## Reexamining the acquisition of null subject pronouns in a second language: focus on referential and pragmatic constraints

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**Abstract**

This study re-examines the L2 acquisition of referential and pragmatic properties of null and overt subject pronouns by advanced English learners of Spanish under the assumption that both forms display levels of complexity at the syntax-pragmatics interface. Our main hypothesis is that null subjects should be as difficult to acquire as overt subjects, challenging current generative accounts (e.g., the Interface Hypothesis) in which the acquisition of null subjects is problem-free. Data obtained by a group of 20 advanced English speakers of Spanish in a *Picture Verification Task* and a *Context-Matching Preference Task* corroborate this hypothesis. Results show that L2 speakers over-accept null subjects and find it difficult to reject them when an overt pronoun is preferred by the controls. We propose that they may be using null subjects as a default form as they have an incomplete knowledge of the pragmatic constraints governing the use of *pro* in context.

**Keywords**: L2 acquisition, syntax-pragmatics interface, null subjects, topic shift

# Spanish null subjects in L2 acquisition

Spanish allows null (not phonetically realized) subjects in finite clauses (see example 1a). Traditionally, the possibility of licensing null subjects (also *pro*) in languages like Spanish, considered to be a standard null subject language, has been linked to other properties such as rich verbal morphology, and the availability of null expletive subjects (1b) as well as postverbal subjects (1c) (see Camacho 2013 for a recent review):

1. a. *pro* bebe agua

*‘*He/she drinks water’

b. *pro* llueve

‘It’s raining’

c. *pro* bebe agua Juan

‘John drinks water’

The acquisition of null subject pronouns (NP) by speakers of English has attracted a great deal of attention in first (L1) and second (L2) language acquisition in the generative tradition. Early L2 studies proposed that English speakers, whose native language represents the opposite value of the Null Subject Parameter (Chomsky 1981; Rizzi 1986) would need to reset the parameter to the Spanish option during the acquisition process. A number of these early studies reported successful acquisition of NP but persistent problems with the acquisition of overt subject pronouns (OP) (e.g., Al-Kasey & Pérez-Leroux, 1998; Hilles, 1986; Liceras 1988, 1989; Phinney, 1987; White, 1985). Studies then moved on to examine the appropriate use of OP in context (Liceras 1988, 1989; Pérex-Leroux & Glass 1999), an area which was found to be particularly problematic for L2 speakers. Traditionally, null subjects have been characterized as having a simple informational structure, and are used to refer to an antecedent which is clearly identified by the context (see example 2a). Overt subjects, in contrast, have a more complex informational structure and are used to mark change of topic and to contrast focus or emphasize a previous referent (see example 2b) (Alonso-Ovalle & D’Introno, 2001; Fernández-Soriano, 1989; Luján 1985, 1986, 1999):

1. a. Juani bebe agua por las noches. *pro*i/\*j siempre tiene sed antes de acostarse  
    ‘Juan drinks water at night. (He) is always thirsty before going to bed’

b. Carlosi no quiere que Juanj beba agua pero \**pro*/él\*i/j no le hace caso   
 ‘Carlos does not want Juan to drink water but he does not listen to him’

Following this characterization, Pérez-Leroux and Glass (1999) argue that OP can be used in both [+/–topic shift] (TS) contexts, whereas NP are marked as [-TS] only (see also Sorace, 2000). They argue that syntactic properties of NP are in place early on whereas pragmatic factors develop gradually. Even though this study highlights the need to investigate the acquisition of OP in context, it nevertheless contributes to the prevalent idea that null subjects are easy to acquire for English speakers as they are referentially simple.

Since the use of subject pronouns is determined by contextual factors (whether there is a change of referent and whether the subject is focused) as well as syntactic factors (the position of the antecedent in a clause), recent L2 acquisition studies have proposed an interface-based examination of the acquisition of these forms, in particular focusing on the syntax-pragmatics interface. The Interface Hypothesis (IH) (Sorace, 2005, 2011; Sorace & Filiaci, 2006; Tsimpli & Sorace, 2006) claims that the interface between syntax and other grammatical components, pragmatics in particular, is persistently difficult for L2 speakers, whilst the acquisition of “purely syntactic” structures is unproblematic. Specifically, OP are assumed to be specified for the features [+TS] and [+focus] (Sorace, 2000; Serratrice, 2007; Sorace & Filiaci, 2006; Sorace & Serratrice, 2009; Tsimpli, Sorace, Heycock & Filiaci, 2004), whilst these features are absent in NP. Due to the pragmatic nature of these features, OP can be characterized by the IH as being at the syntax-pragmatics interface, and thus persistently difficult. Sorace and Filiaci (2006) explored the interpretation and distribution of null and overt subjects by L1 English near-native Italian speakers, in an off-line Picture Verification Task. It is important to note that the IH also assumes problems with the acquisition of OP and not with NP, because only the former exist in English. More precisely, learners already have some previous knowledge of the use of OP in English which does not exactly coincide with their use in Spanish which will present difficulties in acquisition. As expected, the results show difficulties with the use of OP, but a native-like use of NP.

However, it has recently been noted that the acquisition of *pro* is not completely problem-free since overproduction of NP as well as variation among speakers have been reported, although these results have been consistently ignored by previous studies. In this respect, Domínguez (2013) points out that overproduction of NP can be observed in the data reported in earlier studies (e.g., Díaz & Liceras, 1990; Lafond, Hayes & Bhatt 2001; Liceras, Velenzuela & Díaz 1999; Lubbers Quesada & Blackwell, 2009; Montrul & Rodríguez Louro, 2006; Pérez-Leroux & Glass 1999; Rothman 2007; 2009). In Montrul and Rodríguez Louro (2006), a study examining the syntactic and pragmatic characteristics of Spanish null and overt subjects, beginners underuse *pro* (31.7%) whereas near-native speakers show an overuse (68.4%) when compared with the native controls (57.2%). Similar results were reported by Domínguez (2013), who examined the use of NP and OP by English speakers of Spanish in an oral production task. Although the mean rates of use of NP appears to be similar to those of native controls, a closer examination of the individual results reveals different patterns among all three groups (beginners, intermediates and advanced). In particular, the range of use of NP is between 63%-78% for native speakers whereas the range is much wider for all learners, even advanced speakers (range of 85%-43%). These individual data also show that some beginner students produce *pro* 100% of the time. This is not an isolated result, as individual variation in the use of NP amongst less proficient learners has also been reported in Liceras and Díaz (1999) and Rothman and Iverson (2007). This suggests that the acquisition of NP may not be as straightforward as first assumed. Furthermore, most previous research on this issue, including the IH, have neglected the fact that *pro* can be used in [+TS] contexts in Spanish if the referent is salient enough (see Domínguez, 2013; Liceras, Alba de la Fuente & Martínez Sanz, 2010; Lubbers Quesada & Blackwell, 2009), which questions the view that null subjects are referentially simple and should therefore be easy to acquire.

In summary, the idea that only overt pronouns are difficult for L2 learners whilst null pronouns are unproblematic has remained a principal assumption in contemporary SLA generative research. These studies have adopted the view that *pro* is referentially simple and have not examined whether learners have acquired the pragmatic properties which control the use of null pronouns. Although evidence to the contrary has been reported, these results have not been appropriately discussed. In the present study we address these issues and examine whether advanced English speakers of Spanish have acquired the referential and pragmatic properties that constrain the distribution of both NP and OP. We show that some of these properties are in fact persistently problematic for some L2 speakers.

The remainder of this article is structured as follows: in Section 2 we outline the syntactic properties of null and overt subjects, followed by their referential and pragmatic properties, showing that null subjects are as referentially complex as overt subjects. In Section 3 we present the hypotheses and methodological design of the current study, followed by the results of the experiment in Section 4. Finally, in Section 5 we discuss the group and individual results before presenting our concluding remarks in Section 6.

# 2. Null subjects are as referentially complex as overt subjects

In this section we challenge the view that the use of null subjects is mainly determined by syntactic properties (i.e., the position of the antecedent) whereas overt subjects are mainly determined by contextual properties. Instead, we argue that NP and OP are both complex at the syntax-pragmatics interface. In contrast to previous studies, this assumption predicts potential problems in the L2 acquisition of null subjects by speakers of non-null subject languages, as these speakers would need to acquire knowledge that NP can be used in both [+TS] and [-TS] contexts, just like overt subjects.

### 2.1. Syntactic properties of null and overt subjects

The Extended Projection Principle (EPP) is a universal principle that requires the subject position [Spec, IP] to be filled in all languages in order to yield a convergent sentence. Chomsky (1995) explains the EPP as a strong D feature on T, which needs to be satisfied by another element which has the same D feature (a nominal acting as the subject). Movement of the DP subject to the [Spec, IP] position is explained by the need to satisfy this D feature.[[1]](#footnote-1) There have been many proposals to account for the way in which *pro* is licensed and can move to the appropriate position in [Spec, IP] to satisfy the EPP. For example, Rizzi (1986) claims that *pro* is underspecified for agreement (person and number) features and therefore receives the phi feature values of I. However, it is thought that Agr features are uninterpretable which would not support this notion (Chomsky, 1995). Rizzi also claims that nominative case assignment triggers the movement of null and overt subjects to [Spec, IP] as a syntactic requirement; however, this does not account for the possible postverbal position of subjects in [Spec, VP].

More recent research has developed these theoretical assumptions, arguing that the D feature on *Infl* is actually an uninterpretable feature (Roberts, 2004; Sheehan, 2006). According to Sheehan (2006), *pro* is thought to be a full pronoun with interpretable phi features which can value the uninterpretable features of Agr. This implies that movement of a null pronoun to [Spec, IP] will satisfy the EPP in the same way as movement of an overt pronoun. This syntactic analysis of subject pronouns outlines the existence of the same uninterpretable feature in both NP and OP, and highlights the possibility that they are both subject to syntactic constraints.[[2]](#footnote-2) The relevance of Sheehan’s analysis is that differences between NP and OP can be accounted for by a phonetic requirement, not a syntactic one (i.e., whether the subject has to be PF deleted or not). Consequently, there is no real syntactic evidence to support the claim that the properties of OP should be more problematic than those of NP, which is crucial for the claim that the traditional asymmetry assumed between the two pronouns has been misguidedly supported.

### 2.2. Referential properties of null subjects

Null and overt subjects have long been treated as having different binding properties. For instance, the Overt Pronoun Constraint (OPC) (Montalbetti, 1984) provides an account for the distribution of null and overt pronouns in subject position in null-subject languages. The OPC argues that co-reference between a DP (i.e., Juan in example (3)) and null/overt embedded subjects is possible (see sentences 3a and 3b), but the OPC blocks bound variable interpretations between subjects such as quantified DP’s/wh-elements and embedded overt subjects (see sentence 4a). As a result, only null subjects are possible if the main clause subject is a quantified DP or wh-phrase (sentence 4b).

1. With a referential antecedent:
   1. Juani cree que éli/j es inteligente

‘John believes that hei/j is intelligent’

* 1. Juani cree que *pro*i/j es inteligente

‘John believes that *pro*i/j is intelligent’

1. With a quantified antecedent:
2. Nadiei cree que él\*i/j es inteligente

‘Nobodyi believes that he\*i/j is intelligent’

1. Nadiei cree que *pro*i/j es inteligente

‘Nobodyi believes that *pro*i/j is intelligent’

These examples show that in referential contexts both a null and an overt pronoun can refer to the subject antecedent, whereas in the quantified context only *pro* can be bound to the subject *nadie* ‘nobody’.

More recently, Carminati (2002) has expanded on the assumed asymmetry between null and overt pronouns, suggesting a “division of labour” between the licensing of OP and NP in Italian*.* In particular, the Position of Antecedent Hypothesis (PAH) (Carminati, 2002) states that *pro* prefers to refer to a more prominent antecedent in a higher syntactic position more often than an overt pronoun. This can be seen in sentences (5a) and (5b) which contain a subordinate clause with two referents of the same gender, followed by a main clause which begins with either a null or overt subject which could ambiguously refer to either antecedent.

1. a. Martai scriveva frequentemente a Pieraj quando *pro*i/j era negli Stati Uniti.

“Martai wrote frequently to Pieraj when (she)i/j was in the United States”

b. Martai scriveva frequentemente a Pieraj quando leii/j era negli Stati Uniti.

“Martai wrote frequently to Pieraj when shei/j was in the United States”

According to the PAH, the intra-sentential *pro* in sentence (5a) will be licensed to the highest antecedent of the main clause in [Spec, IP] (Marta) and the overt pronoun in sentence (5b) will be licensed to an antecedent in a lower, non-[Spec, IP] position (Piera), indicating that NP and OP are “biased” in terms of their preferred antecedents.

However, the situation is even more complex in the case of Spanish. Filiaci (2010) shows that Spanish OP are not subject to the same bias as Italian pronouns since Spanish overt subjects can “retrieve both prominent and non-prominent antecedents without incurring a significant processing penalty” (Filiaci, 2010, p. 175). This means that an overt subject can be licensed to an antecedent in the [Spec, IP] and non-[Spec, IP] position without causing additional processing costs. This is not suggested for null subjects as *pro* prefers to be licensed to the antecedent in the [Spec, IP] position only. Filiaci’s proposal for Spanish is consistent with results presented in a study by Alonso-Ovalle, Clifton, Fernández-Solera and Frazier (2002) examining preferences for null and overt subjects in sentences such as (6a) and (6b).

1. a. Juan pegó a Pedro. Está enfadado

‘Juan hit Pedro. (He) is upset’

b. Juan pegó a Pedro. Él está enfadado

‘Juan hit Pedro. He is upset’

In this study, Spanish speakers preferred to link *pro* with the subject in [Spec, IP] (Juan) 70% of the time, whereas the overt pronominal subject, was linked to the object (Pedro) 50% of the time only. These results show that *pro* prefers a subject antecedent whereas an overt pronominal subject can be associated to both the subject and the object.

If we consider the use of English subject pronouns, we see that pronominal overt subjects tend to corefer with the subject (Spec-IP) and not the object (non-Spec-IP) (see example (7a), unless they are focused (7b) (Hudson-D'Zmura & Tanenhaus, 1998).

1. a. Martai used to write to Anaj when shei lived in the US.

b. Martai used to write to Anaj when SHEj lived in the US

This shows that English speakers of Spanish need to acquire different referential properties for OP, as well as for NP, which is likely to present difficulties for L2 learners.

### 2.3. Pragmatic properties of null subjects

Pragmatic factors including discourse prominence, saliency and accessibility, also play an important role in determining subject antecedents (see Frana, 2007). For instance, NP prefer highly salient antecedents (Ariel, 1990) whereas OP prefer less salient antecedents (see Mayol, 2010 for details).[[3]](#footnote-3) It is also important to note that recent empirical research has shown that saliency is a complex phenomenon and that both pragmatic and syntactic variables condition the preference patterns for NP and OP (Kaiser & Trueswell, 2008; Mayol, 2010; Pladevall Ballester, 2013). This is important since *pro* is allowed even if the referent is not explicitly mentioned showing that null subject referential properties are not restricted to referring to the subject in [Spec, IP] only, as long as the referent can be identified by the interlocutors.

In this respect, Lubbers Quesada and Blackwell (2009) highlight the complexity surrounding the classification of pragmatic rules constraining pronoun use in Spanish. Based on previous research (e.g., Blackwell, 2003; Gundel, 1999; Huang, 2000) these authors outline different pragmatic functions associated with both null and overt subject pronouns, as follows:

1. **Salient referent**: the potential use of an NP in topic shift contexts when the referent is in focus and salient. For example, a series of null subjects are used to refer to different subject referents in a clear [+TS] context:
2. Su nombre era es Luis Enrique Trejo López y [Ø] era el más guapo de la escuela [Ø] era una escuela muy chiquita entonces y eh y este [Ø] éramos… [Ø] estuve con él cortando y volviendo [Ø] creo que en quinto semestre [Ø] fue en quinto año las chavas de sexto lo acosaban mucho porque como [Ø] era muy guapo [Ø] lo acosaban demasiado y yo soy bien celosa… (Lubbers Quesada & Blackwell 2009, p. 119).

*‘His name was is Luis Enrique Trejo López and (he) was the most handsome boy in the school (it) was a very small school therefore, eh and ehm (we) were… (I) was with him breaking up and getting back together (I) think that in fifth semester (it) was in the fifth year the girls in the sixth year pestered him a lot because as (he) was very handsome (they) pestered him too much and I am a very jealous woman…)’*

1. **Epistemic parentheticals**: the use of NP to evaluate a previous or subsequent utterance, or to mitigate the strength of the utterance:

Siempre digo lo que pienso, [Ø] no sé, [Ø] no lo puedo evitar.   
‘I always say what I think, I don’t know, I can’t help it’

1. **Switch focus**: the use of an unstressed OP to switch focus from one referent to another, indicating a change in topic or subject. In the following example, the focus is on the speaker and then someone else; the overt pronoun *yo* is required for clarity since the verbal morphology of *estaba* is ambiguous:

De la primera vez que [Ø] me enamoré no tiene mucho. [Ø] Fue el año pasado, de una persona que se llama Jonathan. El, [Ø] lo conocí porque [Ø] llegó un día a saludar a uno de mis mejores amigos y mi amigo entró. **Yo** estaba en la Preparatoria, y mi amigo entró a una clase…(Lubbers Quesada & Blackwell, 2009, p. 120)

*About the first time I fell in love it doesn’t have a lot. It was last year, with one person called Jonathan. Him, I met because he came one day to greet one of my friends, and my friend came in. I was in Preparatory school, and my friend came in one of the classes…*

1. **Contrastive focus:** the use of a stressed OP to introduce new/non-presupposed information and when the subject is in opposition to another reference in the context:

**Yo** vengo solo (los demás no sé)  
‘I am coming alone (I don’t know about the others)’

Mi hermano no sabe bailar pero **yo** bailo siempre que puedo  
 ‘My brother cannot dance but I dance whenever I can’

1. **Pragmatic weight**: the use of the subject pronoun *yo* in combination with verbs of claiming, belief, emotion and opinion, to add weight to the utterance, to express a firmer stance or an increase in emotional investment:

La primera vez que [Ø] me enamoré y **yo** creo que [Ø] ha sido la única…(Lubbers Quesada & Blackwell, 2009, p. 122)[[4]](#footnote-4)

‘The first time (I) fell in love, and **I** think that it has been the only time…’[[5]](#footnote-5)

One category of particular interest here is *salient referent*. Lubbers Quesada and Blackwell argue that *pro* is possible in [+TS] contexts if the intended referent can be clearly identified because of its prominence or saliency in context. Crucially, this implies that *pro* can be associated to referents which have not been specifically mentioned in close proximity of the null form (i.e., not the closest subjects in [Spec, IP]). These authors argue that L2 speakers use “discourse constraints of a previously expressed and fully recoverable referent” (Lubbers Quesada & Blackwell, 2010, p. 129) to decide on the use of NP or OP in context. In a different study, Liceras, Alba de la Fuente & Martínez Sanz (2010) also support the reinvestigation of the constraints which license NP and the view that *pro* can be used to mark a change of topic. This study compared the written narratives of intermediate and advanced English-speaking learners of L2 Spanish with a group of native-speakers to show that NP can be used in [+TS] contexts by both native speakers and Spanish learners, as *pro* can be used to refer to different referents which are simultaneously in focus, if inferences and verbal morphology can disambiguate the intended reference. These observations challenge traditional assumptions regarding the pragmatic properties of NP and question the classification of “illicit” uses of *pro* by previous research.

More recently, Domínguez (2013), following the categorization provided by Lubbers Quesada and Blackwell (2009), further demonstrates that NP can be problematic for learners. This study highlights that it is entirely possible that previous studies have assumed an incorrect pragmatic analysis and therefore, cannot reliably support the notion that the acquisition of NP is indeed unproblematic. In the oral production task reported in this study 14% of the null subjects produced by native speakers indeed refer to new referents [+TS]. Whereas the advanced group use null subjects in this pragmatic context, beginner and intermediate English speakers only use Spanish null subjects in this manner 7.5% and 10% respectively (the difference was significant for both groups).

Overall, these results indicate that, reducing the learning task to the acquisition of a [+/-TS] feature is not completely accurate as both NP and OP can be used to signal a change of referent. Although problems with the acquisition of NP have been reported using oral production data (Lubbers Quesada & Blackwell, 2009; Domínguez, 2013) a more detailed investigation is required, using carefully designed experimental tests. The following section presents the current study and how we have addressed these issues.

# 3. The study

Following the discussions presented in the previous section, a *Picture Verification Task* (PVT) and a *Context-Matching Preference Task* (CMPT) were designed, taking into consideration that both null and overt subjects can be used in [+TS] contexts in Spanish.

### 3.1. Hypotheses

The present study proposes an equal status at the syntax-pragmatics interface for null and overt subject pronouns: both forms are subject to syntactic constraints and both can be used in [+TS] contexts, if the referent is suitably salient. If this hypothesis is correct, our results will show that L2 learners encounter difficulties with the pragmatic properties of NP which will be manifested by either an over acceptance or an over rejection of NP in different pragmatic contexts. Such a result will provide evidence against the prediction that only OP are problematic (e.g., the Interface Hypothesis) and will support our claim that English speakers of Spanish find null pronouns as difficult to acquire as overt pronouns.

### 3.2. Participants

A control group of 16 native speakers of Spanish and an experimental group of 20 advanced speakers of Spanish took part in the study. The experimental group were English native speakers studying Spanish at an advanced level at a British university, all of which are final year undergraduates, and aged between 22 and 24. They started learning Spanish in secondary school, and have been learning Spanish as a foreign language for an average of 10 – 12 years. The students have just completed the Year Abroad aspect of their degree, in which they lived in a Spanish-speaking country (Spain, Mexico or South America) for 9-12 months. The control group are native Spanish speakers from both Spain (n=14) and Mexico (n=2) aged between 22 and 60.

### 3.3. Task Design

1. *Picture Verification Task (PVT)*

The PVT, adapted from Sorace & Filiaci (2006) and Tsimpli et al. (2004) investigates L2 speakers’ knowledge of the interpretative properties of NP and OP. Participants were presented with 8 sets of pictures alongside two sentences in Spanish describing the events of the picture. Each sentence contained two referents in the main clause, one subject in [Spec, IP] and another referent in a lower (object) syntactic position. The embedded clause sentence contained a subject pronoun which was matched in terms of gender and number to the two antecedents in the main clause, so that the subject pronoun in the subordinate clause could ambiguously refer to either referent:

1. a. La mujeri empuja a la niñaj en el columpio mientras ellai/j se come un helado

‘The womeni pushes the girlj on the swing while shei/j eats an ice-cream’

b. La mujeri empuja a la niñaj en el columpio mientras *(pro)i/j* se come un helado

‘The womeni pushes the girlj on the swing while *(pro)i/j* eats an ice-cream’

There were two pictures depicting the action in the sentence, which differ in the referent performing the action. There were 16 questions, in which 8 contexts are repeated so that the participants selected a picture when OP is in the subordinate clause (a) and again when *pro* is the subject of the subordinate clause (b).[[6]](#footnote-6) In addition, the participants could also indicate that both pictures were acceptable for the given sentence.

A B



Both

This task provides an insight into the way in which L2 speakers prefer to link null and overt pronouns, to either the [Spec, IP], non-[Spec, IP] antecedents or both antecedents, as summarized in Table 1.

|  |  |  |
| --- | --- | --- |
| **Subject in the embedded clause** | **Antecedent chosen by the learner** | **Implication** |
| Null | Highest | Prefers to link *pro* with antecedent in [Spec, IP] position |
| Null | Nearest | Prefers to link *pro* with antecedent in non-[Spec, IP] position |
| Null | Both | Allows to link *pro* with antecedent in [Spec, IP] and non-Spec, IP] position |
| Overt | Highest | Prefers to link the overt pronoun with antecedent in [Spec, IP] position |
| Overt | Nearest | Prefers to link the overt pronoun with antecedent in non-[Spec, IP] position |
| Overt | Both | Allows to link the overt pronouns with antecedent in [Spec, IP] and non-[Spec, IP] position |

Table 1*: Summary of the variables tested in the PVT and implications*

The frequency with which the participants chose to associate a null and an overt subject to either the nearest or highest antecedent or both options was calculated as a percentage of the total possible responses. In order to establish any differences between the two groups in their interpretative behaviour, the results were statistically analyzed in SPSS by a non-parametric independent samples Wilcoxon–Mann–Whitney test, which compared the median results for the control and learner groups.

1. *Context-matching preference task (CMPT)*

The CMPT, adopted from Rothman (2009), was designed to explore what the advanced L2 learners of Spanish know about the pragmatic distribution of null and overt subject pronouns. The task consisted of 16 test items; a scenario was described, followed by two sentences in Spanish which are related or respond to the context. One of the sentences contained a null subject and the other contained an overt subject; the participants rated the sentences according to the criteria shown in Table 2.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | +2 | +1 | 0 | -1 | -2 | | Completely acceptable | Almost acceptable | Neither acceptable nor unacceptable | Mostly unacceptable | Completely unacceptable | |  |  |  |  |

Table 2: *Acceptability rating for CMPT*

This comprehension task investigates the main pragmatic rules of null and overt subject expression in Spanish and therefore the contexts placed the subject pronouns in various [+/- TS] situations. There were 4 sentences for each of the 4 contexts in order to test each variable reliably; these are based on the pragmatic rules outlined in Lubbers Quesada and Blackwell (2009) and introduced in see Section 2.3. Table 3 summarizes the main properties guiding the design of this task.

|  |  |  |
| --- | --- | --- |
| **Form** | **Topic Shift (+/-)** | **Pragmatic Properties** |
| Overt | + | Contrastive/switch focus |
| Overt | - | Pragmatic weight |
| Null | + | Salient switch reference |
| Null | - | Salient referent |

Table 3*: Summary of the variables tested in the CMPT*

The frequency of which each score on the scale was chosen was then calculated as a percentage of the total possible responses. The *completely acceptable* and *almost acceptable* scores were assumed to indicate general acceptance and therefore have been combined (represented as *accepted*), while the *mostly unacceptable* and *completely unacceptable* scores were assumed to indicate rejection and are represented as *not accepted*. The results were also statistically analyzed in SPSS using a non-parametric one way analysis of variance (Kruskal-Wallis) test, to compare the medians of the dependent variable (response on 5-point Likert scale) across the two groups.

# 4. Results

# 4.1. Picture Verification Task

The results of this task show that in the sentences where *pro* is the subject of the embedded clause, L2 speakers prefer to associate *pro* with the highest (subject) antecedent of the main clause in 67.5% of cases, compared with 77.4% for the control group. The L2 learner group prefers *pro* to be associated with the antecedent in the object position or *both* more often than the control group (see Figure 1).

Figure 1*: Percentage of controls and learners who chose a subject, object or both antecedents when pro is the subject of the embedded clause*

The statistical analysis shows that there is no significant difference in the results of these two groups of speakers in linking the pronoun to the highest antecedent (*U* = 123.500, *p* = .25), the nearest antecedent (*U* = 106.000, *p* = .09) or both antecedents (*U* = 142.500, *p* = .58). This shows that advanced L2 learners behave native-like in their preference for a subject antecedent for *pro*.

In sentences where an OP is the subject of the embedded clause, the learners prefer to license OP with the nearest (object) antecedent more often than the control group (62.5% compared with 53.9% by the native-speakers). The controls show a slightly higher preference for licensing an OP with the highest subject of the main clause (27.3%) than learners, and also choose both options slightly more often (18.8% for native speakers and 14.4% for learners). Figure 2 summarizes these results.

Figure 2*: Percentage of controls and learners who chose a subject, object or both antecedents when an overt pronoun is the subject of the embedded clause*

However, the statistical analysis demonstrates that there is no significant difference between the groups when an OP is the subject of the embedded clause, in licensing an OP to the highest antecedent (*U* = 142.000, *p* = .58), the nearest antecedent (*U* = 139.500, *p* = .52) or the possibility of both antecedents (*U* = 126.500, *p* = .29). L2 learners have native-like knowledge of the referential properties constraining the use of OP as both groups associate *pro* with the highest antecedent, whereas OP are associated with either the subject or the object.

### 4.2. Context-matching preference task

### Contrastive/switch focus [+TS]

In this context, OP will be widely accepted and NP will be rejected, in line with the assumption that NP cannot be used in [+TS] contexts which require a focused or contrastive subject. Figure 3 shows that, as expected, the control group show high acceptance of the use of an OP (90.6%) and although the L2 learner group accepted the pronoun at a lower rate (78.8%), there is no statistically significant difference between the two groups in terms of their acceptance (*H* = 1.91, *p* = .17) or their rejection of the appropriate sentences (*H* = .24, *p* = .62). However, there is a significant difference between the two groups (*H* = 5.57, *p* = .02) in their choice of *neither*, an option which is not possible for the controls but which learners chose at a rate of 8.8%. This could indicate that some of the L2 learners are experiencing hesitancy in accepting or rejecting the sentences.

Figure 3*: Percentage of controls and learners according to their acceptability of an overt pronoun in contrastive/switch focus [+TS] contexts (an overt pronoun is expected)*

In contrast, Figure 4 shows that learners are divergent in their judgment of [+TS] sentences containing *pro*; whereas native-speakers prefer to reject these sentences (70.3%), learners accept the sentences 45% of the time and only reject them at a rate of 37.5%. The statistical analysis shows a significant difference between the frequency in which the groups accept (*H* = 14.43, *p* = .00) and reject (*H* = 9.02, *p* = .00) these sentences. There is no significant difference between the groups’ choice of *neither* (*H* = 1.26, *p* = .26).

Figure 4: *Percentage of controls and learners according to their acceptability of a null pronoun in contrastive/switch focus [+TS] contexts (an overt pronoun is expected)*

It appears that L2 speakers over-accept *pro* and show a significantly lower rejection compared with the control group. This is an interesting finding which opposes previous assumptions that acquiring NP is unproblematic for L2 learners. These results also show that the control group indicate a small level of acceptance (12.5%) of NP in a [+TS] context with a contrastive subject, even though an OP is expected. This is in line with the fact that a small percentage of the control group also rejected OP in this context.

### Pragmatic weight [-TS]

The results for the control group show a high acceptance of OP (87.5%), as expected, as well as acceptance of NP (50%). However, the controls reject the use of *pro* (31.3%) more often than they reject the use of OP (4.7%) which indicates that OP are preferred to express pragmatic weight. In contrast, the L2 learners do not accept OP as much as controls and reject these sentences at a higher rate. The results show a statistically significant difference between the two groups in their acceptance (*H* = 5.3, *p* = .02) and rejection of these sentences (*H* = 4.4, *p* = .04).

Figure5*: Percentage of controls and learners according to their acceptability of an overt pronoun in pragmatic weight [-TS] contexts (an overt pronoun is expected)*

Figure 6 shows the results for NP in this context. We see that learners accepted the sentence with *pro* more often (67.5%) than controls (50%) although no significant difference was found (*H* = 3.82, *p* = .05). However, learners show a lower rejection of NP, 8.8% more than the control group (*H* = 7.5, *p* = .00).

Figure 6: *Percentage of controls and learners according to their acceptability of a null pronoun in pragmatic weight [-TS] contexts (an overt pronoun is expected)*

This result shows that L2 learners allow *pro* to co-refer with OP more often than the control group, which demonstrates that this pragmatic constraint has not been fully acquired.

In order to explore this result further, individual results were also examined. These results reveal that two of the four questions that tested this context were problematic for the learners. Whilst L2 speakers are more or less target-like for the first two pragmatic weight contexts, only three learners (15%) rejected NP in question 11 and only two learners (10%) rejected NP in question 12, compared with eight controls (50%) and seven controls (43.75%) respectively. This shows that significantly fewer participants reject the use of NP for these questions in comparison with the control group. This behaviour is likely to be responsible for the significant difference observed between the two groups.

Individual results also show that for a number of learners there is a clear preference for the co-reference of OP and NP in pragmatic weight contexts. For example, there are four learners (20%) who completely accept the use of OP in the first version of the context and then unanimously accept the use of NP in the second context, whilst this is only shown by one native control speaker (6.25%). There are a further four learners who show a very similar pattern but have chosen *both* on a few occasions; in contrast, only two native speakers (12.5%) choose this option. It could be that whilst the learner group is mainly target-like in their pragmatic weight judgements, the learners identified here affect the results in a way that yields a stronger preference for OP and NP to co-refer than for the control group and give rise to the significant differences we see for the acceptance and rejection of OP.

### Salient switch referent [+TS]

In this context NP may be possible even if there is a change in topic. The results presented in Figure 7 show similar results for the control and learner groups for the three options available. Native speakers prefer *pro* with a change of topic 54.7% of the time, and L2 speakers prefer it at a similar rate of 52.5%. The responses for the *neither* and *unaccepted* options are similar for both groups as well. The statistical analysis confirm that there is no significant difference in the groups’ acceptance (*H* = .02, *p* = .88), rejection (*H* = .63, *p* = .43) or their choice of *neither* (*H* = .48, *p* = .49).

Figure 7: *Percentage of controls and learners according to their acceptability of a null pronoun in salient switch [+TS] contexts (a null pronoun is possible)*

These results indicate that the control group allow the use of *pro* in [+TS] contexts as predicted, and that L2 learners show a target-like knowledge of this pragmatic constraint. Interestingly, the control group also accept the use of OP 40.6% of the time, which indicates that both *pro* and OP are acceptable in this particular context (see Figure 8). The L2 group accept the OP at a similar rate (55%) and no significant difference was found between these two results (*H =* 1.49, *p* = .22), or for the rejection (*H =* .53, *p* = .47) or their choice of *neither* (*H* = .82, p = .37).

Figure 8: *Percentage of controls and learners according to their acceptability of an overt pronoun in salient switch [+TS] contexts (a null pronoun is possible)*

The results for this particular context are quite varied for the native group in particular, whose judgement is divided among the three options. Overall, these results suggests that the L2 learners are also target-like in their knowledge that NP can be used in [+TS] contexts.

### Salient referent [-TS]

The control group almost completely accepts this use of *pro* (98.4%) as expected, whilst the L2 learners show a similarly high preference to accept these sentences (91.3%). There is no statistical difference between the groups in their acceptance of a null pronoun (*H* = 1.49, *p* = .22) or in their rejection (*H* = 3.5, *p* = .06).

Figure 9:  *Percentage of controls and learners according to their acceptability of a null pronoun in salient referent [-TS] contexts (a null pronoun is expected)*

These results show that the L2 learners do not have difficulties with the use of NP in [-TS] contexts.

In terms of the acceptability of OP, the control group prefer to reject OP sentences (51.6%), whilst also showing that these sentences can be appropriate (32.8% of the time).

Figure 10: *Percentage of controls and learners according to their acceptability of an overt pronoun in salient referent [-TS] contexts (a null pronoun is expected)*

L2 speakers show higher rates of acceptance of OP (46.3%) although there is no significant difference between the groups (*H* = 1.32, *p* = .25). In contrast, learners do not reject the sentences with OP (23.8%) to the same extent as the control group (51.6%), resulting in a significant difference between the two groups (*H* = 4.15, *p* = .04). There is no difference between the groups in their choice of *neither* (*H* = 3.07, *p*= .08).

The individual results do not reveal any obvious patterns across the participants. However, it is interesting that 8 out of the 20 learners (40%) choose *neither* at least twice whilst a further 30% choose *neither* at least once. Although there may not be a statistical difference demonstrated, these figures coupled with the stronger learner preference to accept OP in this context, could explain why the learners seem to show a lesser rejection of OP than the control group. This could indicate that although L2 speakers are mostly native-like, they are less inclined to make a decisive judgement in this context. This is possibly related to their awareness of the acceptable use of OP in other [-TS] contexts.

# 5. Discussion

The results from the PVT show that there is no significant difference between the preferred antecedents for both null and overt subjects for the experimental and the control group. This indicates a target-like interpretation of Spanish pronouns by the group of L1 English speakers. These results do not support the prediction made in previous studies that acquiring the distribution of OP is particularly problematic for English speakers of Spanish, whereas NP are acquired straightforwardly.

Our results show that both groups prefer to license NP with the highest subject (in [Spec-IP]) but do not show a clear pattern of antecedent preference for OP. In the results, the responses are distributed among the three options and there is even a small percentage of speakers who allow OP to refer to *both* antecedents. This provides evidence in support of the claims made by Filiaci (2010) that the PAH is not always respected for Spanish and that cross-linguistic differences between null subject languages such as Spanish and Italian exist.

These results are in line with our assumption that null and overt subjects are governed by syntactic and referential constraints. In this study we have argued that *pro* can be a full pronoun with interpretable features (Sheehan, 2006) which moves to the [Spec, IP] position in the same manner as an overt pronoun. This implies that, as far as syntactic properties are concerned, both forms should pose challenges to L2 speakers. However, we have claimed that syntactic properties (for both OP and NP) are not acquired in isolation which makes identifying structures which are affected by syntactic constraints only an extremely difficult task. Whilst learners demonstrate a “target-like” knowledge of the interpretation of embedded subject pronouns, there seems to be essential aspects of this constraint which are related to the specific context which must also be acquired in order to achieve a completely “native-like” knowledge. These other properties were examined in the CMPT in our study.

The results of the CMPT demonstrate that L2 learners have acquired some knowledge of the pragmatic constraints which govern the appropriate distribution of overt pronouns in [+/-TS] contexts. However, there are apparent difficulties in certain aspects of the pragmatic constraints, in particular in the case of NP. Table 4 summarizes the main findings of this task.

|  |  |  |  |
| --- | --- | --- | --- |
| **Expected form** | **Topic Shift  (+/-)** | **Pragmatic Property** | **Targetlike?** |
| Overt | + | Contrastive/ switch focus | Overt: Yes  Null: No (over-accepted) |
| Overt | - | Pragmatic weight | Overt: No (under- accepted)  Null: No (less rejected) |
| Null | + | Salient switch reference | Overt: Yes  Null: Yes |
| Null | - | Salient referent | Overt: No (less rejected)  Null: Yes |

Table 4: *Summary of findings of the CMPT*

The results show that when learners’ responses deviate from that of the controls, we see over-acceptance or under-rejecting NP when compared to the control group. We take this result to show that even though English speakers know that *pro* is possible in Spanish, they have difficulties in acquiring the pragmatic rules which govern its distribution. Although the problematic nature of the syntax-pragmatics interface is supported by the results, and to this extent they support the IH, the results also show that some of the problems encountered also affect the acquisition of NP. This questions a crucial prediction of the IH related to directionality, namely that L2 learners will demonstrate a target-like acquisition of the form which does not exist in the L1 (*pro*), but encounter difficulties with the form which exists in the L1 but with a different distribution (OP). Our results indicate that NP are also problematic and therefore do not provide support of the IH in this respect, suggesting that residual difficulties cannot be accounted for by directionality alone. Overall, our results support the acceptability of *pro* in [+TS] contexts, which challenges the way in which subject realization has been previously analyzed, including the IH.

In our study, L2 speakers demonstrate knowledge that OP can be used in [+TS] contexts, to mark switch or contrastive focus. However, whilst the control group shows a small level of acceptance of *pro* in a [+TS] context, 45% of the learners accepted the use of NP. This over-acceptance of NP indicates that L2 learners do not have a native-like judgment in situations in which either a null or overt pronoun is possible.

The context which appears to be particularly problematic for L2 speakers is when an OP is used to add “pragmatic weight” even if a change of referent has not taken place (e.g., *Llegaré tarde, creo yo* – ‘I will be late, I think’). Significant differences were observed between the two groups in their acceptance and rejection of OP, which demonstrates that learners do not have a native-like knowledge of this pragmatic constraint. The results of the native controls for the alternative sentences containing *pro* show the possibility of either a null or an overt pronoun in [-TS] contexts. L2 speakers, however have problems rejecting the use of a null pronoun and accepting overt pronouns in this context, which further supports the claim that L2 learners encounter difficulties with the pragmatic constraints affecting null pronouns.

As expected, the L2 learners show a target-like knowledge that NP are typically used in [-TS] contexts, where *pro* provides continuity to a sentence; this is an understandable result for advanced L2 learners who will have been exposed to this use of NP frequently However, the results indicate an overuse of OP, since the control group reject these sentences significantly more often than the learners. These results suggest that learners are less inclined to make a decisive judgement in this context.

Interestingly, another area in which the L2 learners are mostly target-like, is the use of NP in a [+TS] context, which has been previously assumed to be an “illicit” use of *pro* (see Liceras et al. 2010)*.* The control group preferences suggest that there are contexts in which *pro*, as well as OP, can be effectively used in [+TS] contexts. The results show that there is no significant difference between the two groups when an overt or a null pronoun is used in [+TS] contexts. However, L2 speakers do encounter difficulties in certain [+TS] contexts (as aforementioned), in which a significant over acceptance of *pro* was observed. This suggests that certain [+TS] contexts can be difficult to interpret for L2 learners. Furthermore, L2 learners show awareness that there are appropriate contexts for using NP when there is a change in referent, which suggests that this pragmatic constraint is not particularly difficult for these speakers. The results support previous findings in Lubbers Quesada and Blackwell (2009), Liceras et al. (2010) and Domínguez (2013).

Overall, our findings have shown that advanced English speakers of Spanish have a less determined knowledge of the rules that govern the use of null subjects- but why should this be the case? Our view is that acquiring knowledge that *pro* is available in Spanish is not problematic per se, since learners show use of NP from very early on and show full knowledge of their referential properties. Instead, it may be the case that when learners cannot decide whether a null or overt subject is appropriate, they avoid using a pronoun altogether which appears as though a null subject has been intentionally selected. It could also be the case that classroom instruction encourages the use of *pro* as a “default” form, in an attempt to avoid overusing overt subjects which is more associated to the learner’s L1 English.[[7]](#footnote-7) Null pronouns are good candidates for default forms since their morphosyntactic content can be recovered by other means such as verbal morphology and due to their high accessibility they are much easier to recover from context than OP.[[8]](#footnote-8) This could explain the overuse of NP by some less experienced learners reported in previous studies (see Domínguez 2013).

# 6. Conclusion

We have shown that the referential properties of null and overt pronouns can be properly acquired by advanced English speakers; however, learning certain pragmatic functions of OP can be persistently difficult. Whilst these data agree with findings of previous studies (e.g., Pladevall Ballester, 2013), our results also importantly indicate that advanced L2 learners have problems with the pragmatic constraints of NP which have been assumed to be acquired easily. The results of the native control group support the claim that *pro* is as pragmatically complex as its overt counterpart, as both forms can be used in [+/-TS] contexts. We hypothesized that both OP and NP would be challenging to English speakers. Our results corroborate this assumption, as L2 learners demonstrate non-native-like preferences for the use of both pronouns. We argue that this shows that null subjects are not easier to acquire than overt subjects and that the acquisition process of both pronominal forms cannot be explained merely by the acquisition of a [+/-TS] feature.

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1. In Spanish, it is possible for the standard subject [Spec, IP] position to be filled by other elements, such as a null pronoun, an expletive pro or even a locative (Zubizarreta 1998; Sheehan 2006). Subjects can also remain in their base [Spec, VP] position in post-verbal structures. [↑](#footnote-ref-1)
2. As highlighted by one of the reviewers, these constraints may well be different for overt and null pronouns, but the important point here is that both pronouns are subject to syntactic constraints. [↑](#footnote-ref-2)
3. Whether a purely syntactic or a purely information structure account can explain the preference for subject or object antecedents are beyond the scope of this paper. [↑](#footnote-ref-3)
4. The addition of the pronoun *yo* here adds emphasis, but the sentence is acceptable without the overt pronoun. [↑](#footnote-ref-4)
5. For contexts 3, 4 and 5, an OP should be preferred but is not always given a prominent status by native speakers of Spanish; as a result, NP is also a possible pronoun choice in these contexts, as long as the reference is disambiguated by factors such as context or verbal morphology. [↑](#footnote-ref-5)
6. In contrast to Sorace & Filiaci (2006), we did not include a third option in the pictures, with the option to choose ‘someone else’. This is a point for future research which could yield interesting results. [↑](#footnote-ref-6)
7. An overproduction of *pro* has also been reported in the oral production data of monolingual Spanish children. Although Spanish children start using null subjects at an early stage (like L2 speakers), their overuse of *pro* causes a stage in their development where no overt subjects are produced (Grinstead, 1998; Villa-Garcia, 2013). Overt pronouns start to appear at the age of 2, signalling the end of the use of *pro* as a default form. [↑](#footnote-ref-7)
8. A similar argument has also been presented for child acquisition, in particular that children’s omission of arguments can be linked to their accessibility in context on the basis that highly accessible referents are prime candidates for omission (Allen, 2000; 2007; Clancy, 1997; Paradis & Navarro, 2003; Serratrice, 2005; Skarabela, 2007). [↑](#footnote-ref-8)