How previous languages shape initial stages of L3 acquisition: Insights from Korean learners of Spanish

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ABSTRACT

This study investigates the influence of two previously acquired languages, Korean (L1) and English (L2), on the acquisition of Spanish as a third language (L3). Sixty beginner-level learners completed acceptability judgment tasks, which revealed that cross-linguistic influence occurs on a property-by-property basis instead of as wholesale transfer from a single-source language. The comprehensive analysis confirmed that L1 representations guided linguistic judgments of null and overt subjects in Overt Pronoun Constraint contexts, thus facilitating accurate interpretations in the target language. By contrast, L2 influence was identified in topic-continuity contexts, with non-facilitative transfer exhibited in Spanish. These findings align with the predictions of the Linguistic Proximity Model, in which both background languages can shape L3 acquisition depending on the linguistic properties. This study provides valuable insights by examining an underexplored learner group in the Third Language Acquisition literature. Additionally, via an analysis of two grammatical features, it demonstrates how influences from L1 and L2 emerge distinctly across properties, thus highlighting the nuanced nature of cross-linguistic influence.

Keywords: Crosslinguistic influence, L3 Spanish, L2 English, L1 Korean, null and overt subjects, L3 transfer models, third language acquisition

1. Introduction

The Multilingual Turn (Ortega, 2013; May, 2014) in Second Language Acquisition (SLA) research has marked a significant change in approaching non-native language learning. This move advocates understanding additional language acquisition as a process shaped by the entire linguistic repertoire of a learner. It emphasizes that language acquisition is a dynamic, interconnected process where previous knowledge of multiple languages influences and informs the initial stages of further language learning. This shift has fostered the emergence of a new

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academic field, Third Language Acquisition (TLA). Historically, SLA studies often categorized non-native learners with different backgrounds into one group of 'L2 learner', overlooking the role of prior language experiences when learning an additional language (Leung, 2007; De Angelis, 2007). The expansion from traditional L2 frameworks paved the way for a nuanced approach to multilingualism, enabling researchers to apply multifaceted theoretical lenses to discover interaction between learners' background languages and the target language. To date, five theoretical models have been proposed to explain what is transferred, why, and when.

Building on this novel theoretical framework, the present study reports the data of an underexplored group in the TLA literature: Korean learners of Spanish (L3) with prior experience in English (L2). The importance and necessity of investigating this particular group from a multilingual perspective can be justified on two grounds, for a theoretical prudence and empirical rigor. First, the transfer models proposed within the label of L3 studies have mainly built upon the data from learners with language triad of Romance or Germanic languages. As noted in the systematic review by Rothman et al. (2019), empirical evidence from more diverse language pairings is needed for the universal applicability of the theoretical models proposed. Secondly, Korean Spanish learners, in most of cases, have prior experience of learning a non-native language. Previous analysis of language history questionnaires revealed that Korean learners typically begin English instruction before age ten and dedicate a significant portion of their formal education to English acquisition (Ahn, 2019, 2022). Given this early and sustained exposure to English, analyzing Spanish interlanguage of Korean participants from a TLA perspective is not only necessary but essential to accurately capture the complexities of additional language acquisition process.

This study reports the findings from sixty beginner-level learners' acceptability ratings on null and overt subjects in two different contexts, the Overt Pronoun Constraint (OPC, Montalbetti, 1984) and Topic-continuity. In these contexts, the overt use of subject pronoun creates distinct grammatical or pragmatic effect in Spanish. Particularly, these two features are suitable for transfer study because the acceptability of null and overt subjects manifest differently in L1 and L2, which makes it possible to trace back the source of transfer from learner's L3 behavior.

2. Development of transfer models within TLA theories

The justification for studying multilinguals beyond traditional SLA framework lies in the crosslinguistic influence of previously known languages on the additional language learning. For a true sequential second language learner, the only potential transferable knowledge is that of native language. However, when learning an additional non-native language, four possible transfer scenarios can be posited: No transfer, L1 transfer, L2 transfer, or hybrid transfer. The first option is generally ruled out, given the substantial counterevidence in the literature. The remaining three possibilities have been explored within five L3 transfer models: the L2 Status Factor (L2SF, Bardel & Falk, 2007, 2012; Bardel & Sánchez, 2017; Falk & Bardel, 2010, 2011), the Typological Primacy Model (Rothman, 2010, 2011, 2013, 2015), the Cumulative Enhancement Model (Berkes & Flynn, 2012; Flynn et al., 2004), the Linguistic Proximity Model (Mykhaylyk et al., 2015; Westergaard, 2021; Westergaard et al., 2017), and the Scalpel Model (Slabakova, 2017).[1)]

The core argument of each model can be understood through two primary theoretical orientations regarding how and which language is selected for transfer. Some postulate that transfer is wholesale, arguing that only one background language exerts influence, known as Full Transfer Models. The others predict that the selection occurs on a property-by-property basis, allowing both languages to influence additive language acquisition, referred to as Property-by-property Transfer Models. Each model offers different explanation for which linguistic factor triggers the retrieval of existing representations. However, all agree that the human mind inherently seeks cognitive economy in any task. Therefore, when learning a new language, the activation or transfer of previously acquired properties will occur as an unconscious reflex.

2.1. Full Transfer models

2.1.1. L2 Status factor

The L2 Status Factor (L2SF) proposes that the morphosyntactic transfer in L3 acquisition predominantly originates from non-native language (L2) rather than the

1) The L1 transfer position never evolved into a theoretical model. However, several empirical studies have tested L3 learners' linguistic behavior and confirmed L1-oriented processing of L3 contexts (Hermas, 2010, 2014a, 2014b; Jin, 2009; Na Ranong & Leung, 2009). Recent discussions have also explored the effects of various linguistic variables (e.g., the role of dominant language, formal instruction, L2 proficiency) on L3 transfer (Arıbaş & Cele, 2021; Cabrelli & Iverson, 2024; Fallah & Jabbari, 2018; Fallah et al., 2016; Jo et al., 2021; Sprouse & Schwartz, 2023).

native language (L1).[2] It claims that learners will prefer to depend on their L2 representation when approaching L3 grammar, filtering any influence of their L1. The logic behind this model is that the L2 aligns more closely with L3 in cognitive representation than L1 does, making L2 a more suitable source for transfer. This perspective was initially proposed based on the Declarative/Procedural model (D/P model) by Paradis (1994, 2004, 2009), which delineates that languages acquired after the native language are stored in a distinct memory system, separating implicit knowledge (L1) from explicit knowledge (L2 and L*n*). In the latest modification of the model, the L2SF underscored the role of metalinguistic knowledge (MLK) in the selection of the transferred language. Learners naturally acquire a higher level of MLK in their L2 than their native language, and this makes them better equipped to navigate linguistic similarities and differences between the L2 and L3.

2.1.2. Typological primacy model

The Typological Primacy Model (TPM) maintains that during the initial stages of L3 acquisition, the parser unconsciously selects one linguistic source to constitute the initial hypothesis of L3. The underlying motivation of exclusive selection is to maximize the cognitive economy, as the mind searches for the best fit to parse the new linguistic input among existing knowledge, avoiding any redundancy in acquisition. Once the decision is made, a full copy or reduplication of one selected linguistic system is transferred in its entirety, as in the Full Transfer and Full Access (FTFA) stipulated by Schwartz and Sprouse (1996).[3] The variable that governs this process is the overall structural similarity between the background languages and the new target language as implicitly perceived by the learner.[4] Rothman (2013) provided a hierarchy of linguistic cues that affect the unconscious assessment of structural similarities: the lexicon, phonotactic or phonological cues, functional morphology, and syntactic structure. The TPM is one of the most extensively

2) This model emerged from earlier discussions on the learner tendencies to utilize their foreign lexicon during multilingual acquisition, a phenomenon initially identified by Meisel (1983) as the 'foreign language effect.'

3) The FTFA is a hypothesis on L2 acquisition initial state which assumes that Full transfer of L1 knowledge and the Full access to the Universal Grammar constitute the very first moment of L2 learning. Schwartz and Sprouse (2021) supported the concept of full transfer in TPM with a coinage that the 'Big Decision (p. 16)' is made in L3 learning context as in L2 acquisition.

4) The author initially linked psychotypology (Kellerman, 1983) to explain that perceived typological semblance affects transfer selection. However, he later refined and restricted the term to '*structural*' rather than typological similarity.

examined models in the field and the modifications made to this model throughout the years have enhanced its theoretical robustness.[5)]

2.2. Property-by-property Transfer models

2.2.1. Cumulative Enhancement Model

The Cumulative Enhancement Model (CEM) is the earliest theoretical approach to transfer in the L3 framework. It assumes that human language learning is inherently non-redundant and cumulative. Unlike the aforementioned models, the CEM argues that any of the previously acquired knowledge can be transferred to maximize the facilitation of L3 development. Interestingly, the model purports that the transfer occurs only when its outcome is facilitative. If not, the background knowledge remains neutral in L3 acquisition. Therefore, this position suggests that the transfer is not necessarily wholesale, and can occur on a property-by-property basis. It is evaluated that the CEM, as the first bespoke model for L3 transfer, has established foundational grounds for other transfer models. However, limiting the effect of transfer to only facilitative aspects weakened its explanatory power both logically and empirically.[6)]

2.2.2. Linguistic Proximity Model

The Linguistic Proximity Model (LPM) is the latest proposal within L3 transfer studies. This model builds on the CEM and the TPM, however it differs by predicting non-facilitative and partial transfer. In essence, the LPM conceptualizes language acquisition as an incremental, property-by-property learning process where entire properties of previously acquired languages are co-activated to parse L3 input. When a specific linguistic L3 input receives strong supporting evidence from the learner's linguistic repertoire, that property is activated from one or both languages to optimize efficiency.[7)] This is possible because all languages in the mind remain

5) According to Rothman et al. (2019), 64% of the data reported in the L3 literature supported the TPM's prediction that the language with higher structural similarity with the target input was confirmed to play a significant role in the initial stages of L3 use.

6) The model is criticized because it is logically impossible for the parser to predict *a priori* whether the transfer of acquired knowledge would benefit the learning of additive language, when L3 grammar is not even established. Furthermore, Rothman et al. (2019) reported that over 92.5% of the data collected within L3 studies confirmed non-facilitative transfer, overriding the prediction by the CEM.

available for parsing the L3, and learners are sensitive to micro-variation across languages. Therefore, the LPM predicts distinct crosslinguistic patterns for different L3 properties. The critical factor that guides the parser to discern crosslinguistic similarity among languages is the abstract structural similarity, although it acknowledges the role of surface resemblance at the earliest stages of acquisition. This model recognizes that misanalysis of L3 data or lack of sufficient target input can result in non-facilitative transfer.

2.2.3. Scalpel Model

Slabakova (2017) proposed a Scalpel Model (SM) which stipulates that the entire previously acquired parameters can influence the L3 acquisition trajectory. The underlying assumption is that the multilingual mind operates with multiple grammatical representations, therefore, there can be no privileged role to a certain language grammar. The label 'scalpel' was used to indicate that "the L1-plus-L2 combined grammar acts with a scalpel-like precision (p. 5)" to extract or retrieve properties needed and maximally facilitate the additional language learning. The author notes that the model adopts features of the CEM, however, the SM predicts non-facilitative transfer to occur when the scalpel blunts due to various reasons, such as linguistic complexity, misleading input, construction frequency, etc.[8)]

2.3. Directions for examining linguistic transfer in TLA context

The bird's-eye review of the transfer models shows that all models presuppose that the transfer of a previously acquired grammatical representations affects subsequent language acquisition in a systematic way. However, the variable argued to condition the selection or activation of a particular language and the level of transfer, whether complete or partial, varies across models.

As noted in the introduction of this article, the purpose of this study is to present

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7) The author adopted the notion of 'combined CLI' defined in De Angelis (2007) to refer to a situation where "two or more languages interact with one another and concur in influencing the target language (p. 21)." Distancing from the concept of full transfer in the TPM, Westergaard (2021) proposed Full Transfer Potential, stating that "anything may transfer…not everything does transfer (p. 389)."

8) Clements & Domínguez (2018) provided empirical support for the Scalpel Model, demonstrating its validity in acquisition of null and overt subjects in L3 Chinese. However, as noted by Westergaard, Mitrofanova, and Mykhaylyk (2023), the Scalpel Model and the LPM share their key principles, suggesting that both models are aligned in their theoretical stance.

data that can contribute to the ongoing academic efforts to develop a theoretical model explaining the dynamics of transfer in multilingualism. To achieve this, this study will follow methodological suggestions outlined in the existing literature. First, the test item to confirm transfer effects must have different settings in the background languages in order to identify the source of influence from the learner's L3 data. The most salient cross-linguistic difference among the language triad of this study is subject realization. Korean is a *pro*-drop language while English is the typical example of non-*pro*-drop language.[9] Therefore, learners' understanding of null and overt subjects in L3 Spanish can serve as an effective window to observe crosslinguistic influence. Second, the core distinction among models centers on whether they predict single or multiple transfer sources. However, few studies examine more than one linguistic feature, missing the opportunity to observe whether transfer operates differently across distinct properties. Accordingly, this study investigates two different grammatical contexts, the Overt Pronoun Constraint (OPC) and Topic-continuity context, to see if transfer patterns surface differently between them. Third, it has been emphasized that transfer studies must test all languages that learners know to determine what is available for the transfer. Rothman (2013) emphasizes that it is simply impossible to transfer something that does not exist in the mind. Therefore, researchers are strongly recommended to examine learners' behavior with respect to properties tested across all relevant grammars. This is particularly important when it comes to L2 knowledge, because high proficiency or long-term exposure does not guarantee L2 target-like behavior. The participants of this study will take two questionnaires, one in Spanish and the other in their background languages and native-like L2 performance will serve as inclusion criteria. Lastly, the participants at the earliest stages of L3 learning are considered as suitable candidates for transfer studies. As the L3 system develops, it will be more difficult or even impossible to tease apart the effects of crosslinguistic influence from the actual learning or modification outcomes.[10] In this regard, the data collection is limited to Spanish learners with less than three semesters of formal

9) In the literature, Korean is considered a radical pro-drop language, in contrast to Spanish, a consistent *pro*-drop language, which allows null subjects based on its rich verbal morphology. Therefore, it requires a different explanation for null subject realization. However, considering the scope of this study, such a detailed distinction was not elaborated in this paper.

10) It is important to remember that all transfer models acknowledge that if the parser, after the transfer of a particular language system or property, faces parsing failure, it makes modification to their initial hypothesis and make corrections throughout L3 grammar development. Naturally, as the L3 proficiency increases, the need to resort to existing linguistic properties to parse the L3 input will decrease, making harder to identify crosslinguistic influence from background languages.

instruction.

In summary, this research inquires how beginner-level learners treat null and overt subjects in two different contexts, the OPC and Topic-continuity in L3 Spanish in comparison with their behavior in L1 Korean and L2 English. By focusing on early-stage learners and examining multiple grammatical contexts across all known languages, this research design allows for a rigorous investigation of crosslinguistic influence in third language acquisition.

3. Crosslinguistic analysis of subject realization

3.1. Overt Pronoun Constraints

The Overt Pronoun Constraint (OPC) is a universal principle proposed by Montalbetti (1984). It articulates that the distribution of null and overt subjects is distinct in referential and bound-variable contexts in null subject languages. He noticed that the Spanish *pro* allows both referential and variable interpretation as in (1a) and (2a), whereas the overt subject in (2b) cannot receive bound variable interpretation.

(1) a. Juan $_{i}$ cree que *pro* $_{i/j}$ es inteligente.
'Juan believes that (he) is intelligent.'
b. Juan $_{i}$ cree que él $_{i/j}$ es inteligente.
'Juan believes that he is intelligent.'
(2) a. Nadie $_{i}$ cree que *pro* $_{i/j}$ es inteligente.
'Nobody believes that (he) is intelligent.'
b. Nadie $_{i}$ cree que él $_{*i/j}$ es inteligente.
'Nobody believes that (he) is intelligent.'

(Montalbetti, 1984, pp.83, 85)

Montalbetti formulated the asymmetry found between the null and overt subjects as the OPC stipulating that "Overt pronouns cannot like to formal variable if the alternation overt/empty obtains (p. 94)." Later, Lozano (2002) recapitulated the distribution as [QDP_i …. $NULLL_{i/j}$] and [QDP_i …. $OVERT_{*i/j}$] stating that the overt pronoun subject allows only disjoint interpretation with a quantified determiner phrase (QDP).

With regards to Korean, there are several studies that confirmed applicability of the OPC (Choe, 1988; Hong, 1985, 1986), as in the examples below.

(3) John$_i$-un ku$_i$-ka toktokhata-ko malhayssta.
'John said that he was smart.'

(4) a. *Nwu$_i$-ka ku$_i$-ka ttokttokhata-ko malhayss-ci?
'Who said that he was smart?'
b. *Nwukuna$_i$-ka ku$_i$-ka ttokttokhata-ko malhayssta.
'Everyone said that he was smart.'

(Hong, 1986, p. 84)

These studies confirmed that Korean overt subject pronoun '*ku* (he)' cannot take quantifier variable or *wh*-word as its antecedent, confirming that the OPC is operative in Korean.[11)]

English is a non-*pro*-drop language and considering that the OPC is operative only in a language that allows both null and overt subject pronouns, an overt subject form is not only allowed but also required. Unlike Spanish and Korean, the overt pronoun in English can receive a quantified bound variable in the main clause as its antecedent, as well as in referential context.

(5) Mary$_i$ thinks that she$_i$ will win.

(6) a. Everyone$_i$ thinks that she$_i$ will win.
b. Who$_i$ thinks that she$_i$ will win?

(White, 2003, p. 5)

The applicability of the OPC in the three languages of interest is summarized with the potential transfer effect in learning Spanish.

11) It goes beyond the scope of the current research, however, there are two important aspects to note in Korean OPC. Korean reflexive pronoun '*caki* (oneself)' can be grammatically used in contexts involving quantified variable binding context without violating the OPC.
a. Nu$_i$-ka caki$_i$-ka ttokttokhata-ko malhayss-ci? 'Who said that *oneself* was smart?'
b. Nukuna$_i$ caki$_i$-ka ttokttokhata-ko malhayssta. 'Everyone said that *oneself* was smart.'
Furthermore, Hong (1985, 1986) confirmed that the OPC is also applicable in distribution of null and overt objects.

Table 1. The OPC in Spanish, English and Korean

		OPC	Transfer effect in L3
Target Language (L3)	Spanish	+ (*overt)	
Background languages	Korean	+ (*overt)	Facilitative
(L1 and L2)	English	− *(overt)	Non-facilitative

3.2. Topic-continuity

The preference for the phonetically minimal form when referring to a highly salient, shared or topicalized component is considered universal across languages. Based on the Avoid Pronoun Principle (APP) articulated by Chomsky (1981) and the universal hierarchy of anaphoric expressions suggested by Saunders (1999), the use of overt subject can be simplified to instances where the null subject is impossible.

Spanish is a null subject language that allows for implicit subject due to its rich verbal morphology. Therefore, when a referent receives [+topic] status within a sentence, it is pragmatically felicitous to omit the subject. Although the overt realization of the referent does not trigger ungrammaticality, it is considered superfluous. Montrul and Louro (2006) labeled the overproduction of overt subject as 'redundant OS' stating that "if an overt subject did not introduce a new referent in the narrative or was not used for emphasis, it will be considered redundant (p. 412)."

(7) Pepe no vino hoy a trabajar. *Pepe/?él/Ø estará enfermo.
'Pepe did not come to work today. He must be sick'
(Montrul & Louro, 2006, p. 404)

Furthermore, Quesada (2015) offered an analysis of the contexts where implicit form is not only allowed but also favored in Spanish: same referent, non-focus, non-contrastive focus, non-topic shift subject.[12)]

(8) Dejó el libro que *pro* estaba leyendo y miró por la ventana.
'(He/She) put down the book (he/she) was reading and looked out the window.'

Korean exhibits a similar preference for null form for topicalized, previously mentioned subjects. In traditional typological review by Li and Thompson (1976),

12) In this study, the term Topic-continuity will be used to refer to the contexts listed by Quesada (2015).

Korean was categorized as *Topic*-prominent language, highlighting that the language not only allows null subject but also null object when the component receives topic interpretation. As in Spanish, the explicit form of topic subject is not a critical grammatical violation, however, it is considered redundant and pragmatically infelicitous.

(9) Kunun ilkko itton chaekul naeryo nohko changmunul parabwatda.
'He put down the book (he) was reading and looked at the window.'

(10) He put down the book he was reading and looked at the window.
(Korean example from Shim, 2003, p. 121)

In contrast to Spanish and Korean, English is a non-*pro*-drop language that requires the overt expression of subject pronouns, even when the referent has [+topic] status and is pragmatically salient. Its verbal morphology is not as rich as Spanish to encode subject information and it lacks the syntactic flexibility to rely on context alone for subject interpretation, as in Korean. As a result, subject omission is not licensed in English, except in imperative sentences or informal discourse, such as *diary*-drop. Thus, the overt subject 'he' must be used as seen in (10) for syntactic completeness.

The following table highlights crosslinguistic differences in subject use within Topic-continuity contexts and potential transfer effects from each source language.

Table 2. Subject preference in Topic-continuity in Spanish, English and Korean

		Preference	Transfer effect in L3
Target Language (L3)	Spanish	Null > Overt	
Background languages	Korean	Null > Overt	Facilitative
(L1 and L2)	English	Overt only	Non-facilitative

Drawing on the core tenets of L3 transfer models and the distribution of null and overt subjects across languages of interest, the following research questions guided the design of the questionnaires and the analysis of the results.

RQ1. Does linguistic transfer from Korean (L1), English (L2), or both influence learners' acceptability judgments of null and overt subjects in Spanish?

RQ2. Do learners exhibit a consistent transfer pattern across both properties, or

do their acceptability judgments vary depending on the property?

RQ3. Which L3 transfer model is most strongly supported by the data?

These questions are designed to address fundamental issues in third language acquisition research. The first two questions examine the nature of transfer: whether it occurs in a wholesale or partial manner. RQ1 focuses on identifying the source language(s) of transfer, while RQ2 investigates whether transfer patterns remain consistent across different linguistic properties. Together, the findings will provide valuable insights for addressing RQ3, which examines the broader theoretical implications for existing L3 transfer models.

4. Empirical data from Korean L3 Spanish learners

4.1. Method

Two questionnaires were administered online via Google Forms, one in the target language and the other in background languages, with a two-week interval. The Spanish questionnaire consisted of eight OPC items, five Topic-continuity items, and twenty-six filler items.[13] All stimuli were provided as an acceptability judgment task (AJT) using a five-point scale, ranging from 1 (absolutely not acceptable) to 5 (absolutely acceptable).[14] The background language questionnaire included the same number of Korean test items, following the same structure of the Spanish questionnaire. The English test items were presented as a sentence-completion task to confirm whether the participants fully understood that English requires overt subject expression.[15] Participants who failed to use explicit subjects in their

13) The filler items were designed to include examples of weather-related constructions and impersonal constructions, where subject pronouns were given in null or overt form.

14) The sample of Spanish test items are given below.

(ex) Los estudiantes tienen un examen de gramática hoy. La profesora dice que el examen es muy difícil.
Por eso, *'The students have a grammar test today. The teacher says that the test is very difficult. Therefore,'*

a. Nadie piensa que *pro* va a obtener buen resultado. [1 2 3 4 5]

b. Nadie piensa que él va a obtener buen resultado. [1 2 3 4 5]
'Nobody thinks (they) will get a good result.'

15) The example of the English entries is as follows. The context was presented and the learners translated the Korean OPC sentence [QDP_i … $null_i$] into English with explicit subject expression.

(ex) Twenty people were invited to Tom's birthday party. The pizza was supposed to be delivered by six o'clock, but it's already eight.

translation were excluded, adhering to the key principle in transfer studies: you can only transfer what you know.[16)]

In addition to the linguistic prompts, language history questionnaire was included to identify and exclude participants with confounding factors, such as having learned another language or studied abroad. Lastly, twelve prompts were provided to explicitly assess participants' general perception of crosslinguistic similarities between the background languages and the target language. This part of the questionnaire was conducted primarily out of exploratory interest, and it would be important to emphasize that this study adopts the view that the transfer occurs as unconscious, involuntary reflex.[17)]

4.2. Participants

A total of sixty participants' data was selected for the analysis. They were all native speakers of Korean with fewer than three semesters of enrollment in Spanish introductory course at a university in Seoul. Reflecting the educational trends in Korea, students reported that they began learning English at an average age of 8.18 years. The chronological order of languages acquired, and the onset age of exposure to Spanish, which takes place after puberty, confirmed that these participants are L3 adult learners in the initial stages of acquisition.[18)]

Table 3. Language history of participants

	L1 Korean	L2 English	L3 Spanish
Age of acquisition	*Native*	8.18	20.13
Learning period (yrs.)		15.43	1.30

4.3. Results[19)]

[Translate] motuka nemwu *pro* payka koph-tako malhapnita.
'Everyone complains that _____.

16) As pointed out by two reviewers, the L2 was assessed through a translation task, while L1 and L3 were tested using acceptability tasks. I fully agree that adding an acceptability task for L2 would have strengthened the study's robustness, and this limitation will be addressed in future research.

17) Clements (2017), in her L3 transfer study, conducted the same type of questionnaire and confirmed a strong association between the transfer selection and the learners' perception of relatedness across languages.

18) Considering that the study aims to investigate crosslinguistic influence from learners' background languages, it was explicitly stated during recruitment that the applicants must not have had any prior experience of learning a language other than Korean and English before acquiring Spanish.

4.3.1. Language background and perception of crosslinguistic similarities

The learners evaluated prompts addressing the crosslinguistic similarities between Korean-Spanish and English-Spanish across various linguistic domains, such as pronunciation, vocabulary, grammar, sentence structure and language in general. The comparative analysis clearly showed that the learners evaluated their L2 English as much more similar to L3 Spanish across all linguistic domains than L1 Korean.[20)]

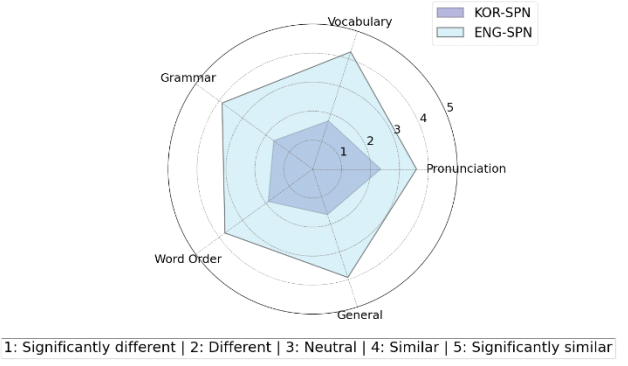

Figure 1. Learner's evaluation on crosslinguistic similarity

Considering that a score of 3 (neutral) marks the dividing point at which the language pairing is recognized as similar or different, Korean is not only perceived as less similar than English but also considered different from Spanish in all linguistic aspects.

In line with the result above, respondents strongly anticipated that when it comes to learning Spanish, their knowledge of English would be more helpful than their native language. The average expectation that their knowledge of Korean would be facilitative when learning Spanish was 2.23 out of 5-point scale, indicating that they did not expect Korean to have bootstrapping effect.

19) The results presented here are based on a reanalysis of the data collected for Ahn (2022). The heatmap analysis provides a clearer picture of how linguistic transfer from Korean and English manifests in Spanish. First, it demonstrates how individual participants behaved from a crosslinguistic perspective within respective language. Second, it offers an intuitive visualization of transfer phenomena that were not apparent in the previous analysis, which was confined to reporting the mean scale of all participants' judgments.

20) The paired sample test confirmed a statistically significant difference between the evaluations of Korean-Spanish and English-Spanish similarities. (Pronunciation: $p = .02$, Vocabulary: $p < .001$, Grammar: $p < .001$, Sentence structure: $p < .001$, Language in general: $p < .001$)

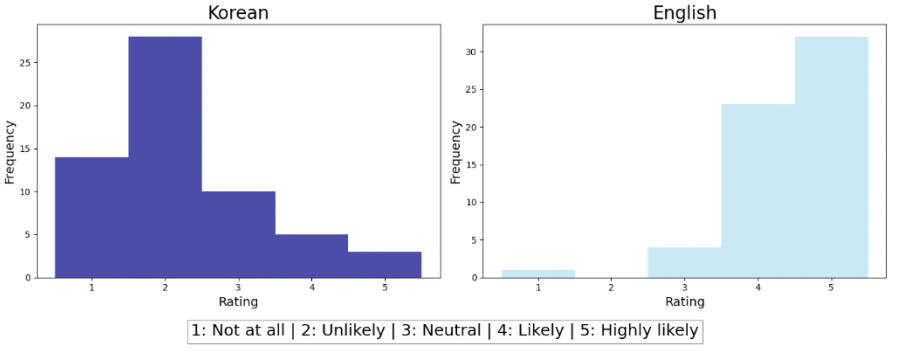

Figure 2. Evaluation on facilitative role of background languages in Spanish acquisition

4.3.2. Transfer in the OPC contexts

For the analysis, the following transfer scenario was applied as a rubric for the interpretation of data. If L1 is transferred, the learner's acceptability in Spanish bound variable construction will show 'Null condition > Overt condition'. If L2 is selected for transfer, it will manifest as 'Null condition < Overt condition'.

Table 4. Mixed linear model regression results for OPC context[21)]

Language	Parameter	Coefficient	Std. error	z-value	p-value
Korean	Intercept(null)	4.58	0.07	68.49	< .001
	Condition[T.overt]	-2.50	0.06	-43.04	< .001
	Participant Var (random effect)	0.17	0.05	-	-
Spanish	Intercept(null)	4.44	0.06	79.62	< .001
	Condition[T.overt]	-2.14	0.06	-35.12	< .001
	Participant Var (random effect)	0.08	0.03	-	-

Note. 95% CI: Korean: null [4.45, 4.72], overt [-2.62, -2.39]; Spanish: null [4.33, 4.55], overt [-2.26, -2.02].

A mixed linear model analysis was conducted to evaluate differences in acceptability judgments between null and overt conditions in each language. In the Korean dataset, the null condition showed significantly higher acceptability (M =

21) Four participants were excluded from the analysis as they failed to use overt subjects in their English translations. The remaining participants correctly used overt subjects in all translations, confirming their understanding that English requires explicit subject expression in bound-variable contexts.

4.59, SE = 0.07, $p < .001$) compared to the overt condition, which was 2.50 points lower ($p < .001$). The random effect variance for participants was 0.17 (residual variance = 0.81). Similarly, in the Spanish dataset, the null condition showed significantly higher acceptability (M = 4.44, SE = 0.06, $p < .001$) than the overt condition, which was 2.14 points lower ($p < .001$). The random effect variance for participants was 0.08 (residual variance = 0.89).

This result confirms that the OPC is operative in both L1 Korean and in beginners' L3 Spanish. Furthermore, given that the overt condition would have been preferred if L2 grammar had been projected, the data support the transfer of L1 knowledge in L3 Spanish.

The heatmap analysis illustrates how each individual participant evaluated the acceptability of null versus overt condition in their L1 and L3 respectively, and the stark contrast in evaluations between conditions confirms that the OPC is operative in the L3 knowledge of early beginners as it is in their L1.

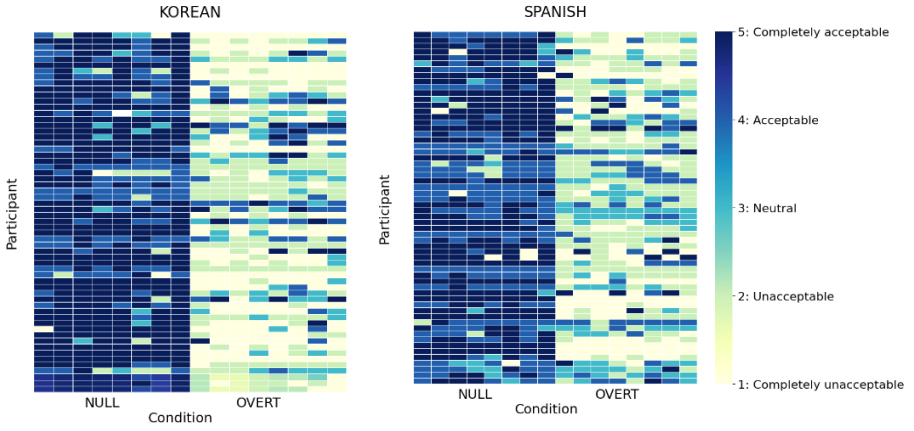

Figure 3. Heatmap of acceptability ratings of OPC context in Korean and Spanish

The heatmap analysis revealed that some participants rated Korean overt condition, which is ungrammatical in their native language, as acceptable. This observation raised another question whether these learners would have also evaluated the Spanish overt condition, which is likewise ungrammatical, as acceptable. The Pearson correlation analysis between Korean overt condition and Spanish overt condition yielded a correlation coefficient of $r = .48$ ($p < .001$), indicating a moderate positive correlation between them. The participants who were

more tolerant of explicit subject in Korean were likely to exhibit a similar tendency in Spanish.[22)]

4.3.3. Transfer in Topic-continuity contexts

Considering the difference in the distribution of null and overt pronouns in topic subjects, L1 transfer would favor a tendency towards 'Null subject > Overt subject' in acceptability judgment in Spanish, while L2 oriented-usage is expected to trigger preference for overt pronoun subject.

Table 5. Mixed linear model regression results for topic-continuity

Language	Parameter	Coefficient	Std. error	z-value	p-value
Korean	Intercept(null)	4.64	0.09	53.18	< 0.001
	Condition[T.overt]	-1.17	0.08	-14.77	< 0.001
	Participant Var (random effect)	0.27	0.07	-	-
Spanish	Intercept(null)	4.15	0.07	55.03	< 0.001
	Condition[T.overt]	-0.13	0.08	-1.48	p = 0.140
	Participant Var (random effect)	0.16	0.05	-	-

Note. 95% CI: Korean: null [4.47, 4.81], overt [-1.32, -1.01]; Spanish: null [4.01, 4.30], overt [-0.27, 0.04].

A mixed linear model analysis was conducted to evaluate differences in acceptability judgments between null and overt conditions in each language. For Korean, the null condition showed significantly higher acceptability (M = 4.64, SE = 0.09, $p < .001$) compared to the overt condition, which was 1.17 points lower. This indicates a clear preference for null subjects in Korean. The random effect variance for participants was 0.27 (SE = 0.07). For Spanish, while the null condition showed slightly higher acceptability (M = 4.15, SE = 0.07) compared to the overt condition, this difference was not statistically significant ($p = .140$). This suggests that participants did not exhibit a strong preference for either null or overt subjects in Spanish. The random effect variance for participants was 0.16 (SE = 0.05).

22) The Pearson correlation analysis between the Korean ratings and the Spanish ratings in null condition yielded a correlation coefficient of $r = .47$ ($p < .001$), indicating a moderate positive correlation between them as well.

The heatmap visualizes individual participants' acceptability ratings for null and overt subjects in both Korean and Spanish Topic-continuity contexts. While Korean shows a clear preference for null over overt subjects, the Spanish ratings reveal no strong distinction between conditions. This pattern differs notably from the OPC context, where both languages showed sharp contrasts between null and overt conditions.

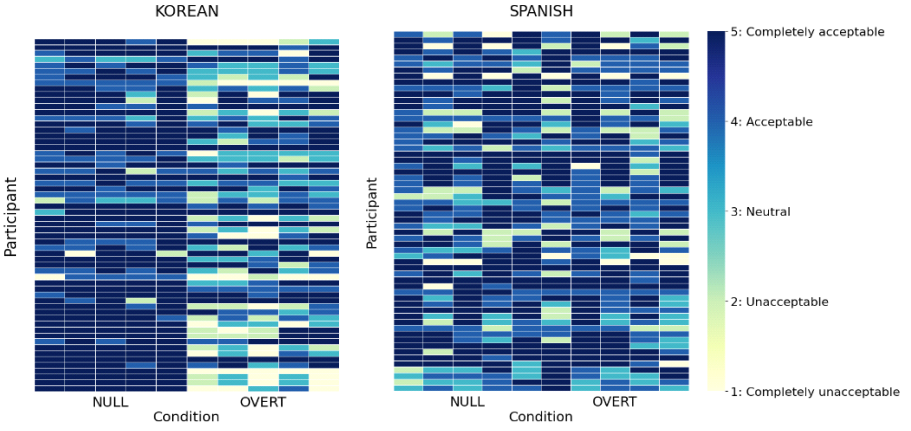

Figure 4. Heatmap of acceptability ratings of topic context in Korean and Spanish

Furthermore, Pearson correlation analyses examined potential relationships between Korean and Spanish ratings in both conditions. For null conditions, the analysis yielded r = .08 (p = .148), and for overt conditions, r = .17 (p = .190). These non-significant correlations indicate that participants' L3 Spanish judgments in Topic-continuity contexts were independent of their L1 Korean ratings.

5. Discussion

RQ1. Does linguistic transfer from Korean (L1), English (L2), or both influence learners' acceptability judgments of null and overt subjects in Spanish?

In the OPC items, Korean learners showed the following tendencies: (a) strong compliance to the OPC in Korean, (b) clear difference in acceptability ratings between null and overt condition in accordance with the OPC in L3 Spanish as in their L1, and (c) a moderate correlation between Korean and Spanish data for

deviant overt conditions where OPC violations were evaluated as acceptable. However, due to the design of this study, it is difficult to identify whether these few instances of divergent acceptance to overt subjects in OPC context stem from L1 or L2.[23)]

The significant findings related to Topic-continuity contexts can be summarized as follows: (a) Koreans distinguished the acceptability of null and overt condition in their L1, (b) no statistical difference was found between conditions in L3 Spanish, (c) learners showed high acceptance for the overt subject condition in Topic-continuity context, a pattern consistent with L2 English, and (d) there was no statistically significant correlation between the ratings in Korean and Spanish. These results highlight that participants' judgments of Spanish sentences were not meaningfully associated with their native knowledge. This confirms that participants' L1 preferences did not affect the parsing of L3 data in the topic contexts, which would have been facilitative. Instead, it is reasonable to conclude that participants' evaluations of Spanish overt subjects in Topic-continuity context were likely influenced by their L2 English representation, which resulted in non-facilitative effects.[24)]

RQ2. Do learners exhibit a consistent transfer pattern across both properties, or do their acceptability judgments vary depending on the property?

The transfer pattern between properties revealed a stark contrast as shown in the descriptive analysis and heatmap illustrations. A strong L1 transfer was confirmed in the rejection of ungrammatical overt subjects and acceptance of grammatical null subjects in the L3 OPC contexts. In contrast, L1 influence was not found in the evaluation of null and overt subjects in Topic-continuity context. Rather, a L2 transfer was deduced in learners' high acceptance of overt subjects which are not pragmatically felicitous in either L1 or L3.

RQ3. Which L3 transfer model is most strongly supported by the data?

Recall from the review of L3 transfer models in this article, the center of debate

23) As mentioned before, this study only included data from participants who had shown native-like L2 knowledge by using overt subject in quantified bound variable in the English translation task. Therefore, the high acceptance to overt subject in L3 Spanish might have originated from either L2 influence.

24) To strengthen this interpretation of the data, it will be necessary to include AJT data for English stimuli and ensure that participants did not respond to the survey based on a yes-bias.

lies in whether the transfer of background languages occurs as full transfer or partial transfer. The current data from Korean learners demonstrates that they access both language systems when evaluating null and overt alternation in Spanish. The L1 transfer in OPC contexts was facilitative, whereas L2 transfer in Topic-continuity contexts proved detrimental. These findings align with the Linguistic Proximity Model's prediction that learners access their linguistic repertoire on a property-by-property basis, supporting partial transfer of background languages in L3 acquisition.

6. Conclusion

This study examined how the previously learned languages influence the initial stages of additional language acquisition from a Third Language Acquisition perspective. Over the past two decades, L3 transfer models have been extensively explored with an academic endeavor to model the dynamics of crosslinguistic influences found in multilinguals. The data from L1-Korean, L2-English and L3-Spanish participants reported in this study are underrepresented and therefore valuable.

The analysis of two properties governing null and overt subject alternation in Spanish revealed a hybrid transfer of both background languages. In Overt Pronoun Constraint items, beginner learners demonstrated a strong compliance with the constraint in Spanish as they did in their L1. However, in Topic-continuity items, L1 and L3 data did not show correlation. The learners showed a strong acceptance for overt subject, which is redundant and pragmatically superfluous in both Korean and Spanish. The trend found in this property suggested L2 transfer. The Korean learners' data aligned with the transfer scenario proposed by the Linguistic Proximity Model that the crosslinguistic influence can stem from all languages in the learners' repertoire at a property-by-property basis as a hybrid transfer and exert facilitative or non-facilitative effects in L3 acquisition.

This preliminary conclusion can be strengthened through future research with larger participant sample and, more importantly, by examining additional linguistic properties, such as the use of definite and indefinite articles, choice of preterit forms, use of passive voice and word order preference in Spanish. A key methodological improvement would be to analyze English patterns using the same acceptability judgment task format applied to Korean and Spanish. Expanding the research scope

with a wider range of properties, and thoroughly investigating learners' entire linguistic repertoire in comparison with the target language, will provide a clearer picture of how learners' existing linguistic knowledge shapes additive language learning.

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