The acquisition of long-distance *wh*-questions in Italian: A production study

Chiara Dal Farra[1], Aurore Gonzalez[1], Johannes Hein[2], Silvia Silleresi[1], Kazuko Yatsushiro[3], Maria Teresa Guasti[1], and Uli Sauerland[3]

The Romance Turn, Madrid, September 20th 2023

[1]Università degli Studi di Milano Bicocca [2]Humboldt-Universität zu Berlin
[3]ZAS Berlin

1

Introduction

Introduction

Producing constructions which involve movement from an embedded clause is hard for children across languages (see Grolla 2022 and references therein).

(1) Zoe is the woman that Bill saw.   Relative Clause

(2) Who does Zoe think (that) Bill saw?   LD Question

Children asked to form long-distance *wh*-questions (LDQs) often produce alternative strategies.

- ***Wh*-copying** constructions   (Thornton 1990: 87)

(3) a. **Who** do you think **who** Grover wants to hug? (Tiffany 4;9)

   b. **What** do you think **what** Cookie Monster eats? (Katie 5;5)

- **Scope-marking** constructions   (Thornton 1990: 232)

(4) **What** do you think **who** had the toothbrush?   (Kelly 3;11)

Previous studies

Study	Participants	Wh-copying	Scope-marking/ Partial movement
Thornton (1990)	20 Eng. (2;10–5;5)	10/21 (17% of cases)	4/21 children
Oiry & Demirdache (2006)	20 Fr. (3;02–5;11)	NA	11/144 (8%)
Gutiérrez Mangado (2006)	1 Spa. (4;9–6;2)	14/160 (8.7%)	68/160 (42.5%)
Jakubowicz & Strik (2008)	24 Fr. (4 and 6)	4y.o.: subj. 1/60 (2%) obj. 4/64 (6%) 6y.o.: NA	4y.o.: subj. 13/60 (22%) obj. 2/64 (3%) 6y.o.: subj. 22/61 (36%) obj. 3/60 (5%)
	24 Dut. (4 and 6)	4y.o.: subj. 11/42 (26%) obj. 55/68 (95%) 6y.o.: subj. 6/55 (11%) obj. 52/65 (80%)	4y.o.: subj. 12/42 (29%) obj. NA 6y.o.: subj. 24/55 (44%) obj. NA
Asproudi (2014)	90 Greek (4–7)	4–5y.o.: NA 5–6y.o.: 7/126 (5.5%) 6–7y.o.: 8/220 (3.6%)	4–5y.o.: NA 5–6y.o.: 2/126 (1.6%) 6–7y.o.: 7/220 (3.2%)
Grolla et al. (2020)	32 Eng. (3;7–6;2) 72 Br. Port. (4;2–6;5)	41/571 (7.2%) 104/1083 (9.6%)	NA NA
Lutken (2021)	28 Ger. (3;11–6;8)	78/350 (22.5%)	50–55%

Language Typology

(5) Italian
Chi *pensi* *(che) stia* *toccando le cuoche?* (*wh* ex-situ)
who think.2sg that be.3sg touching the chef.pl
"Who do you think that is touching the chef?"

(6) German (Fanselow and Mahajan 2000)
Wen *denkst* *du* ***wen*** *sie liebt?* (*wh*-copying)
who think.2sg you who she love.3sg
Lit. 'Who do you think who she loves?'

(7) Hindi (Dayal 2017)
Siitaa ***kyaa*** *soctii hai ki* ***kaun*** *aayegaa?* (scope-marking)
Sita what think.3sg that who come.fut
Lit.: 'What does Sita think who will come?'

Theoretical Background

Wh-copying

- Successive cyclic movement $\rightarrow$ spell out of intermediate copies at the edge of each clause (Chomsky 1995, 2000, 2001 a.m.o.)

Scope-Marking

- Direct Dependency Approaches
    - the *wh*-scope marker is considered to be an expletive *wh*-phrase, merged in the matrix sentence and forming a chain with the *wh*-phrase in the embedded clause (McDaniel 1989)
    - the *wh*-phrase in the matrix arises from overt movement of the [wh]-feature of the embedded *wh*-phrase to the matrix where it is spelled out as 'what' (Hiemstra 1986; Cheng 2000)
- Indirect Dependency Approach
    - the *wh*-phrase marking the scope quantifies over propositions, and its restriction is provided by the complement clause whose *wh* is interpreted as an existential quantifier (Dayal 1994).

Our study

Aims of this study

1. Extend investigation of LDQs to Italian, to check whether:
   - *wh*-copying and scope-marking are both used, in a language that does not allow them
   - *wh*-copying and scope-marking correspond to developmental stages (as claimed in Gutiérrez Mangado 2006)

2. Change the elicitation methodology in order to:
   - not provide children with the full LDQ in the experimental phase (cf. Oiry and Demirdache 2006, Gutiérrez Mangado 2006, Jakubowicz and Strik 2008)
   - not give them an elided prompt such as 'Ask *what* she thinks' (cf. Thornton 1990, Grolla et al. 2020), which may prime scope-marking constructions
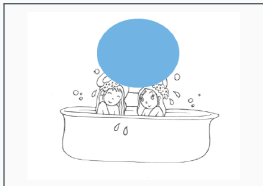
(8) *Subject Wh-question: Who do you think is washing the girls?*

shown to CHI   shown to PUP

(9) *Object Wh-question: Who do you think the cats are waking?*

shown to CHI   shown to PUP

Design of the experiment

Items:

- 6 training items (4 repetitions + 2 hybrid items)
    - EXP provides full ex-situ *wh*-question (twice);
- 12 experimental items (6 *who* subject questions, 6 *who* object question)
    - EXP never provides full ex-situ *wh*-question;

Item properties:

- Agents mismatched in number with patients on all items as number agreement helps disambiguate between subject and object questions.
- All verbs were reversible.
- No *what* questions.

Italian study

Participants: 27 Italian-speaking children (age range: 4;2–6;2, M=5;3) recruited in two kindergartens in the Milan area.

Data: 324 utterances were transcribed and coded → 299 were LDQs and were included in the analysis (Fig. 1)

Coding:

- Correct (adult-like production of the expected LDQs) vs. not correct (non adult-like LDQs)
- Alternative constructions:
    - *wh*-copying
    - resumptive elements
    - scope-marking
- Error types
    - inverted structure (subject for object and vice versa)
    - ambiguous sentences

13

Results

Figure 1: Production of correct LDQs, alternative structures and error types across conditions
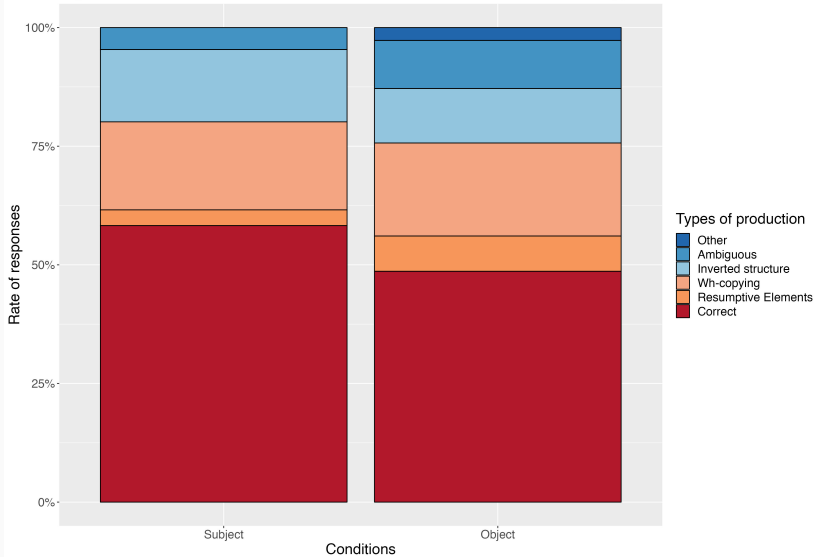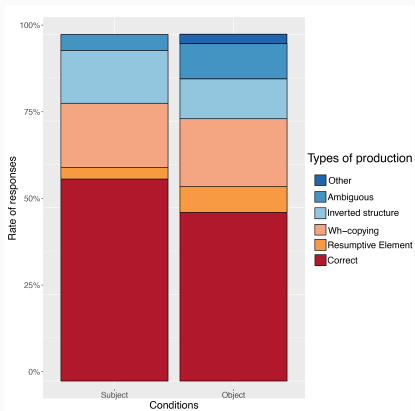
Figure 1: Production of correct LDQs, alternative structures and error types across conditions

- **Correct**
  - Italian children were able to ask adult-like LDQs: Subject questions (58%) and object questions (48%).
  - No significant difference between correct rate in Subject and Object questions (p =.074)
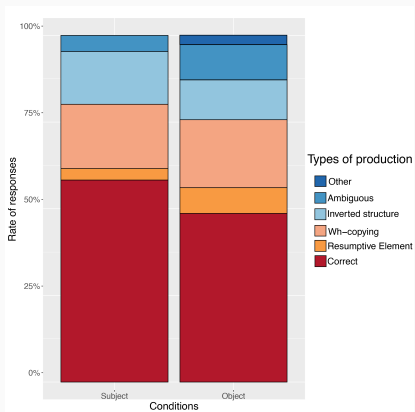 - No effect of age (p =.818) w.r.t. rate of correct responses

Figure 1: Production of correct LDQs, alternative structures and error types across conditions

- **Error Types**
  - Subject questions instead of object questions, and vice versa (15%) (n = 23 in subject, n = 23 in object) + inversion of theta-roles (12-13%) (n = 22 in subject, n = 20 in object)
  - Ambiguous LDQs between subject and object (5% in subject and 10% in object)
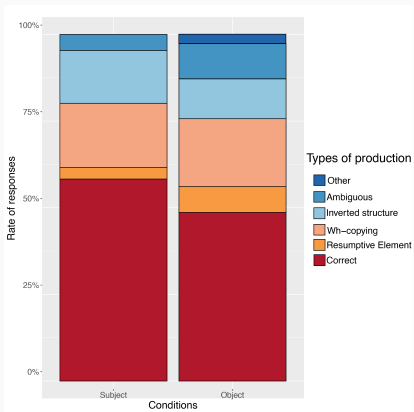 - Other (3% in object)

Figure 1: Production of correct LDQs, alternative structures and error types across conditions

- **Alternative Constructions**
  - No scope-marking constructions
  - *Wh*-copying (18% in subject and 19% in object)
  - LDQs with resumptive elements (3% in subject and 7% in object)

Discussion

Absence of scope-marking in Italian

- It does not represent a developmental stage in L1 acquisition for Italian children.

- Its absence is puzzling under an approach to scope-marking as simple movement of a [*wh*]-feature.

- It suggests that scope-marking and *wh*-copying are derived from different structures (see Murphy 2016; Lutken 2021; Liter et al. 2022 a.o.)

- It might indicate that scope-marking in previous experiments could have been induced by the prompt used/experimental method (Ask the puppet *what* she thinks)/the presence of *what*-questions.

(10) *Chi pensi   chi sta   lavando i   bambini?*   (4;8)
      who think.2sg who be.3sg washing the kid.pl
      Lit.: 'Who do you think who is washing the kids?'

(11) *Chi pensi   chi stanno legando le   api?*   (4;4)
      who think.2sg who be.3pl tying   the bee.pl
      Lit.: 'Who do you think who the bees are tying?'

(12) *Chi pensi   chi che stia   toccando i   conigli?*   (5;6)
      who think.2sg who that be.3sg touching the rabbit.pl
      Lit.: 'Who do you think who is touching the rabbit?'

- some items with overt complementizer *che* (also found in Spanish in Gutiérrez Mangado 2006)

Wh-copying

- We take this strategy to be the overt realization of the intermediate copy of the *wh*-word (Thornton and Crain 1994; Gutiérrez Mangado 2006; Chomsky 1995; Bayer 1996; Fanselow and Mahajan 2000; Baier 2014; though see Murphy 2016 for problems with this approach).

- When both the copy and the complementizer are realized, the copy precedes the complementizer *che* (as expected).

- We propose that in *wh* ex-situ languages such a copy can only be realized as a *wh*-item in the position where it checks a [*wh*]-feature (i.e. SpecCP).

(13) *Chi* *pensi* *che* *qualcuno* *sta* *lavando* *le* *bambine?* (6;1)
      who think.2SG that someone be.3SG washing the girl.PL
      Lit.: 'Who do you think that someone is washing the girls?'

(14) *Chi* *pensi* *che* *le* *cuoche* *stanno* *spingendo* *qualcuno?* (5;3)
      who think.2SG that the chef.PL be.3PL pushing someone
      Lit.: 'Who do you think that the chefs are pushing someone?'

- all indefinites
- only occur after the complementizer

Resumptive elements

- Not expected under copy-theory of movement, since copies are supposed to be the exact same realizations.

- A *wh*-word can be analyzed as containing: the [*wh*]-feature, the [±human] feature, and an abstract element underlying indefinite pronouns (see Chomsky 1995).

- For *wh* ex-situ languages, we propose that a copy can only be realized as a *wh*-item in the position where it checks a [*wh*]-feature (i.e. SpecCP).

- When the lowest copy in the base position is (erroneously) pronounced, its [*wh*]-feature is ignored.

Resumptive elements

- In our data (and in previous studies as well) we never find more than two realizations of the questioned element → *wh*-copying and resumptive elements never co-occur.

- We suggest that this is due to a syntactic ban on the realization of more than one copy within the same CP phase.

- This might also explain the fact that resumptive elements are never reported in the literature on short *wh*-questions.

Indefinite resumptives contrast with resumptive definite NPs in RCs, where either the full DP is pronounced (15), or a resumptive pronoun (16).

(15) Catalan (Gavarró et al. 2011:43)
      M'agradaria   ser el nen que el veí   pentina el nen.
      CL=would.like.1sg to.be the boy that the neighbor comb.3sg the boy
      Lit.: 'I would like to be the child that the neighbor is combing (the child).'

(16) Catalan (Gavarró et al. 2011:43)
      M'agradaria   ser el nen que el desperta   la música.
      CL=would.like.1sg to.be the boy that him wake.up3sg the music
      Lit.: 'I would like to be the child that the music is waking up.'

- Expected as head of RC is definite, while a wh-element is underlyingly indefinite.

22

- Age effect in the use of resumptive elements in our study: they are produced by older children.
- Similar to what has been noticed for resumptive DPs in studies on RCs:
    - Contemori and Belletti (2013) found resumptive DPs in Italian children between 5–8;11 y.o., but the peak of productions is at 6 y.o. (23%) and 7 y.o. (45%).
    - Utzeri (2007) found resumptive DPs in 22% ObjRCs in Italian children between 6–11 y.o.
    - In French and Spanish, they were found around age 5 (French, Labelle 1990; Spanish, Pérez-Leroux 1995), and even later in French – between 5 and 8 y.o. (Ferreiro et al 1976).

Summing up

- Scope-marking wasn't used by Italian children.
- They relied on *wh*-copying and resumptive elements.
- We suggest that both errors stem from non-adultlike spellout of copies of the questioned element.
- This copy is realized as a *wh*-item in the position where it checks a [*wh*]-feature (i.e. SpecCP).
- In other cases, it is realized as an indefinite like *someone.*

References i

Asproudi, E. K. (2014). Non-target long-distance wh-questions: Crosslinguistic typological distinctions in early l1 production. In *Major Trends in Theoretical and Applied Linguistics Volume 2*, pages 199–218. Versita.

Baier, N. (2014). Spell-out, chains, and long-distance *Wh*-movement in seereer. Ms., University of California Berkeley.

Bayer, J. (1996). *Directionality and Logical Form: On the scope of focusing particles and wh-in-situ.* Kluwer, Amsterdam.

Cheng, L. L.-S. (2000). Moving just the feature. In Lutz, U., Müller, G., and von Stechow, A., editors, *Wh-Scope Marking*, pages 77–99. John Benjamins, Amsterdam.

Chomsky, N. (1995). *The Minimalist Program.* MIT Press, Cambridge, Mass.

Chomsky, N. (2000). Minimalist inquiries: The framework. In Martin, R., Michaels, D., and Uriagereka, J., editors, *Step by Step: Essays on minimalist syntax in honor of Howard Lasnik*, pages 89–155. MIT Press, Cambridge, MA.

Chomsky, N. (2001). Derivation by Phase. In Kenstowicz, M., editor, *Ken Hale. A life in Language*, pages 1–52. MIT Press, Cambridge, MA.

Contemori, C. and Belletti, A. (2013). Relatives and passive object relatives in Italian-speaking children and adults: Intervention in production and comprehension. *Applied Psycholinguistics*, 35(6):1021–1053.

Dayal, V. (1994). Scope marking as indirectwh-dependency. *Natural Language Semantics*, 2:137–170.

Dayal, V. (2017). Does Hindi-Urdu have feature-driven wh-movement to Spec, vP? *Linguistic Inquiry*, 48(1):159–172.

Fanselow, G. and Mahajan, A. (2000). Towards a Minimalist theory of wh-expletives, wh-copying and successive cyclicity. In Lutz, U., Müller, G., and von Stechow, A., editors, *Wh-Scope Marking*, pages 195–230. John Benjamins, Amsterdam.

Gavarró, A., Cunill, A., Muntané, M., and Reguant, M. (2011). Catalan child relative contrasts as a processing effect. In *Selected Proceedings of the 4th Conference on Generative Approaches to Language Acquisition North America (GALANA).*

Grolla, E. (2022). Errors of commission in constructions involving movement to the cp domain. *Languages*, 7(4).

25

References ii

Grolla, E., Liter, A., and Lidz, J. (2020). The development of language and its interaction with other aspects of cognition: the case of medial wh-questions in English and in Brazilian Portuguese. *Ilha do Desterro*, 73:169–184.

Gutiérrez Mangado, M. J. (2006). Acquiring long-distance wh-questions in l1 spanish. In Torrens, V. and Escobar, L., editors, *The Acquisition of Syntax in Romance Languages*.

Hiemstra, I. (1986). Some aspects of wh-questions in frisian. *Nowele*, 8(1):97–110.

Jakubowicz, C. and Strik, N. (2008). Scope-marking strategies in the acquisition of long distance wh-questions in French and Dutch. *Language and Speech*, 51(1-2):101–132.

Labelle, M. (1990). Predication, wh-movement, and the development of relative clauses. *Language acquisition*, 1(1):95–119.

Liter, A., Grolla, E., and Lidz, J. (2022). Cognitive inhibition explains children's production of medial wh-phrases. *Language Acquisition*, 29:3:327–359.

Lutken, C. J. (2021). *Cross-Linguistic Investigations of Syntactic Creativity Errors In Children's Wh-Questions*. PhD thesis, Johns Hopkins University.

McDaniel, D. (1989). Partial and multiple wh-movement. *Natural Language and Linguistic Theory*, 7(4):565–604.

Murphy, A. (2016). What copying (doesn't) tell us about movement: Remarks on the derivation of wh-copying in German. In Barnickel, K., Naranjo, M. G., Hein, J., Korsah, S., Murphy, A., Paschen, L., Puškar, Z., and Zaleska, J., editors, *Replicative Processes in Grammar*, volume 93 of *Linguistische Arbeits Berichte (LAB)*, pages 149–188. Universität Leipzig, Leipzig.

Oiry, M. and Demirdache, H. (2006). Evidence from l1 acquisition for the syntax of wh-scope marking in French. In Torrens, V. and Escobar, L., editors, *The Acquisition of Syntax in Romance Languages*.

Pérez-Leroux, A. T. (1995). Resumptives in the acquisition of relative clauses. *Language acquisition*, 4(1-2):105–138.

Thornton, R. and Crain, S. (1994). Successive-cyclic movement. In Hoekstra, T. and Schwartz, B. D., editors, *Language Acquisition Studies in Generative Grammar*, pages 215–252. John Benjamins, Amsterdam.

Thornton, R. J. (1990). *Adventures in long-distance moving: The acquisition of complex wh-questions*. PhD thesis, University of Connecticut.

Utzeri, I. (2007). The production and the acquisition of subject and object relative clauses in italian: A comparative experimental study. *Nanzan Linguistics*, 2.

THANK YOU VERY MUCH FOR YOUR ATTENTION!

We thank all the participants, their families and the staff of the kindergartens in Milan.

(17) *Chi* *pensi* *che* *stanno* *bagnando* *i* *conigli?* Expected prod
who think.2sɢ that be.3ᴘʟ wetting the rabbit.ᴘʟ
Lit.: 'Who do you think that the rabbits are wetting?'

(18) *Chi* *pensi* *che* *sta* *bagnando* *il* *gattino?* (5;10)
who think.2sɢ that be.3sɢ wetting the cat
Lit.: 'Who do you think that is wetting the cat?'

Number of leads-in *"chi pensi"* (who do you think) in the elicitation of LDQs:

- Subject questions: 43/108
- Object questions: 45/103