

Null and overt subject pronouns in Italian and Spanish: a comparative study



Carla Contemori* & Elisa Di Domenico
*University of Texas at El Paso, Università per Stranieri di Perugia



Università
per Stranieri
di Perugia

Introduction

Although Italian and Spanish are two null-subject languages, previous research has shown that they may present different discourse-pragmatic biases on the interpretation of null and overt subject pronouns:

- Peninsular Spanish speakers do not show a clear preference for the interpretation of a null subject pronoun in co-reference with a subject antecedent (Chamorro, 2018), a preference that is consistently found in Italian (e.g., Carminati 2002).

- In Italian overt pronouns are preferably interpreted in co-reference with an object antecedent, while in Peninsular Spanish overt pronouns that are associated to a syntactically prominent antecedent do not incur a processing penalty comparable to Italian (Filiaci et al. 2014).

Previous research has compared Spanish and Italian anaphora resolution under the untested assumption that the two languages have comparable use of null and explicit pronouns (e.g., Filiaci et al., 2014). However, it is unclear from the existing corpus studies whether differences in the interpretation of anaphora may be linked to production patterns. Thus, comprehension and production have not yet been tested with comparable tasks (e.g., Belletti et al. 2007).

The aim of the present study is to investigate the division of labor between null and overt subject pronouns in Italian and Spanish, addressing the following questions:

1) Are there differences in interpretation and production preferences for null and overt pronouns in Italian and Spanish?

2) Are comprehension patterns comparable in the two languages?

3) Which differences/similarities emerge in comprehension and production?

Experiment 1: Comprehension

Participants read sentences and answered to comprehension questions. The survey included 24 globally ambiguous sentences, manipulating the Type of Pronoun (null vs. explicit), the Position of the Pronoun (anaphoric vs. cataphoric) and the Language (Spanish vs. Italian).

Table 1. Comprehension task: Experimental stimuli

Italian	Spanish	English Translation
Anaphora / Null pronoun: (1) Giorgio ha visto Luigi quando stava andando al bar.	Anaphora / Null pronoun (1) Jorge vio a Luis cuándo iba a la cafetería.	Anaphora / Null pronoun (1) George saw Lewis when (he) was going to the coffee shop
Anaphora / Explicit Pronoun: (2) Giorgio ha visto Luigi quando lui stava andando al bar.	Anaphora / Explicit Pronoun (2) Jorge vio a Luis cuándo él iba a la cafetería.	Anaphora/ Explicit Pronoun (2) George saw Lewis when he was going to the coffee shop
Cataphora / Null pronoun: (3) Quando stava andando al bar, Giorgio ha visto Luigi	Cataphora / Null pronoun (3) Cuando iba a la cafetería, Jorge vio a Luis	Cataphora / Null pronoun (3) When (he) was going to the coffee shop, George saw Lewis
Cataphora / Explicit Pronoun: (4) Quando lui stava andando al bar, Giorgio ha visto Luigi	Cataphora / Explicit Pronoun (4) Cuando él iba a la cafetería, Jorge vio a Luis	Cataphora / Explicit Pronoun (4) When he was going to the coffee shop, George saw Lewis

Each sentence is followed by a multiple-choice comprehension question: "Who was going to the coffee shop?" with three possible answers (Subject antecedent: *George*; Object antecedent: *Lewis*; an external referent: *Someone else*). Forty-eight filler sentences were included. The dependent variable is the proportion of subject interpretations (él/lui/ø=George).

Participants: 33 speakers of Italian and 33 speakers of Mexican Spanish participated in an online survey.

Experiment 2&3: Production

Experiment 2 – Oral Production: Participants were presented with a two-panels picture, (Fig. 1-4) that contained a variable number of characters, with same or different gender (Arnold & Griffin, 2007). They read aloud an intro sentence and then described the picture in the second panel. We analyzed the null and explicit pronouns and NPs produced to describe the subject referent (=Mickey), using Language Group (Spanish vs. Italian) and Condition (4 conditions) as main factors.

Participants: 32 Italian speakers (age=25; SD=3; range=20-30; females=26) and 26 speakers of Mexican Spanish (age=21; SD=3; range=19-34; females=17) participated.

Figure 1. 1-Referent



(a) Mickey went for a walk in the hills one day

Figure 2. 2-Referents



(b) Mickey went for a walk with Daisy in the hills one day

Figure 3. 2-referents



(c) Mickey went for a walk with Daisy in the hills one day

Figure 4. 2-referents



(d) Mickey went for a walk with Donald in the hills one day

Experiment 3 – Written Production: The production test consisted of a written sentence-continuation task that includes implicit causality verbs. Fragments were included that contained two NPs in subject/object position, an implicit causality verb (NP1 or NP2-biased) and the causal connective *because*:

- (1) NP1/subject-bias: Mary scared John because
- (2) NP2/object-bias: Mary liked John because

Twenty-four experimental sentences (twelve with NP1/subject biased verbs and 12 with NP2/object-biased verbs) were interspersed with forty-eight fillers. The statistical analyses included the number of null and explicit subject pronouns using Language Group (Spanish vs. Italian) and Verb Bias Condition (NP1/subject-biased vs. NP2/object-biased) as main factors.

Participants: 24 Italian speakers (age=24; SD=3; range=19-31; females=17) and 24 speakers of Mexican Spanish (age=25; SD=5; range=19-37; females=12) participated.

Comprehension Results

Table 2. Comprehension results: Average of subject, object and external referent choices per each condition. The grey column corresponds to the dependent variable in the statistical analyses.

	Italian			Spanish		
	Subject	Object	External	Subject	Object	External
Anaphora / Null pronoun (1) George saw Lewis when (he) was going to the coffee shop	0.73	0.19	0.05	0.62	0.36	0.015
Anaphora / Explicit Pronoun (2) George saw Lewis when he was going to the coffee shop	0.19	0.76	0.01	0.37	0.59	0.035
Cataphora / Null pronoun (3) When (he) was going to the coffee shop, George saw Lewis	0.86	0.06	0.07	0.64	0.06	0.28
Cataphora / Explicit Pronoun (4) When he was going to the coffee shop, George saw Lewis	0.39	0.38	0.19	0.46	0.11	0.41

Comprehension Results (Table 2)

Only differences between Spanish and Italian are reported here. Logistic Mixed-effects Regression Modeling analyses revealed:

Subject interpretations

- Language Group*Type of Pronoun: Italian speakers chose the subject interpretation significantly more often for null pronouns (0.79) than Spanish speakers (0.63), while no difference emerged for explicit pronouns between the two languages (Italian: 0.31; Spanish: 0.42).;
- Language Group*Pronoun Position: by comparing Spanish and Italian on the subject choices for anaphora (Italian: 0.47; Spanish .49) and cataphora (Italian: 0.63; Spanish 0.55), no significant differences emerged between the two languages.

Object Interpretations

- Language Group*Type of Pronoun: a significant difference is found in object interpretations for explicit pronouns in the two languages (Italian: 0.54; Spanish=0.35), but not for null pronouns (Italian: 0.13; Spanish=0.21);
- Language Group*Pronoun Position: Italian and Spanish did not differ significantly on the number of object interpretations for anaphoric pronouns (Italian: 0.48; Spanish: 0.47), but they did for cataphoric pronouns (Italian: 0.19; Spanish: 0.08)

External Referent

- Language Group*Pronoun Position: while Italian and Spanish differed significantly in the choice of external reference for cataphoric pronouns (Italian: 0.16; Spanish: 0.35), no difference emerged between the two languages for anaphoric pronouns (Italian: 0.03; Spanish: 0.02).

Table 3. Picture Description: Proportion of null pronouns, explicit pronouns and NPs produced in the four conditions

	Italian			Spanish		
	Null Pronoun	Explicit Pronoun	NP	Null Pronoun	Explicit Pronoun	NP
Production 1						
1 Referent	0.87	0.03	0.10	0.66	0.11	0.24
2 Referents (one-Panel)	0.41	0.06	0.52	0.20	0.10	0.70
2 Referents (two-Panels)	0.40	0.04	0.56	0.25	0.06	0.69
2 Referents (gender ambiguous)	0.27	0.00	0.73	0.15	0.06	0.79

Table 4. Sentence completion: Proportion of null pronouns, explicit pronouns and NPs produced in the two conditions

	Null Pronoun	Explicit Pronoun	NP
NP1/subject-bias verbs (Mary scared John because...)			
Italian	0.98	0.005	0.005
Spanish	0.93	0.06	0
NP2/object-bias verbs (Mary liked John because...)			
Italian	0.85	0.13	0.005
Spanish	0.74	0.25	0.003

Experiment 2: Production Results (Table 3)

Only differences between Spanish and Italian are reported here. A Logistic Mixed-effects Regression Modeling analysis is used.

Analysis of null pronouns: A main effect of Language Group indicates that Italian speakers produced significantly more null pronouns than Spanish speakers (0.50 vs.0.32).

Analysis of explicit pronouns: A main effect of Language Group indicates that Italian speakers produced significantly fewer explicit pronouns than Spanish speakers (0.03 vs.0.08).

Analysis of NPs: A main effect of Language Group indicates that Italian speakers produced significantly fewer NPs than Spanish speakers (0.46 vs. 0.59).

Experiment 3: Production Results (Table 4)

Only differences between Spanish and Italian are reported here. A Logistic Mixed-effects Regression Modeling analysis is used.

Analysis of null pronouns: A main effect of Language Group indicates that Italian speakers produced significantly more null pronouns than Spanish speakers (0.92 vs.0.85).

Analysis of explicit pronouns:

- A main effect of Language Group indicates that Italian speakers produced significantly fewer explicit pronouns than Spanish speakers (0.07 vs. 0.14).
- An interaction between Language Group and Verb Bias Condition approached significance, showing that both Spanish and Italian speakers produced more explicit pronouns in reference to object than subject referents (Italian: 0.85 vs. 0.13; Spanish: 0.74 vs. 0.25). In addition, a significant difference between the explicit pronouns produced for object referents emerged between the two languages (Italian: 0.13 vs. Spanish: 0.25)

Summary and conclusion

1) Are there differences in the interpretation and production preferences for null and overt pronouns in Italian and Spanish?

The results of the comprehension study revealed a clear asymmetry in the interpretation of null and explicit pronouns in Italian and Spanish, with a preference to interpret a null pronoun as referring to the preceding subject and a preference to interpret explicit pronouns as referring to object antecedents. The results of the comprehension study clearly demonstrate a division of labor between null and explicit anaphora in the two languages.

2) Are comprehension patterns comparable in the two languages?

While the interpretation biases for null and overt pronouns are very distinct in Italian, the preferences are less strong in Spanish. As it clearly emerges in our results, while the null subject pronoun is the default referential form in Italian, no strong default bias emerges in Spanish. Our results differ from Filiaci et al. (2014), where the authors did not find any differences between Italian and Spanish on the interpretation of null pronouns, but demonstrated that Peninsular Spanish speakers did not show a clear preference for the interpretation of explicit pronouns.

3) Which differences/similarities emerge in comprehension and production?

The present study suggests that subtle differences in pronoun use pattern with interpretation biases. Spanish speakers use null pronouns to a lesser extent than Italian speakers to refer to a preceding subject, and use a higher number of explicit pronouns and NPs (Experiment 2). As for reference to object antecedents, the results of Experiment 3 demonstrate that the verb's implicit causality, in the relevant cases, makes the object referent an expected (and highly predictable) antecedent. In this case, Italian speakers employ a null pronoun to co-refer with the object more than Spanish speakers. Future research should examine how reference to an unexpected object antecedent is realized, to clarify if any differences are confirmed between the two languages.