3PDO-CL (reported in Section 2.3). First, the fact that different functions of the *ci* clitic impact its production rate contrasts the predictions made by the Surface Hypothesis; as a matter of fact, if the reason for omission lay in prosodic weakness, all the functions of the same form should have been produced at the same rating. However, this is not the case. Second, according to the UCC model, the accusative function should have been the most omitted one since it is the only one to trigger the object–past participle agreement. Our data show, on the contrary, that the accusative function is not the most omitted one. The Concept of Non-Shared Knowledge states that children optionally omit the clitics since they optionally are not able to distinguish the two types of knowledge. One expects the omission to occur with no regard to the function considered, but the sequences in (22), (23), and (24) show otherwise. Finally, the marked order of constituents as the reason for complexity should be further explored by means of a more fine-grained test that explores the proclisis/enclisis alternation.

To summarize, our data confirm, following several previous studies, that the Surface Hypothesis is not sufficient to explain the omission of clitics and that, relatively to the *ci* clitic, a reason other than the UCC is required to explain its pattern of production/omission.

Moreover, it emerged that the instrumental function is (i) the least-produced one in contexts of spontaneous speech by five-year-old typical developers, (ii) the least-produced function in elicitation contexts by five-year-old typical developers, (iii) the last function to be acquired by learners of Italian L2, and (iv) the least-produced function in contexts of elicited production by adults.

The reason why this function tends to not be produced remains an open question, mostly from a theoretical perspective. One hypothesis is that it is intrinsically less prominent and more difficult than the others. Others claim that given the sociolinguistic changes the pronoun is undergoing, adults tend to omit it and, consequently, children (as well as learners of Italian L2) are less exposed to it. Future research should focus on this function in order to further investigate its potential as a new DLD marker for Italian preschoolers.



## Concluding Remarks

This study represents the first explorative investigation of the acquisitional patterns of the Italian *ci* morpheme. Our findings, though preliminary, are relevant not only for a better comprehension of the acquisitional patterns of this morpheme but also for the potential future identification of a novel DLD marker for Italian-speaking children. Furthermore, this study sheds light on a methodological issue – the difficulty of eliciting non-obligatory elements – and tries to propose a solution.

However, further investigation on the production of different *ci*-functions, both in semi- spontaneous and elicited contexts, is necessary to determine the linguistic developmental trajectory of this clitic, teasing apart the contributions of distributional and sociolinguistic factors mentioned above (i. e., alteration of contexts of occurrence as well as functional/ semantic weakening), as well as to attempt to offer a theoretical hypothesis explicitly designed to explain the acquisitional path of the clitic *ci*.

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## Appendix 1: The T-PEC TEST

	Eliciting context	Clitic	Expected answer
Warm-up section	Guarda! In questo disegno la mamma mette la sua _____	-----	Mano
	Sulla spalla del _____	-----	Bambino
Test	1. Due fratellini vogliono andare al parco per giocare. La bambina chiede alla mamma: "Possiamo andare al parco?". La mamma risponde: "No, perché piove". La bambina allora chiede: "Allora quando _____?" e la mamma dice "Quando uscirà il sole".	Locative	Ci andiamo
	2. Il bambino prende le costruzioni per giocare in salotto e dice alla sorella: "Ho preso le costruzioni, così _____".	Instrumental	Ci giochiamo
	3. Dopo avere giocato per un po', il bambino guarda fuori dalla finestra e grida: "Mamma, guarda! Adesso fuori _____ il sole!".	Inflected forms of the verb <i>essere</i>	C'è
	4. La mamma e i fratellini possono andare al parco. La mamma dice: "Quando esce il sole, bisogna mettersi il cappello. Siccome adesso c'è il sole, anche noi dobbiamo _____ il cappello".	Dative	Metterci
	5. Bisogna proteggersi dai raggi del sole, allora mettiamo anche la crema, così _____ non _____".	Accusative	Ci scottiamo
	6. Arrivati al parco, la mamma vede delle api vicino allo scivolo, e dice ai bambini: "Guardate, lì _____ delle api!".	Inflected forms of the verb <i>essere</i>	Ci sono
	7. Se qualcuno dà fastidio alle api, loro pungono! Non diamo fastidio alle api, altrimenti _____".	Accusative	Ci pungono
	Eliciting context	Clitic	Expected answer
	8. Al parco, la mamma ha tirato fuori dallo zaino una palla per giocare, e infatti adesso la mamma e bambini _____.	Instrumental	Ci giocano
	9. Dopo avere giocato con la palla, i bambini hanno fame. La mamma tira fuori dallo zaino dei biscotti e dà i biscotti ai bambini. Anche gli altri bambini che sono al parco vogliono fare merenda. I due bambini si avvicinano e dicono: "Guardate, la nostra mamma per fare merenda _____ dei biscotti, se volete possiamo fare a metà".	Dative	Ci ha dato
	10. Mentre i bambini tornano a casa dal parco, la mamma dice "Stasera andiamo al cinema!". Il fratellino, però, non vuole andare al cinema, e grida: "Io, al cinema, non _____!". La mamma risponde al bambino: "Non preoccuparti, puoi stare a casa con papà".	Locative	Ci vado



## Appendix 2: ELICITED PRODUCTION TEST: CLITIC CI

	Eliciting context	Clitic	Expected answer
Warm-up section	<i>Il nonno vuole lavare la macchina. Cosa fa il nonno alla macchina?</i>	3PDO-CLSF	<i>L4 lava</i>
	<i>I bambini giocano. Cosa ci fanno i bambini con la palla?</i>	INST-CL	<i>CI giocano</i>
	<i>Il bambino vuole calciare il pallone. Cosa fa il bambino al pallone?</i>	3PDO-CLSM	<i>LO calcia</i>
	<i>Stacera i ragazzi vanno al cinema? Quando ci vanno al cinema?</i>	LOC-CL	<i>CI vanno stacera</i>
Test	<i>La mamma vuole leggere il libro. Cosa fa la mamma al libro?</i>	3PDO-CLSM Subj: SF	<i>LO legge</i>
	<i>La mattina il bambino va a scuola. Quando ci va il bambino a scuola?</i>	LOC-CL	<i>CI va la mattina</i>
	<i>Sta tagliando la carta. Cosa ci fa con le forbici?</i>	INST-CL	<i>CI taglia</i>
	<i>Le bambine vogliono guardare la televisione. Cosa fanno le bambine alla televisione?</i>	3PDO-CLSF Subj: P	<i>L4 guardano</i>
	<i>La mamma vuole preparare i panini. Cosa fa la mamma ai panini?</i>	3PDO-CLPM Subj: SF	<i>LI prepara</i>
	<i>Il gatto vuole prendere il topo. Cosa fa il gatto al topo?</i>	3PDO-CLSM Subj: SM	<i>LO prende</i>
	<i>Il bambino vuole prendere i pennarelli. Cosa fa il bambino ai pennarelli?</i>	3PDO-CLPM Subj: SM	<i>LI prende</i>
	<i>Il babbo va al parco. Come ci va il babbo al parco?</i>	LOC-CL	<i>CI va in bici</i>
	<i>Sta disegnando. Cosa ci fa con penna?</i>	INST-CL	<i>CI disegna</i>
	<i>Il babbo vuole tagliare la mela. Cosa fa il babbo alla mela?</i>	3PDO-CLSF Subj: SM	<i>L4 taglia</i>
	<i>I bambini vogliono lavare i piatti. Cosa fanno i bambini ai piatti?</i>	3PDO-CLPM Subj: P	<i>LI lavano</i>
	<i>La nonna vuole bere l'acqua. Cosa fa la nonna all'acqua?</i>	3PDO-CLSF Subj: SF	<i>L4 beve</i>
	<i>Le bambine vogliono vestire le bambole. Cosa fanno le bambine alle bambole?</i>	3PDO-CLPF Subj: P	<i>LE vestono</i>
	<i>Il bambino vuole prendere le caramelle. Cosa fa il bambino alle caramelle?</i>	3PDO-CLPF Subj: SM	<i>LE prende</i>
	<i>Il ragazzo suona. Cosa ci fa con la chitarra?</i>	INST-CL	<i>CI suona</i>
	<i>I bambini vogliono mangiare il gelato. Cosa fanno i bambini al gelato?</i>	3PDO-CLSM Subj: P	<i>LO mangiano</i>
	<i>I ragazzi vanno al cinema. Come ci vanno al cinema?</i>	LOC-CL	<i>CI vanno in auto</i>
	<i>La maestra vuole spostare le sedie. Cosa fa la maestra alle sedie?</i>	3PDO-CLPF Subj: SF	<i>LE sposta</i>

### Notes

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### Información adicional

*CRedit* (Contributor Roles Taxonomy) Author Statement: Alice Suozzi: Methodology (Experiment 2), Investigation, Data Curation, Writing

(Sections 1, 2.1, 2.3, 2.4, 3, 4, 5), Visualization. Gloria Gagliardi: Conceptualization, Methodology (Experiment 1), Resources, Writing (Sections 2.2, 2.5), Supervision