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# Asymmetries in the acquisition of clitic pronouns. Accusative vs. dative clitics in the (a)typical acquisition of Italian

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# Aims of the study

- Discuss the asymmetries observed in the acquisition of clitic pronouns:
  - **personal vs. reflexive**
  - **1<sup>st</sup>/2<sup>nd</sup> vs. 3<sup>rd</sup> person**
  - **accusative vs. nominative; accusative vs. dative**
- Assess children competence in the **production of accusative vs. dative** clitics
- Investigate **school-age** children:
  - to verify when Italian typically developing (TD) children attain full competence of clitic pronouns
  - to verify the role of maturational constraints such as the Unique Checking Constraint
  - to compare TD children with children with **Learning Difficulties (LD)**



## Clitic pronouns

- unstressed monosyllabic words subject to specific syntactic rules
- never occur in isolation or in coordination with other elements
- cannot undergo adverbial modification and cannot be contrastively focused
- cannot stay in their first merge position and must move to positions that are not allowed to noun phrases and strong pronouns:

(1) **Lo** mangio <lo>. [*I*] *it*<sub>3SG.MS</sub> *eat*

(2) a. Penso di non mangiar**lo** più <lo>. [*I*] *think not to eat.it*<sub>3SG.MS</sub> *anymore*

b. Non mangiatel**o** più <lo>! *not eat.it*<sub>3SG.MS</sub> *anymore*

- (3ACC clitics) can only be anaphoric, and have free reference (both human and non-human antecedents)



## Asymmetries in the acquisition of clitic pronouns

- All clitic pronouns share the phonological and syntactic properties mentioned above
- Asymmetries among clitic pronouns have however been reported in the literature on language acquisition
- 3ACC clitic pronouns are omitted in higher percentages and for longer than reflexive (RE), 1<sup>st</sup> and 2<sup>nd</sup> person (1/2), and nominative (NOM) clitics



## Personal vs. reflexive clitic pronouns

- Asymmetries between 3ACC and RE clitics have been reported for
  - French (Jakubowicz et al. 1998; Zesiger et al. 2010; Tuller et al. 2011)
  - Italian (Pozzan 2007; Arosio et al. 2010, 2014)
  - Romanian (Coene & Avram 2012)
- 3ACC vs. RE clitics:
  - different grammatical status: arguments of the verb vs. markers of valency reduction
  - different morphology: 3ACC clitics encode number and gender (Italian: /l/ + productive number+gender morphemes *-o*, *-a*, *-i*, *-e*); RE clitics do not encode gender and only realize person features (Kayne 2000) (Italian: /s/ + epenthetic vowel /i/)
  - different interpretation: principle B vs. A of Binding theory



## 3<sup>rd</sup> vs. 1<sup>st</sup> / 2<sup>nd</sup> person clitic pronouns

- Asymmetries between 3ACC and 1/2 clitics have been reported for
  - European Portuguese (Costa & Lobo 2007a, 2007b; Silva 2008, 2010)
  - Romanian (Avram & Coene 2008; Coene & Avram 2011, 2012; Avram et al. 2015)
  - French (Tuller et al. 2011; Delage et al. 2016)
  - Catalan (Gavarró & Fortón 2014)
- 3ACC vs. 1/2 clitics
  - different morphology
  - different interpretation



## 3<sup>rd</sup> vs. 1<sup>st</sup> / 2<sup>nd</sup> person clitic pronouns

- Morphology:
  - 3ACC clitics encode number and gender and do not encode any person features (Kayne 2000). Italian: /l/ + productive number+gender morphemes *-o*, *-a*, *-i*, *-e*
  - 1/2 clitics (like RE clitics) do not encode gender and only realize person features (Kayne 2000). Italian: consonant (*m-*, *t-*, *c-*, *v-*) + epenthetic vowel /i/
- Interpretation:
  - 3<sup>rd</sup> person clitic pronouns always refer to arguments present in the superordinate clause or in previous discourse (anaphoric use)
  - 1<sup>st</sup> and 2<sup>nd</sup> person clitics are discourse-dependent in that their reference is determined by the discourse roles of speaker and addressee (deictic use)



## Accusative vs. Nominative clitic pronouns

- Asymmetries between 3ACC and 3NOM have been reported for
  - French (Jakubowicz et al. 1998; Hamann & Belletti 2006; Tuller et al. 2011)
- 3ACC vs. 3NOM:
  - Grammatical status: nominative/weak vs. accusative/clitic pronouns (Cardinaletti & Starke 1996, 1999)



## Asymmetries in the acquisition of clitic pronouns

- **Tuller et al. (2011):**  
the combination of the syntactic, semantic, and morphological properties makes 3ACC clitics more problematic than other clitic pronouns.
- **Delage et al. (2016):**  
gender marking makes 3ACC clitics the most demanding pronominal form.
- 3ACC clitics differ from 1/2 and RE clitics in more than one respect.  
To verify Tuller et al.'s (2011) and Delage et al.'s (2016) hypotheses, it is important to compare 3ACC clitics with 3DAT clitics.



## 3ACC vs. 3DAT clitic pronouns

- 3ACC and 3DAT clitics build a minimal pair.
- They share
  - (i) the argumental status
  - (ii) the syntactic derivation <sup>[1]</sup>
  - (iii) the property of referring to antecedents present in the linguistic context
  - (iv) the property of encoding case features (e.g. Italian *gli* vs. *lo*, French *lui* vs. *le*)
- They differ with regard to the encoded phi-features, most notably the gender feature.
- In Romance languages, gender is missing on 3DAT clitics (on a par with 1/2 and RE clitics).



## Formal vs. Colloquial Italian *gli*

- In **Formal Italian**, *gli* is a **masculine singular** 3DAT clitic:
  - feminine singular: *le*
  - plural: *loro* (weak pronoun)
- In **Colloquial Italian**, 3DAT clitic *gli* is an **invariant** form, not marked for either gender or number.
- Like 1/2 clitics (*mi, ti, ci, vi*) and the 3<sup>rd</sup> person RE clitic (*si*), *gli* consists of a consonant (the palatal lateral phoneme /ʎ/) followed by the epenthetic vowel /i/ (Cardinaletti 2008, 2010).
- Children acquire Colloquial Italian as their native language.



## Why is gender problematic?

- Gender is a lexical property of nouns which, differently from number, is not represented in the nominal syntactic structure and is parasitic on either the head noun or the number head (Di Domenico 1997; Ritter 1995).
- This makes gender the least prominent feature in the retrieval of the pronoun antecedent (Carminati 2005; De Vincenzi & Di Domenico 1999).
- Gender is problematic on 3ACC clitic pronouns because of the need to keep in working memory the gender of the referents in order to produce the correct forms.
- Gender is unproblematic when it occurs on **articles** (Caprin & Guasti 2009; Jakubowicz et al. 1998; Kupish et al. 2002; Pizzuto & Caselli 1992). The article belongs to the extended projection of the noun and is a **reprojection of the head noun** itself (Giusti 2015).
- Gender is also unproblematic on **adjectives** (Caselli et al. 1993; Kupish et al. 2002; Velnic 2020). Adjectives enter a **local concord relation** with the functional heads reprojected by the head noun (Giusti 2015, 2021).



## 3ACC vs. 3DAT clitics: previous studies

### Spontaneous production:

- Lyzckowski (1999) on **Spanish** children aged 1;7-4;11: very few omissions of 3DAT clitics
- Caprin & Guasti (2009), Cardinaletti (2012) on **Italian** children: 3DAT clitics were produced some months later than 3ACC clitics, but they were omitted less frequently than 3ACC clitics.
- Coene & Avram (2012) on **Romanian**: 3DAT clitics were found to emerge later than 3ACC clitics (around the age of 2;2-2;3), but no statistical difference was observed between the omission of the two.

### Elicited production:

- Blasco (2000): **Spanish** children aged 1;9-2;10 produced 3ACC and 3DAT clitics in similar percentages.
- Costa et al. (2008), Silva (2008, 2010): in **European Portuguese**, the rate of omissions of 3ACC and 3DAT clitics in children aged between 3 and 4 years and 3 and 6;6 was comparable.
- Babyonyshev & Marin (2006): **Romanian** children with MLU higher than 2 (ages 2-3) produced fewer dative clitics (87%) than accusative clitics (94%).



## The Unique Checking Constraint - UCC

- Gavarró & Mosella (2009) on Catalan: the omission rate of 3DAT clitics was much lower than 3ACC clitics
  - 2-year-olds: 35% vs. 74%
  - 3-year-olds: 8% vs. 25%
  - 5-year-olds: 0% vs. 4.2%
- This difference is predicted by the UCC (Wexler 1998; Wexler, Gavarró & Torrens 2004; Gavarró, Torrens & Wexler 2010).
- Since Catalan 3ACC clitics agree with the past participle, two checking operations are needed, with the past participle and the head hosting the clitic pronoun, respectively.
  - Double checking is problematic for children aged 2 and 3 years, which predicts high rates of 3ACC clitic omissions at these ages.
- Since 3DAT clitics do not agree with the past participle, their derivation is not constrained by the UCC, and omissions are not found or are very rare.



## Typical vs. atypical acquisition of 3ACC clitic pronouns

- By the age of 5, TD children master the complex properties of clitic pronouns (Varlokosta et al. 2016).
- Children who produce a scarce amount of 3ACC clitics at the age of 5 are most likely to be diagnosed with a Developmental Language Disorder (Bortolini et al. 2006; Pozzan 2007; Arosio et al. 2010, 2014).
- Children diagnosed with Learning Difficulties (LD) may also struggle with these structures
  - Romanian: Avram et al. (2013)
  - Italian: Guasti (2013); Zachou et al. (2013); Arosio et al. (2016); Vender et al. (2018)
  - French: Delage & Durrleman (2018)



## Typical vs. atypical acquisition of 3ACC clitic pronouns

- Difficulties with clitic pronouns are due to
  - DLD under-identification in LD (Arosio et al. 2016)
  - similar syntactic manifestations of two different disorders
- Avram et al. (2013): lower percentage of 3ACC clitics by DLD than by LD group; DLD displays higher omission rates and a significant number of ungrammatical responses, LD produced a higher percentage of DPs instead of clitics.
- Delage & Durrleman (2018): in the DLD group, links were found between a low production of 3ACC and weaknesses in working memory, but they were absent in the LD group.
- Vender et al. (2018): the difficulties with clitic pronouns in children with LD remained significant even after removing from the analysis the participants who showed a particularly poor performance and who could be considered potentially undiagnosed DLD children.



## Atypical acquisition of 3DAT clitic pronouns

- Tuller et al. (2011: 438): “in the spontaneous language corpus of the young man with SLI reported on in Audollent and Tuller (2003) [...] dative clitics were not omitted the way accusative clitics were (93% dative clitic production in obligatory contexts).”
- Pozzan (2007): Children with DLD (age 7-11) omitted the 3DAT clitic in 9 cases out of 10, significantly more than 3ACC clitics. Dative omissions were observed in contexts in which children produced non-target verbs requiring indirect objects instead of direct objects.
- Avram et al. (2013) on Romanian and Vender et al. (2018) on Italian: children with LD produced verb change and 3DAT clitics as an avoidance strategy of 3ACC clitics.
- A similar strategy was reported for children with DLD in Catalan (Gavarró 2012).



# Our study

- We tested Italian school-age children.
- Full adult-like production of 3ACC clitics is not reached at school-entrance age yet (Delage 2008; Delage et al. 2016; Pozzan 2007, etc.)
  - establish when full adult-like production of clitic pronouns is attained.
- The Unique Checking Constraint should no longer be operative at school age; no difference between 3ACC and 3DAT clitics is expected at this age
  - verify the role of the UCC in clitic acquisition.
- Learning Difficulties are diagnosed at school-age. Compare TD children with children with LD
  - verify whether difficulties with 3ACC clitics extend to 3DAT clitics

# Materials: accusative clitics



**Slide 1:** In questa storia c'è un signore che vuole pescare un pesce  
*In this story, there is a man who wants to catch a fish*

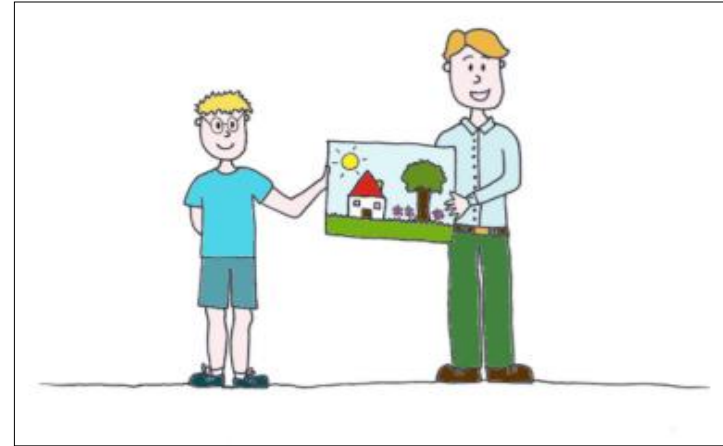
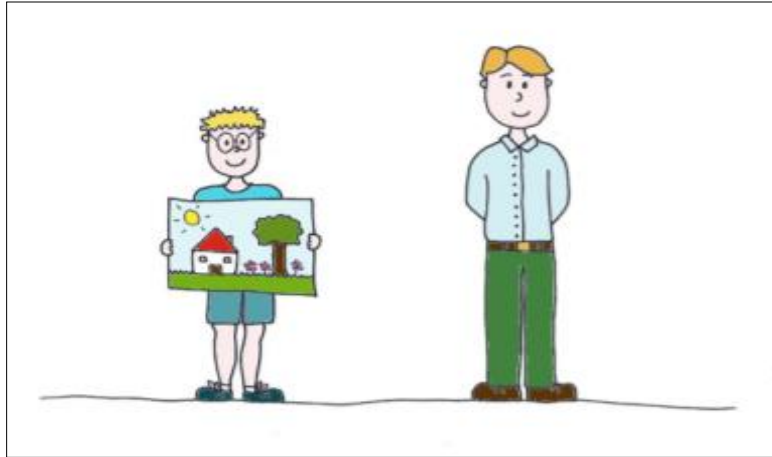
**Slide 2:** Guarda! Cosa sta facendo al pesce?  
*Look! What is he doing to the fish?*

**Target answer:** **Lo** sta pescando  
*he is fishing it*

(a version of the test used  
by Arosio et al. 2010, 2014)



# Materials: dative clitics



**Slide 1:** In questa storia c'è un bambino che vuole regalare un disegno al papà.  
*In this story, there is a boy who wants to give a drawing to his dad.*

**Slide 2:** Guarda, cosa sta facendo al papà?  
*Look, what is he doing to his dad?*

**Target answer:** **Gli** sta regalando un disegno / il disegno.  
*He is giving him a / the drawing.*



- Accusative test: 6 masculine singular, 6 feminine singular
- Dative test: 6 masculine singular, 6 feminine singular
- Animate subjects, animate/inanimate direct objects, animate indirect objects
- Number and gender feature match between subject and object(s)
- **Null subjects in the question**
- **Progressive aspect: *stare* + gerund**  
(differences w.r.t. Arosio et al. 2010, 2014)



# Procedure

- TD participants were recruited from primary schools in the area of Milan, Florence, and Macerata. LD participants were recruited from a speech therapy centre in the area of Milan.
- Consent for collecting data was obtained through a questionnaire. In the questionnaire, parents were also required to answer a few questions about the languages spoken at home. This allowed us to exclude data from bilingual children.
- TD children were tested in quiet rooms at their schools. Children with LD were tested during their weekly therapy sessions.
- All sessions were recorded and later transcribed.



## Target

### including Enclitic

- a. \*Prendendolo. *\*taking it*
- b. ##Sta prendendolo. *\*[he] is taking it*

### Full DP/PP

- a. Sta dipingendo la maschera. *[she] is painting the mask.*
- b. Sta regalando un disegno al papà. *[he] is giving a drawing to his dad.*

### Omission

- a. \*∅ prende. *\*[she] takes*
- b. \*∅ sta regalando una margherita. *\*[she] is giving a daisy.*
- c. #∅ sta leggendo il giornale. *#[he] is reading the newspaper.*

### Other

Sta levando la buccia (*target: La sta sbucciando*)  
*[she] is removing the peel (target: She is peeling it)*



# Study 1: Participants

<b>Groups</b>	<b>#</b>	<b>Age</b>	<b>Mean age</b>	<b>SD</b>
<b>TD1</b>	30	5;9 – 6;11	6;5	0.26
<b>TD2</b>	41	7 – 7;11	7;5	0.29
<b>TD3</b>	42	8 – 8;11	8;4	0.28
<b>TD4</b>	41	9 – 9;11	9;3	0.22
<b>TD5</b>	23	10 – 10;11	10;5	0.22
<b>Adults</b>	12	21 – 31	25	2.98



# Study 1: Results

	Target		DP/PP		∅		Other	
	ACC	DAT	ACC	DAT	ACC	DAT	ACC	DAT
TD1	86.7%	87.6%	6.7%	2.5%	4.1%	5.8%	02.5%	4.1%
	2.68	3.55	1.68	1.64	1.25	2.23	0.59	2.06
TD2	90.9%	94.1%	6.2%	0.1%	2.5%	4.1%	0.4%	1.7%
	2.07	1.63	1.51	1.15	1.04	1.56	0.71	1.57
TD3	85.8%	92.6%	11.7%	4.1%	0.8%	2.5%	1.7%	0.8%
	2.90	2.59	2.48	1.91	0.29	0.81	0.35	0.91
TD4	90%	96.8%	6.7%	0.4%	0.8%	2.1%	2.5%	0.7%
	2.29	1.16	2.12	0.21	0.22	0.86	0.78	0.37
TD5	86.6%	94.9%	6.5%	2.2%	0.3%	1.1%	6.6%	1.8%
	1.90	1.23	1.67	0.91	0.2	0.34	0.86	0.49
<b>Mean</b>	<b>88.33%</b>	<b>93.2%</b>	<b>7.5%</b>	<b>1.8%</b>	1.7%	3.1%	2.5%	1.8%
<b>Adults</b>	95%	91.7%	5%	0.8%	---	---	---	7.5%
	1.16	1.70	1	0.28				1.62



# Results: statistical analysis

Generalized linear mixed-effect (GLME) models were used to carry out between-group and within-group analyses in the production of clitic pronouns (statistical software R, R Development Core Team, 2018, R Version 3.6.1).

- Children of the TD3, TD4, and TD5 groups were significantly more accurate in the production of 3DAT clitic pronouns ( $p < .001$  for all groups).
- Children of groups TD2, TD3, and TD4 produced significantly more XP responses when an accusative pronoun was elicited:
  - TD2, Est = 3.7791, SE = 1.052, z.ratio = 3.591,  $p < .05$ ;
  - TD3, Est = 1.3783, SE = 0.339, z.ratio = 4.070,  $p = .003$ ;
  - TD4, Est = 3.1807, SE = 0.767, z.ratio = 4.146,  $p = .002$ .
- Children of groups TD1 and TD2 omitted the pronoun significantly more frequently than group TD4. In the accusative task, we found a significant difference between groups TD1 and TD4:
  - Est = 2.677, SE = 0.788, z.ratio = 3.396,  $p < .05$In the dative task, we found a significant difference between groups TD2 and TD4:
  - Est = 1.377, SE = 0.421, z.ratio = 3.272,  $p < .05$



- The production of 3ACC is not yet at ceiling at school age.  
The oldest group (age 10-10;11) produced 3ACC pronouns 86.6% of the time.
- Case influenced accuracy.  
In spite of the high percentages of 3ACC, children of TD3, TD4, TD5 groups produced significantly more 3DAT than 3ACC clitic pronouns.  
The difference is not statistically significant in adults.
- The difference between ACC and DAT clitics did not reach significance in the youngest groups TD1 and TD2 because these children still omitted clitics.
- The only clitics which are still demanding at school age are 3ACC clitics.



- The difference between 3ACC and 3DAT clitics cannot be attributed
  - to the syntactic derivation or the semantic interpretation, which are the same in the two cases;
  - to the Unique Checking Constraint. This maturational constraint should no longer be operative at school age.
- The difference between 3ACC and 3DAT clitics is due to morphology.
- In colloquial Italian, the 3DAT clitic *gli* is morphologically simple and does not encode any gender feature.
- *Gli* is easier to retrieve than 3ACC clitics because it does not have to agree in gender (and number) with its antecedent.
- Children produced *gli* 97.5% of the time.
- More DPs than PPs in all groups: DPs as avoidance strategy of 3ACC clitics.



# Results: dative test

## Clitic clusters

Group	Mean percentage	SD
<b>TD1</b>	<b>24.4%</b>	5.44
<b>TD2</b>	0.62%	3.95
<b>TD3</b>	0.53%	3.27
<b>TD4</b>	0.47%	3.41
<b>TD5</b>	0.37%	2.52
<b>Mean</b>	<b>5.27%</b>	---
<b>Adults</b>	<b>15.97%</b>	3.87

In questa storia c'è un bambino che vuole regalare un disegno al papà. Guarda, cosa sta facendo al papà?

*In this story, there is a boy who wants to give a drawing to his dad. Look, what is he doing to his dad?*

Answer: **Glielo dà.**

*[he] to.him<sub>3SG.MS</sub> + it<sub>3SG.MS</sub> gives*  
*He gives it to him.*



# Discussion: clitic clusters

- In the dative task, children produced some clitic clusters.
- All clusters produced were correct. Children have full competence of clitic clusters by school age.
- The amount of clusters produced was very high in the youngest group: 24.4%.
- The use of clitic clusters enhanced the production of 3ACC clitics in the dative test: it implies the production of 3ACC clitics instead of the expected direct object DPs.
- Clitic clusters are merged as lexical units, which consist of the consonantal dative clitic /ʎ/, the linking vowel [e], and the accusative clitic (Cardinaletti 2008): e.g., *glielo* 'to.him-it'.



# Results: dative test

## Clitic doubling

Group	Mean percentage	SD
TD1	0.25%	0.18
TD2	2.41%	1.56
TD3	0.91%	0.77
TD4	0.16%	0.15
TD5	---	---
Mean	0.75%	
Adults	7.6%	1.62

In questa storia c'è un bambino che vuole regalare un disegno al papà. Guarda, cosa sta facendo al papà?

*In this story, there is a boy who wants to give a drawing to his dad. Look, what is he doing to his dad?*

Answer: **Gli dà un disegno al papà.**

*[he] to.him<sub>3SG.MS</sub> gives a drawing to his dad  
He gives a drawing to his dad.*



# Discussion: clitic doubling

- Children used clitic doubling target-like:
  - they only used the clitic doubling option in the dative task
  - accusative clitic doubling, which is ungrammatical in Italian, was not found in the accusative task.
- Clitic doubling, which belongs to sloppy registers of Italian, was used 7.6% by adults. TD children used it less frequently (mean 0.75%).
- Clitic doubling is more complex than sentences containing either a dative clitic or an indirect object:
  - it features both the clitic pronoun and the argumental PP (first merged in a “big PP”, cf. Torrego 1995; Uriagereka 1995, 2005).
- There is no reason to use this more complex structure as an alternative response in a context eliciting a dative clitic pronoun.



## Study 2: Participants

69 Italian monolingual children from the provinces of Milan, Florence and Macerata.

23 children had a diagnosis of LD.

Each child was matched by age ( $\pm 2$  months) with two typically developing children, for a total of 46 TD children.

<b>Groups</b>	<b>#</b>	<b>Age</b>	<b>Mean age</b>	<b>SD (months)</b>
<b>LD</b>	23	8;1 – 11;1	9;1	10.55
<b>TD</b>	46	8 – 10;11	9;1	10.13



# Study 2: results

GROUP	TARGET		DP/PP		OMISSION		OTHER	
	ACC	DAT	ACC	DAT	ACC	DAT	ACC	DAT
LD	75.36% SD 3.86	90.22% SD 2.72	19.57% SD 3.62	4.35% SD 1.83	4.35% SD 0.79	5.43% SD 1.61	0.72% SD 0.28	---
TD	85.87% SD 2.73	94.02% SD 1.93	11.05% SD 2.55	3.98% SD 1.89	0.36% SD 0.20	1.45% SD 0.56	2.72% SD 0.79	0.55% SD 0.24



# Results: statistical analysis

Generalized linear mixed-effect (GLME) models were used to carry out analyses in the production of clitic pronouns, using the statistical software R (R Development Core Team, 2018, R Version 3.6.1).

- Children were significantly more accurate in the production of 3DAT clitic pronouns (Est = 1.628, SE = 0.2169, z.ratio = 7.510,  $p < .001$ ).
- Children produced more XP responses when an accusative pronoun was elicited (Est = 2.2076, SE = 0.28286, z.ratio = 7.813,  $p = < .001$ ).
- The group with LD produced more answers with **clitic omission** than TD children (Est = 2.0134, SE = 0.7362, z.ratio = 2.735,  $p < .01$ ).



# Results:

## individual analysis within LD

Children with LD who performed more than 1.5 SD below the mean accuracy of the controls:

		ACCUSATIVE TASK			DATIVE TASK		
Participant	Age	Target answers	Z-score	Mean TD group	Target answers	Z-score	Mean TD group
LD5	8;5	3/12 25%	<b>-2.66</b>	10.3/12 85.8%	10/12 83%	-0.66	11.3/12 94.2%
LD6	8;5	3/12 25%	<b>-2.66</b>		12/12 100%	0.36	
LD9	8;7	0/12 0%	<b>-3.76</b>		1/12 8%	<b>-5.30</b>	
LD15	9;5	3/12 25%	<b>-2.66</b>		8/12 67%	<b>-1.69</b>	
LD23	11;1	3/12 25%	<b>-2.66</b>		5/12 42%	<b>-3.23</b>	



# Results: the LD group

- In their study of 3ACC clitics, Arosio et al. (2016) suggested that children with dyslexia who performed more than 1.5 SD below the mean accuracy of the controls actually had an unrecognized DLD.
- To test Arosio et al.'s (2016) hypothesis, and following the procedure by Vender et al. (2018), we removed the five children in the above table and analyzed the data again.
- If all the five children suffered from DLD, after removing them from the analysis we should not find any difference between the two groups.
- The LD group was indeed no longer less accurate than the TD group.
- These children may have an undiagnosed DLD (Arosio et al. 2016).



# Results: dative test

## Clitic clusters

Group	Mean percentage	SD
LD	23.16%	4.36
TD	12.66%	3.27

In questa storia c'è un bambino che vuole regalare un disegno al papà. Guarda, cosa sta facendo al papà?

*In this story, there is a boy who wants to give a drawing to his dad. Look, what is he doing to his dad?*

Answer: **Glielo dà.**

*[he] to.him<sub>3SG.MS</sub> + it<sub>3SG.MS</sub> gives  
He gives it to him.*



# Discussion: clitic clusters

- The amount of clusters produced was very high in the LD group (23.16%).
- The use of clitic clusters enhanced the production of 3ACC clitics in the dative test.
- This was very clear in two individuals with LD:
  - age 8;5: accusative clitics in clusters 10/12 vs. in isolation 7/12
  - age 11;1: accusative clitics in clusters 11/12 vs. in isolation 8/12
- Clitic clusters are merged as lexical units, which consist of the consonantal dative clitic /ʎ/, the linking vowel [e], and the accusative clitic (Cardinaletti 2008): e.g., *glielo* 'to.him-it'.



# Conclusion

- School-age children produced significantly more 3DAT than 3ACC clitics.
- This is due to the morphological properties of 3DAT clitics. They do not encode any gender (and number) feature; they do not agree with the antecedent.
- Children with LD produced less 3ACC clitics than TD children, but the difference was not statistically significant. The only significant difference between the groups was clitic omission.
- Children who were more than 1.5 SD below the mean of age-matched controls were removed from the analysis. The effect of LD was no longer observed.
- The dative task elicited target-like clitic clusters and clitic doubling sentences.
- Clitic clusters enhanced the production of 3ACC clitics in the dative test.
- Clitic doubling was produced less frequently by TD children than by adults, and not produced at all by children with LD. Clitic doubling is a uselessly complex structure when dative clitics are elicited.



- Most studies on the acquisition of Romance languages, including our study on Italian, focussed on singular clitic pronouns.
- If number agreement with the antecedent is demanding on a par with gender agreement, we predict that Italian *gli*, which does not encode number, is less demanding than the 3DAT clitics in the other Romance languages, which do encode number:
  - Catalan *li* vs. *els*
  - French *lui* vs. *leur*
  - Spanish *le* vs. *les*
- If number behaves differently from gender, as observed in previous studies (cf. e.g. De Vincenzi & Di Domenico 1999, Carminati 2005), no difference among Romance languages should be found.



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