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The Acquisition of Copula Alternation *Ser/Estar* and Adjective in L1 Russian, Spanish Heritage Speakers

Iban Mañas Navarrete *, Pedro Guijarro Fuentes and Iria Bello Viruega

Department of Spanish, Modern and Classical Languages, University of Balearic Islands, 07122 Palma, Spain; p.guijarro@uib.es (P.G.F.); iria.bello@uib.eu (I.B.V.)
* Correspondence: iban.manas@uib.es

Abstract: Spanish copula choice *ser*/*estar* and the semantic and pragmatic distinctions that derive from their alternation in predicate adjective constructions have been discussed in several studies focused on the features of Spanish as a heritage language, usually focusing on the lack of equivalence between English and Spanish. The aim of this study is to determine the competence of a group of heritage speakers of Spanish that were born and raised in Russia in adjective copula selection for *ser* and *estar* and to what extent it differs from that of L2 speakers. A group of second-generation heritage Spanish-Russian speakers (n = 29) and a group of L1 Russian learners of Spanish as foreign language (n = 23) performed a translation recognition task in Spanish based on extracts from contemporary Spanish literary works. From a crosslinguistic perspective, a partial correspondence can be established between long forms of the Russian adjective with *ser*, and short forms of the Russian adjective with *estar*. Taking this cross-language relationship into account, we considered congruent and non-congruent cross-language scenarios. The results confirm that the heritage speakers outperformed the L2 Spanish speakers. This suggests a possible benefit of earlier exposure and use of Spanish. The facilitative effect of L1 can be traced in the *ser*-preferred scenarios but it fades away in the *estar*-preferred contexts for both groups.

Keywords: Spanish heritage language; L2 Spanish; Spanish copula choice; cross-linguistic influence; predicative adjectives

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1. Introduction

Research on heritage languages (HL henceforth) has witnessed rapid growth in the last two decades (Montrul 2023 and references therein). A growing number of studies has focused on the distinctive features of Spanish as a heritage language (Pascual y Cabo 2016 among others), namely tempo-aspectual relationships (e.g., Cuza et al. 2013) or the double copula of the Spanish verbs *ser* and *estar* (Eng. 'to be'; Cuza et al. 2021; Requena and Dracos 2021; Silva-Corvalán 2014). The semantic and pragmatic distinctions that derive from the *ser*/*estar* alternation in predicate adjective constructions are usually attributed to aspectual differences (Arche 2012; Fernández-Leborans 1995; Leonetti et al. 2015): *estar* usually co-occurs with bounded interpretations of the situation and with discourse situation restrictions (Maienborn 2005), which are equivalent to the perfective aspectual perspective of the situation. On the other hand, *ser* is devoid of temporal content and therefore it refers to an imperfective aspectual reading. Scholars have normally focused on the lack of equivalence between English and Spanish, but other language combinations still need to be studied in detail. This study considers the competence of a group of heritage speakers of Spanish that were born and raised in Russia in the adjective copula selection for *ser* and *estar*. In the case of Russian, there is also a set of semantic properties (Kotov 2014) that restricts the choice but, in this case, they are concerned with the choice between long forms (LF) and short forms (SF) of the adjective in predicative constructions. This study explores the impact that the LF/SF alternation may have on the selection of the *ser/estar* copula in Spanish.

Traditional proposals for the analysis of the development of heritage languages evolved from the assumption of incomplete acquisition (Montrul 2023; Polinsky 2018). From this perspective, it is understood that early exposure to the dominant social language may hinder the complete acquisition of the elements that make up the structure of the HL, that is, speakers' grammatical repertoire. Overall, this approach focuses on describing these speakers' ultimate attainment. Putnam and Sánchez's (2013) proposal, on the other hand, emphasized a developmental description of the acquisition of the HL. Even if they acknowledged the role of input, that is, the underexposure to the L1 and the overexposure to the L2, they are reluctant to endorse it as the driving factor for the development in the HL. On the contrary, the fluctuation of the levels of lexical activation and the strength of the association between functional, semantic, and phonological features seem to be key in the process (Putnam and Sánchez 2013, p. 488). Heritage speakers (HS henceforth) may restructure their L1 based on the feature mapping of the dominant language to which they are exposed from very early on. This explanation rests on the proposal of the *Feature Reassembly Hypothesis* (Lardiere 2009), according to which the main difficulty in the acquisition of an L2 lies in the mapping of semantic and syntactic features into lexical items. This study focuses on the role of L1/dominant language transfer in the Spanish copula choice in L2 and HS. We proposed a task related to feature opposition restructuring that may be particularly difficult for heritage speakers (Polinsky 2018) that consisted in detecting, selecting, and reassembling the appropriate semantic features of the predicative construction *ser*/*estar* + adjective.

Although the influence of L1 on L2 acquisition has been widely documented, the role of dominant language in HL development has not been considered in detail yet (Romano 2021). According to Montrul and Ionin (2010), phenomena in the syntax–semantics interface are as affected by transfer as other syntax–discourse properties in HS. Since the Spanish copula choice is an interface phenomenon, a potential effect of the dominant language could be expected. Aside from cross-linguistic influence, this study also explores the incidence of lexical frequency, following the proposal of individual patterns of language activation and use provided by Putnam and Sánchez (2013) and confirmed by Thane (2023). In sum, this study represents an empirical contribution to the description of the linguistic competence of Spanish heritage speakers in an underrepresented population such that of Russian–Spanish bilinguals.

2. Copula Choice in Spanish and Predicate Adjectives in Russian

Linking verbs mainly define notions such as the existence, identity, or features of the subject to which they refer. The copula is one of the areas of grammar with the highest degree of typological variation (Arche et al. 2019). This section gives an account of the grammatical resources available to Spanish and Russian to construct copulative sentences.

In Spanish, the existence of two major linking verbs (*ser* and *estar*) has generated extensive theoretical descriptions (see Leonetti et al. 2015; Marín 2004, for a review). The collocation of different adjectives with one or both verbs has been a subject of major research. According to Mesa Alonso et al. (1993), around 80% of adjectives in Spanish can co-appear with *ser* and *estar*. A distinction is generally made between adjectives that combine (almost) exclusively with *ser*, as in (1), adjectives that combine with *estar*, as in (2), and those adjectives with no combinatory restrictions, as in (3).

(1) Julia es / *está constante.
Julia is$_{SER}$ / is$_{ESTAR}$ persevering
'Julia is usually persevering/Julia is persevering now.'

(2) Julia *es / está cansada.
Julia is$_{SER}$ / is$_{ESTAR}$ tired
'Julia is always tired/Juana is tired now.'

(3) Julia es / está feliz
Julia is$_{SER}$ / is$_{ESTAR}$ happy
'Julia is a happy person/Julia is happy now.'

The selection of a linking verb in (3) is motivated by the intention of the speaker to highlight some semantic features over others. The *ser/estar* alternation of the structure (copula + adjective) has been described from its aspectual basis (Camacho 1995; Luján 1981; Schmitt and Miller 2007): the predicates introduced by *ser* denote imperfective states or features of the subject that are not constrained beginning or ending points, while the combinations with *estar* designate perfective states and, therefore, are transitory insofar as boundaries are established on them. This aspectual distinction also selects specific discursive and contextual interpretations for each verb. According to Maienborn (2005), *estar* requires that the predication depend on a topical situation. On the other hand, *ser* does not need a link between the predication and a topical situation. In (3), to understand that Julia is happy in Julia está feliz, we expect a context that accounts for Julia's state to satisfy the link to the topical situation required by the verb. However, in the case of *Julia es feliz*, we can understand that Julia is happy without a direct allusion to any specific situation.

An updated version of this aspectual interpretation leads to the currently most widespread distinction. It considers predications with *ser* as individual-level and those with *estar* as stage-level (Fernández-Leborans 1995; Leonetti 1994; Silvagni 2015). This classification distinguishes between (i) stage-level (SL, henceforth) states, which are bounded by a concrete period of time and describe a spacio-temporal slice or stage of an individual, and (ii) individual-level (IL) states, which describe individuals without referring to their temporal stages and, therefore, trigger inference of temporal persistence (Arche 2012). The transition from one category to the other, as it is the case in (3), is often carried out through a process of coercion (Escandell-Vidal and Leonetti 2002). This process allows the semantic content of the adjective to be reinterpreted. Additionally, it triggers a conceptual readjustment that enables the combination with *ser* and *estar*. Marín (2010) analyzed IL adjectives and established a distinction between nonrelational adjectives, as in (4), which can be combined with *estar* in certain contexts, and relational adjectives, as in (5), which allow collocation with the same verb but in a much more restrictive way.

(4) Hoy estás tú muy valiente.
today are$_{ESTAR}$ you very brave
'Today you are very brave.'

(5) ?Juana está muy catalana.
Juana is$_{ESTAR}$ very catalan
'Juana is very Catalan.'

The combination of *valiente* 'brave' and hoy 'today' in (4) enables a context in which the subject is anchored to a temporal-spatial situation. The explicitness of the construction verb +adjective is then reinforced by the adverb. In (5), the reinterpretation of *catalana* ('Catalan') is only possible if the relational nature of the adjective is canceled and the adjective is considered a non-relational adjective. On many occasions, this alternative reading can only be achieved by the integration of pragmatic/sociocultural knowledge. Hence, it is necessary to know the stereotyped social image that considers Catalans as people who care about money to be able to interpret *catalana* ('Catalan') in (5) as 'stingy'. This study focuses on ambivalent adjectives as those presented in (3) and (4). In these cases, the selection of *ser* and *estar* depends on intended meaning.

In Russian, adjectives in the predicative position can appear in the long form (LF henceforth) and in the short form (SF henceforth). Morphologically, LF adjectives differ from SF adjectives in that the latter lack case inflection. Concerning syntax, only LF adjectives can appear in an attributive position within the noun phrase. In Spanish, only *ser* can be combined with nouns. It is generally accepted that, at the plot structure level, SF

adjectives behave more like verbal elements, while LF adjectives are considered purely adjectival (Babby 2009; Geist 2010; Karpacheva 1999). In fact, some scholars have consistently pointed out that the LF adjectives appearing in the predicative position should be analyzed as an attributive adjective followed by a null noun[1] (Babby 2009; Bailyn 1994; or Pereltsvaig 2000). From this, it follows that the LF adjectives imply a relative interpretation (6a) and the SF ones, an absolute interpretation (6b).

(6a) Étot vor khoroshij.
this-M-SG.NOM thief-M.SG.NOM is-Ø good-M.SG.NOM
'This thief is good_{LF}'.

(6b) Étot vor khorosh.
this-M-SG.NOM thief-M.SG.NOM is-Ø good-M.SG
'This thief is good_{SF}'.

In his description of the behaviour of Russian LF and SF adjectives, Timberlake stated that "the short form indicates that the subject, viewed as a unique individual rather than as a type, manifests the property in potentially variable ways under different circumstances" (Timberlake 1993, p. 863). In (6b), this property is interpreted as being good as a thief; LF adjectives, on the other hand, "signal that the subject, viewed as a type of individual, instantiates an essence, a quality" (Timberlake 1993, p. 862). This property of goodness in (6a) refers to a more abiding value, which in this case would refer to a person that is morally good (Martin and Bikina forthcoming). From this approach, a possible correspondence emerges between LF/SF of Russian adjectives and *ser/estar* copula choice in Spanish emerges.

Authors like Shvedova (1980), Grashchenkov (2007), or Kotov (2014) described the difference between LF and SF in terms of the stage-level vs. individual-level. SF adjectives describe a property of the individual as a qualitative state of that individual, that is, a property constrained to a specific state of circumstances, which generates a stage-level interpretation. On the other hand, LF adjectives cannot have an eventive interpretation[2]. Hence, they cannot be restricted to a particular time associated with individual-level predicates. According to Geist (2010), the distinction between 'property' and 'state' is of paramount importance. As a result, in (7), the SF adjective denotes the quality of being attentive as an eventuality, which renders the combination with a time delimiter like 'yesterday' completely legitimate. On the other hand, any temporal-spatial delimitation in a predicative sentence with LF adjectives will present problems of interpretation. The LF adjective in (8) denotes the quality of being attentive as a property of the person.

(7) Vchera rebenok byl vnimatelen.
yesterday child-M.SG.NOM was-PST.IPFV.M.SG attentive-M.SG
'Yesterday the child was $\text{attentive}_{\text{SF}}$.'

(8) ? Vchera rebenok byl vnimatelnyj
yesterday child-M.SG.NOM was-PST.IPFV.M.SG attentive-M.SG.NOM
'Yesterday the child was $\text{attentive}_{\text{LF}}$.'

According to this, and as Geist (2019) pointed out, Spanish and Russian have different grammatical mechanisms to express the link of a predication to a specific situation. A partial correspondence can be established between the LF of the Russian adjectives with Spanish copula verb *ser*, and the SF of the Russian adjectives with Spanish *estar* (Denisova 2011; Vinogradov and Miloslavsky 1986), as can be seen in (9). However, the interlinguistic correlation is not perfect, as some syntactic contexts condition the use of LF and SF adjectives in Russian (Nesset and Janda 2023) and, at the same time, several combination restrictions of some Spanish adjectives apply. For example, in (10), the Spanish correlate of the Russian adjective 'udachlivyj$_{\text{LF}}$/udachliv$_{\text{SF}}$' can only be combined with *ser*.

(9a)	La	vida	Es/está	difícil
	the-F.SG	life	isSER/ isESTAR	hard
(9b)	zhizn'		trudnaya	/ trudna
	life-F.SG	is-Ø	hard-F.SG.NOMLF	/ hard-F.SGSF
	'Life is hard.'			

(10a)	Él es		afortunado	en el	trabajo
	he is_{SER}	/ $*is_{ESTAR}$	lucky	in the	work
(10b)	On		udachliv		v rabote.
	he-M.SG.NOM		is-Ø lucky-M.SG		in work-F.SG.LOC
	'He is lucky at work.'				

Given that cross-linguistic influence takes place in any multilingual learning/acquisition process (Safa 2018), and transfer has been claimed as one of the most frequent mechanisms and strategies used by speakers (Jarvis 2017), this study explores the extent of this cross-linguistic correlation on the Spanish proficiency of HL and L2 speakers, whose dominant language is Russian.

3. The Acquisition of the Spanish Copula Choice

Research on the acquisition of Spanish copula choice in *ser/estar* + adjective has confirmed that this is a grammatical phenomenon associated with a complex learning process that constitutes a difficulty for L2 Spanish speakers (Guijarro-Fuentes et al. 2023; Geeslin 2003, 2014; Perpiñan et al. 2019), even those with advanced levels (Guijarro-Fuentes et al. 2023; VanPatten 1987) or heritage speakers (Cuza et al. 2021; Lowther and Lindsey 2005; Requena and Dracos 2021). The results of intervention studies in formal teaching contexts have shown that the effects of explicit instruction on this construction are limited at initial-intermediate levels of competence (Winitz and Sagarna 2007). As explained in the previous Section, context identification is important to select *ser* or *estar* and, in many cases, L2 speakers may be unaware of the semantic and pragmatic nuances that are needed to establish those contexts successfully. In the case of HS, when Spanish is not the dominant language since the early stages of development, it could be expected to find differences compared to other monolingual populations (Montrul 2016), as described by other studies on copula selection and other grammatical phenomena (Silva-Corvalán and Montanari 2008; Pascual y Cabo 2016 among others).

Research on the selection of the Spanish copula is scant as far as HS are concerned. Longitudinal studies on children HS based on spontaneous oral production recordings of English-dominant, Spanish–English bilingual children from 1 to 5 years old indicate that copulative constructions develop autonomously and are heavily influenced by the interactions with the adult(s) in the child's environment (Silva-Corvalán 2014; Silva-Corvalán and Montanari 2008). These studies indicate a certain delay in the acquisition of *estar*, which is explained by a possible influence from English.

Two recent studies have addressed Spanish copula selection in school-age and adult HS. On the one hand, Requena and Dracos (2021) carried out a study that examined whether there were differences between second-generation HS schooled in the US (n = 50) and first-generation adults (n = 21) in the knowledge of semantic constraints and pragmatics associated with the selection of the copula in predicative constructions. The competence of the participants in both English and Spanish was measured and the children's language exposure and use outside school was assessed through a questionnaire that was filled in by parents. The study contained two experimental oral production tasks with Spanish adjectives and novel adjectives that recreated situations of temporary changes that allowed the analysis of the acquisition of aspectual dimensions in copula + adjectives construction. The results indicated that first generation adults' knowledge is similar to that of monolingual speakers. They also signaled a near categorical selection for *estar* with temporary contexts. The results of the heritage group confirmed a high heterogeneity in the answers and an effect of the competence in Spanish as a significant predictor of the preference for

estar in temporary contexts. More specifically, heritage speakers with higher proficiency in Spanish exhibited adult-like copula selection. In contrast, schoolchildren with lower proficiency exhibited little sensitivity to the aspectual dimensions of copula choice. These speakers showed a chance behavior in the production of *estar*, especially in the task with novel adjectives, where lexical knowledge was controlled.

In a study on the production of *ser* and *estar* in children (n = 16) and heritage Spanish-speaking adults (n = 19), Cuza et al. (2021) used an adaptation of a controlled production test used by Schmitt and Miller (2007) to elicit the use of copula with adjectival predicates and in event locatives constructions in both *ser*-favored and *estar*-favored contexts. The performance of heritage-speaking children indicated a lack of sensitivity to the *ser/estar* distinction. The individual data for adult heritage speakers pointed to a pattern of development that is close to the performance of monolingual adults. Considering the results, it was concluded that "it is possible for these structures to be stabilized in the adult grammar" (Cuza et al. 2021, p. 17). Although much mitigated in the case of adults, the authors also identified a difficulty in the use of *ser* in individual-level predicates in the two groups of HS, which results in an overproduction of *estar* in *ser*-favored contexts. According to the authors, the variability shown by the two groups in this task may be associated with patterns of exposure to the language, the use of Spanish, and proficiency level.

The overgeneralization of *estar* in HS was also reported by Valenzuela et al. (2015) in their study about heritage speakers of Spanish in the US. The study also included a HS group in Canada, whose performance on all tasks matched that of the monolingual control group. This led the researchers to conclude that typological proximity may entail a facilitative effect in the knowledge of this structure and opened the way for studies that may consider the impact of previously acquired languages on this type of speaker.

Several studies in L2 Spanish contexts have covered various profiles of learners at various levels of competence, from studies focused on intermediate and higher levels (Guijarro-Fuentes et al. 2023; Bruhn de Garavito and Valenzuela 2006; Geeslin 2003) to those considering ultimate attainment (Guijarro-Fuentes et al. 2023). Empirical evidence from most of these works has shown that L2 learners of Spanish do not achieve native-like competence in copula selection. This may suggest that there are differences in the ability to apply semantic and pragmatic constraints in non-native grammars (Guijarro-Fuentes et al. 2023). Even when the distinction between *ser/estar* seems to be well established, L2 speakers seem to have difficulties related to the discrimination of the associated interpretive properties that are needed for the copula selection process (Bruhn de Garavito and Valenzuela 2006).

There seems to be no unanimity on whether the L1 influences the acquisition of copula choice in Spanish L2. On the one hand, Bruhn de Garavito (2009) signaled a facilitating effect of German versus English in the distinction between eventive and stative passive constructions but did not detect an effect of the L1 on copula selection. Similarly, no L1 effect was found by (Guijarro-Fuentes et al. 2023), who concluded that Spanish learners whose L1 does not have a copula choice follow a similar acquisition process.

On the other hand, more recent works such as (Guijarro-Fuentes et al. 2023) showed evidence of a transfer effect. In this study, the acquisition of the construction *estar*+adjective in the L2 Spanish grammar of French and Portuguese L1 speakers was assessed. Based on data extracted from a learner corpus, the study aimed at delimiting to what extent the aspectual contrast in linking verbs in Portuguese may have a facilitating effect on the correct use of *estar* in predicative constructions. Results showed that L1 Portuguese learners clearly outperform L1 French learners. The difficulties experienced by L1 French speakers are understood as a consequence of the features assembly task (Lardiere 2009) that these speakers need to face. These findings are especially relevant for the purpose of our work. Given the partial interlinguistic correspondence described in the previous section between Russian and Spanish, this study delves deeper into the Spanish copula selection in different native and non-native populations.

The aim of the study is to analyze the competence of L2 Spanish, L1 Russian speakers and Russian dominant, Spanish heritage speakers in the use of the *ser/estar* + adjective

alternation. Following the results of the studies described above, we focus on two specific phenomena: crosslinguistic influence and differences between populations with different acquisition profiles. Thus, the following research questions are established:

(i) To what extent does proficiency in the use of Spanish copula choice in predicative constructions differ between Spanish heritage and advanced L2 Spanish speakers?
(ii) Considering the properties of the dominant language (Russian), is there any interlinguistic transfer effect, based on the LF vs. SF adjectives from Russian, among HL and L2 speakers on the use of Spanish copula choice in predicative constructions?

4. Methodology

4.1. Participants

The study involved 29 Spanish Heritage Speakers (SPAH) and 25 L2 Spanish (L2SPA) students. All participants were between 18 and 35 years old (SPAH: mean = 27.23, SD = 3.51; L2SPA: mean = 22.82, SD = 0.22). Most heritage speakers (n = 23) came from mixed families, that is, one parent was a speaker of Spanish and the other spoke Russian. The rest of the heritage speakers' parents could both speak Spanish. Regarding the origin of the families, 19 participants indicated that at least one of their parents was from Spain, seven from Nicaragua and three from Cuba. All of them had been born and raised in Russia. None declared to have had any formal education in Spanish, either at a school, university, or language center. Candidates were recruited through contact groups on different social networks.

To assess their level of competence, a personal interview was conducted in which two oral interaction tasks from the Diploma of Spanish as a Foreign Language (DELE) test corresponding to level B2 were integrated. The evaluation of the interviews was carried out by two Spanish teachers in Russia with extensive experience as examiners and interviewers of the DELE tests. Although oral proficiency tests may not function adequately as placement tests for heritage speakers (Valdés 1989), they can be used as indicators of their general oral proficiency (Kagan and Friedman 2003; Swender et al. 2014). After the interview, a simplified version of the language use patterns questionnaire (Oh and Au 2005) was administered. The proportion of use of Spanish declared by the participants varied between 35–60% (mean = 46.53, SD = 8.08). A total of 41% of the participants (12/29) indicated that they felt more comfortable speaking Russian, while the remaining 59% said that they felt equally comfortable in both languages.

The group of L2 Spanish speakers was made up entirely of students from Saint Petersburg State University. They were attaining a degree in Romance Philology or Translation and majoring in Spanish. To participate in the study, they were required to hand in a copy of a DELE B2 certificate that was a maximum of two years old. All confirmed being L1 Russian speakers and indicated more than two years of formal instruction in Spanish (mean = 3.35, SD = 0.51). No participant indicated having completed immersion stays of more than four months in a Spanish-speaking country, so it can be assumed that their contact with Spanish was almost exclusively formal.

4.2. Materials

Both groups completed an offline written inverse translation task (Russian > Spanish). Translation tasks have been used in second language research (Sunderman 2013), especially to study lexical access and sentence processing (Montrul and Foote 2014; Hyun Lim and Christianson 2013), and crosslinguistic influence (Sharpen 2016). Test stimuli consisted of fragments of translations of three contemporary Spanish novels translated into Russian: *Caperucita Roja en Manhattan*, by Carmen Martín Gaite, *Corazón tan blanco*, by Javier Marías, and *La sombra del viento*, by Carlos Ruiz Zafón. Translation passages containing long and short adjective constructions were selected and checked against the original corresponding passages.

The passages in Russian were classified according to whether of interlinguistic correspondence could be expected and according to the verb used in the original in Spanish.

Thus, four conditions were set: (a) adjective in the LF corresponding to a construction *ser* + adjective in Spanish; (b) adjective in SF corresponding to a construction *ser* + adjective in Spanish; (c) adjective in LF corresponding to a construction *estar* + adjective; and (d) adjective in SF corresponding to a construction *estar* + adjective. The complete test (K = 35) was made up of 20 target fragments (five fragments per condition) plus 15 fragments that served as fillers. The list of target fragments that make up the test in included in Appendix A.

(11) Bol'she ona o nem nichego ne govorila, i bylo neponyatno,
more she about he-LOC nothing-M.SG.GEN no say-PST.IPFV.F.SG and be-PST.IPFV.N incomprehensible-N
krasivyj on ili net.
beautiful-M.SG.NOM he or no
'But she never mentioned anything that made it clear if she was pretty or ugly.'

(12) Vino bylo sovsem deshevo i dazhe v schet ne shlo.
wine-N.SG.NOM be-PST.IPFV.N totally cheap-N.SG and even in bill-M.SG.ACC no go-PST.IPFV.N.SG
'The wine was so cheap it was not even included in the bill.'

(13) Tryapochku pora propoloskat', pryamo chyornaya.
rag-F.SG.ACC it's time rinse-INF directly black-F.SG.NOM
'You should wash the cloth. It is black.'

(14) V tot vecher on byl osobenno vzvolnovan.
in that-N.SG.ACC evening-N.SG.ACC he-NOM be-PST.IPFV.M. particularly disturbed-N.SG
'That afternoon, he was particularly nervous.'

A total of 32 fragments were initially selected, eight for each of the four conditions. An extra context utterance was added to these fragments so that the participant could place them within a specific situation. Assuming that the selection of *ser/estar* plus adjective can be guided on many occasions by discursive and pragmatic properties (Camacho 2012), the context was edited in such a way that it functioned as an indicator against the choice of *ser* and *estar*. For example, the target fragment (a) was presented with the following pre-context:

(15) Susana llevaba semanas hablando de su amigo César con su amiga Carmen. Carmen empezaba a sentir un interés especial por César. Quería saber un poco más sobre su aspecto físico y le preguntaba insistentemente a Susana. Pero nunca mencionaba nada que hiciera entender si era bonito o feo.
'Susana had been talking about her friend César with her friend Carmen for weeks. Carmen was beginning to feel a special interest in César. She wanted to know a little more about his physical appearance and she insistently asked Susana. But she never mentioned anything that could make her understand if he was pretty or ugly.'

To check the validity of the test, the task was administered to ten native Spanish speakers with a high level of proficiency in Russian. All the fragments that reached 85% of coincidence with the expected response, that is, with the copulative verb that appeared in the Spanish original, were kept in the final test version. Alternative translations in the selection of the verb in Spanish were discarded, such as, for example, the translation of *vzvolnovan* ('nervous, excited'), which was sometimes translated as *se puso nervioso* ('he got nervous') and in others as *estaba nervioso* ('he was nervous'). However, variation in the translation of the adjective was not considered an exclusion factor. For example, Russian adjectives such as *krasivij* ('beautiful') could be translated as *guapo* and *hermoso*, according to the variety of Spanish spoken by the native speakers.

The frequency of the Spanish adjectives was controlled. All the adjectives were among the 4000 most frequent words in the lexical frequency ranking of *Corpus del Español* (Davies 2002). This corpus contains 20,000 words of written and oral texts from Spanish and Latin American texts. None of the selected adjectives had combinatory restrictions

with either *ser* or *estar*. In this way, it was possible to ease a possible effect of bias in the input on the responses of the participants.

4.3. Procedure and Analysis

The data were collected in Saint Petersburg, between September and December 2018. The test was presented in paper-pencil format and was carried out in the presence of a researcher. The group of HS, whose participants had already been interviewed and had completed the sociolinguistic questionnaire, took the test on the premises of the State University of Saint Petersburg. The L2 learners completed the task during a class session at the same university.

Three versions of the same test were created with the fragments arranged in a different order. The participants were presented with the 35 fragments and were asked to translate only the final part, which was underlined. They were asked not to use reference materials and they were given the opportunity to ask for the meaning of any word in Spanish. The test lasted between 30 and 40 min for both groups.

Data collected from *ser*-preferred contexts and *estar*-preferred were analyzed separately. The dependent variable for both analyses was obtained by coding participants' responses as either '1', when the participant produces the expected copula, and '0' for the unexpected responses—other copula or other lexical verb. The data were analyzed implementing a generalized linear mixed model (GLMM). We applied a binomial probit distribution to fit the binary response. The models generated predicted probabilities that participants would choose *ser* (for *ser*-preferred data model) or *estar* (for *estar*-preferred data model).

Group (SPAH or L2SPA) and Form of Russian Adjective (long or short) were included in both models as fixed effect factors along with the interaction term. Factors were introduced with treatment code fashion. Participants were included as random intercept varying by Form of Russian Adjective as random slope. Random effects were measured as the adjusted intra-class correlation coefficient and their contribution to the model performance was assessed using the likelihood ratio test, which compares the model with random effects and the model without them. In both cases, low ICCs ($ICC_{ser\text{-}model} = 0.14$; $ICC_{estar\text{-}model} = 0.01$) indicated a limited contribution of the random structure to the power of the model. LRT results confirmed this lack of contribution (*ser*-preferred: $X^2 = 1.046$, $df = 3$, $p = 0.790$; *estar*-preferred: $X^2 = 0.053$, $df = 3$, $p > 0.90$). Considering these results, models without random structure were selected to conduct further analyses.

To evaluate the accuracy of the logistic models AUC-indexes were calculated from the confusion matrices. Results from *ser*-preferred data model showed a good ROC curve (AUC = 0.709, optimal cutoff = 0.77), and moderate-good classification accuracy (sensitivity = 65%; specificity = 82%). In the *estar*-preferred data model, the ROC curve reached an acceptable level (AUC = 0.65, optimal cutoff = 0.44), and moderate-good classification accuracy (sensitivity = 83%; specificity = 41%). Both models performed better than chance in predicting the actual participants' responses. Logistic models were fitted using the glmer and performance functions from *lme4* (Bates Douglas et al. 2015) and *ROCR* (Sing et al. 2005) packages. All analyses were performed using the R software (R Core Team 2020).

5. Results

The recording of the dependent variable as a dichotomous response allows obtaining a descriptive summary of the performance of the two groups of participants. Table 1 shows the count and proportion of correct responses, understood as expected responses, for the fragments for *ser*-preferred and *estar*-preferred depending on the form of the Russian adjective and the type of speaker. In both groups, the proportion of responses expected for *ser* is higher than that of *estar*. From the perspective of interlinguistic influence, the response pattern of the SPAH group reproduced the expected behavior in a more clear way in case of influence of the forms of the adjective in the selection of the copula: the scenarios of convergence between languages (i.e., long form-*ser* and short form-*estar*) had a higher

proportion of expected responses, while the scenarios of divergence between languages (i.e., short form-*ser* and long form-*estar*) registered a lower accuracy rate. In the case of L2 learners, the predicted cross-language distribution holds for the *ser*-preferred fragments, but not for the *estar*-preferred ones.

Table 1. Tokens and percentages of expected production of *ser* and *estar* by form of Russian adjectives and group.

	Ser		**Estar**	
	Long Form	**Short Form**	**Long Form**	**Short Form**
SPAH (n = 29)	143 (99%)	112 (77%)	96 (66%)	111 (76%)
L2SPA (n = 25)	114 (91%)	98 (78%)	64 (51%)	55 (44%)

The results of the *ser*-preferred data model confirmed a significant Group effect, whereby belonging to the L2 group implied a decrease in the probabilities of producing the *ser* form in the translation of adjectives with a long form ($b = -1.931$, $SE = 0.778$, $p = 0.013$). The interaction effect between Group and Adjective Form was also significant ($b = 1.998$, $SE = 0.832$, $p = 0.016$). This suggests that, although, in both cases, the probabilities of selecting *ser* decreases, the slope for L2 learners from long form to short form is less steep (12.8%) than the slope for HS (21.3%).

Multiple comparative post-hoc tests with Holm correction for p-value adjustment confirmed a significantly higher probability mean of producing the *ser* form for long adjectives in comparison with short adjectives in the SPAH group (OR = 21.07, $z = 4.126$, $p < 0.001$) and L2SPA (OR = 2.86, $z = 2.737$, $p = 0.006$). Comparing groups, a significantly higher probability mean was detected for HS in long adjectives (OR = 6.89, $z = 2.481$, $p = 0.013$). No significant differences between L2 and HS were found for short adjectives (OR = 0.935, $z = -0.228$, $p = 0.819$). As shown in Figure 1, SPAH obtained a higher probability mean of producing *ser* with long adjectives with a Russian counterpart (0.98, CI95% [0.94; 0.99]) than L2SPA (0.91, CI95% [0.98; 0.95]). Therefore, the interlinguistic convergence scenario seems to favor the production of the expected response in both groups, compared to the contexts of incongruence between languages, which show lower probabilities of producing *ser*.

For *estar*-preferred data, the fitted model results showed a significant effect of Group. Again, belonging to the L2 group significantly reduces the probabilities of producing the *estar* form with long-form Russian adjectives compared to HS ($b = -0.624$, $SE = 0.251$, $p = 0.012$). No significant effect was found for adjective forms ($b = 0.511$, $SE = 0.263$, $p > 0.05$), but a significant interaction effect was confirmed ($b = -0.799$, $SE = 0.365$, $p = 0.028$). As can be seen from Figure 2, while the slope for L2 speakers from long to short form slightly decrees (7.2%), the inverse relation between forms of adjective arises for HS, showing an increasing slope (10.3%) from long to short forms. Multiple comparative post-hoc tests with Holm correction for p-value adjustment confirm a marginally significant higher probability mean of producing *estar* form for short adjectives in comparison with long adjectives in the SPAH group (OR = 0.60, $z = -1.971$, $p = 0.05$). For L2SPA, there were no significant differences (OR = 1.34, $z = 1.139$, $p = 0.254$). Comparing groups, a significant higher probability mean was detected for HS in both long adjectives (OR =1.87, $z = 2.491$, $p = 0.012$) and short adjectives (OR = 4.16, $z = 5.350$, $p < 0.001$).

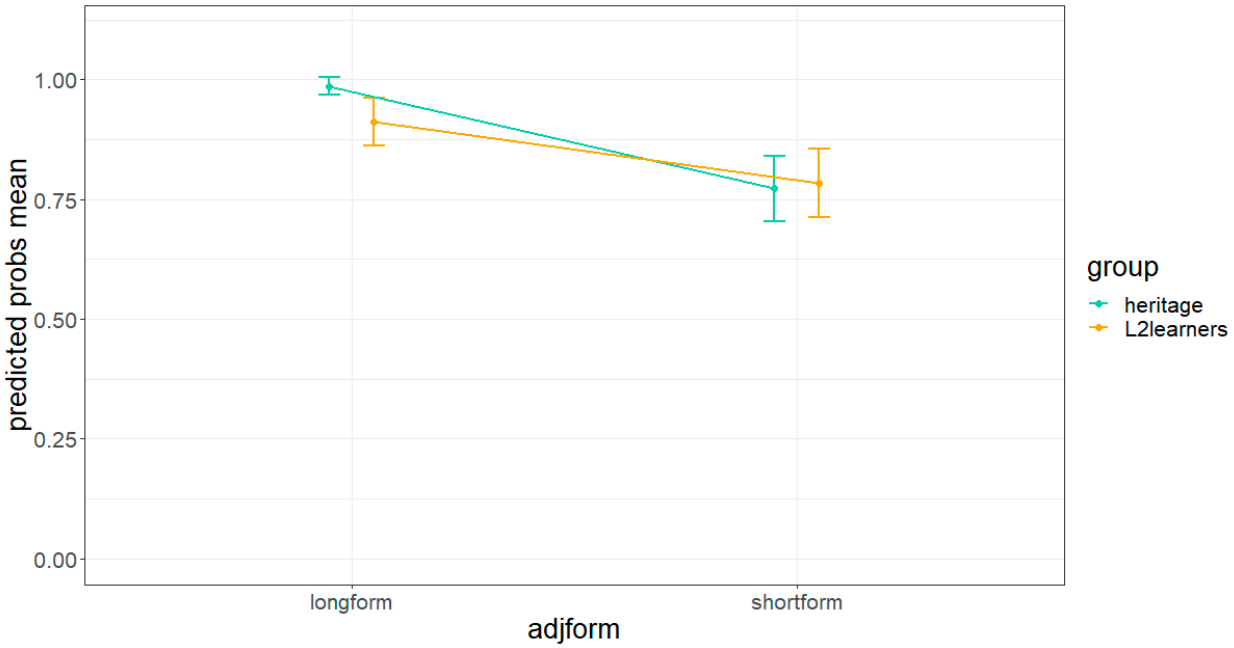

Figure 1. Predicted probability means of producing *ser* by heritage and L2 learners for long and short adjectives.

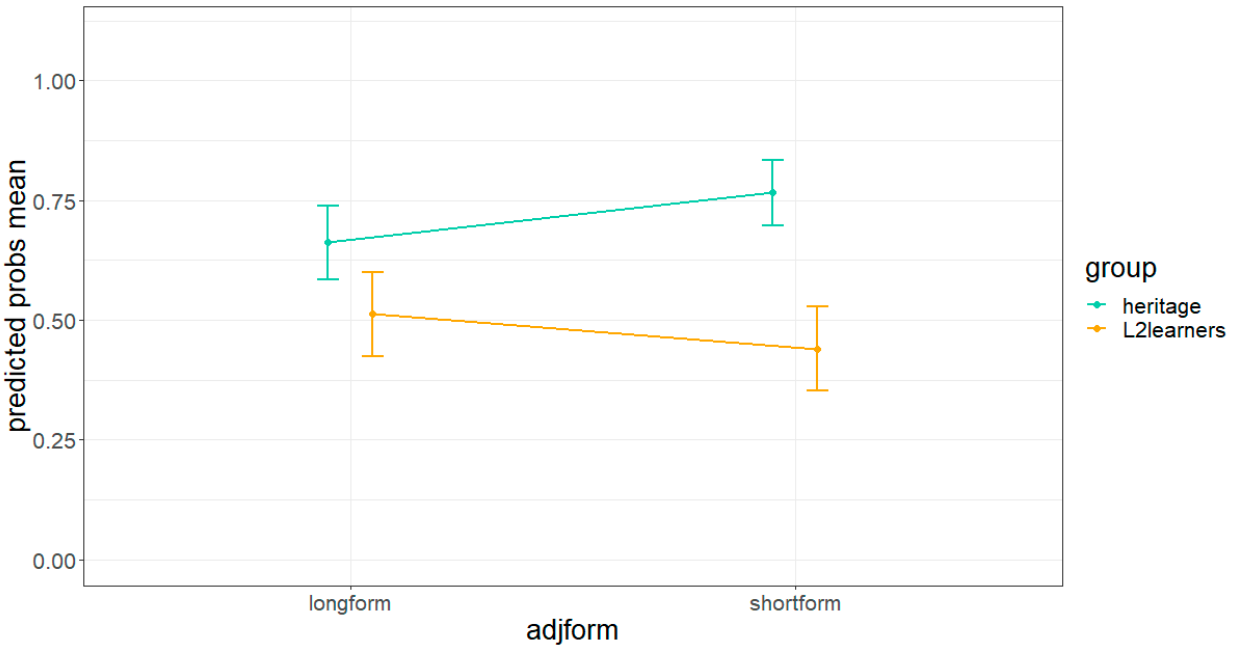

Figure 2. Predicted probability means of producing *estar* by heritage and L2 learners for long and short adjectives.

These results indicate that HS are more prone to use *estar* than L2 speakers regardless of the form of the Russian adjective. Moreover, the heritage group performed according to the crosslinguistic correspondences. Short forms of Russian adjectives seem to entail a facilitative effect on the preference for *estar* that is not paralleled in the L2 group. Interestingly, the production of different adjectives by L2 speakers in *estar*-preferred data was around 50% probability (long form = 0.51, CI95% [0.42; 0.59]; short form = 0.44, CI95% [0.35; 0.52]), which is a behavior very close to a performance by chance. The heritage group, on the contrary, had higher probabilities for both scenarios (see Table 1).

To obtain a more fine-grained picture of the results obtained at the group level, we conducted an individual by-item analysis. For this descriptive analysis, proportions of expected responses were calculated for every context in both groups. On each item, an indicator of frequency symmetry of the combinations in Spanish *ser*/*estar* + adjective was also included through the Sketch Engine program (Kilgarriff et al. 2014). This indicator was obtained from the normalized frequency per million words, subtracting the frequency of the combination *estar* + adjective from that of *ser* + adjective. Thus, an indicator close to zero represented an almost perfect symmetry between both combinations, while negative values indicated an asymmetry in favor of *estar* and positive values indicated an asymmetry in favor of *ser*, which is the expected response. According to this, a large positive value could be associated with a potential positive effect, since the input contained a *ser*+adjective bias. Table 2 summarizes the results of the *ser*-preferred context.

Table 2. Percentages of expected production by item of *ser* in SPAH and L2SPA groups.

	Long Form > Ser					**Short Form > Ser**				
	Item 1	**Item 2**	**Item 3**	**Item 4**	**Item 5**	**Item 6**	**Item 7**	**Item 8**	**Item 9**	**Item 10**
SPAH (n = 29)	100	100	96	96	100	100	93	89	48	55
L2SPA (n = 25)	92	100	80	100	84	100	64	100	36	92
Frequency symmetry	−0.03	1.06	0.08	0.24	-0.30	0.23	0.26	0.00	0.32	0.40

The SPAH group showed an at-ceiling performance in most instances with long form adjectives, even when the combination with *estar* was more frequent, as in the case of *feliz* ('happy') in item 5. Somewhat lower proportions were recorded in the group of L2 learners, although in no case was their precision in the answers less than 80%. The answers of the groups were less stable for the items with the SF adjective. Whereas some contexts registered a high proportion of *ser* (item 6 and item 8), other items produced precision levels below 50% in both groups, such as item 9 reproduced in (12) and now recovered in (16), or item 10 in Example (17), which was favored by the L2 group.

(16) Vino bylo sovsem deshevo i dazhe v schet ne shlo.
wine-N.SG.NOM be-PST.IPFV.N totally cheap-N.SG and even in bill-M.SG.ACC no go-PST.IPFV.N.SG
'The wine was so cheap it was not even included in the bill.'

(17) Vprochem, ona eshhe ochen' moloda i so vremenem mozhet izmenitsya.
however she-NOM still very young-F.SG and with time-N.SG.INS can-3SG.PRS change-INF.PFV
'However, she is still very young and may change over time.'

In (16), being cheap is presented as a property of the wine. However, the eventual interpretation prevails in both groups, which would also be reinforced by the presence of the SF adjective in Russian. The answers obtained from (17) may indicate an influence of the context to which the SPAH is more sensitive and therefore the tendency *estar* could be reinforced. On the other hand, the L2SPA group mainly selected *ser*. The SF does not seem to have an influence in the case of L2SPA, nor does the prevalence of the combination *ser* versus *estar* with the adjective *joven* ('young').

The results of *estar*-preferred contexts showed lower expected choice ratios in scenarios of interlinguistic convergence and divergence. For these contexts, the frequencies of *ser* + adjective were subtracted from the frequencies of *estar* + adjective. Thus, negative values indicate an asymmetry in favor of *ser* and positive values an asymmetry in favor of *estar*, which is the expected response. Table 3 shows the results of *estar*-preferred contexts.

Table 3. Percentages of expected production by item of *estar* in SPAH and L2SPA groups.

	Long Form > *Estar*					**Short Form > *Estar***				
	Item 11	**Item 12**	**Item 13**	**Item 14**	**Item 15**	**Item 16**	**Item 17**	**Item 18**	**Item 19**	**Item 20**
SPAH (n = 29)	31	45	86	79	89	96	100	76	48	62
L2SPA (n = 25)	12	28	76	56	84	56	84	48	12	20
Frequency symmetry	−0.18	−0.15	−0.02	0.16	0.03	0.33	0.69	0.10	−0.05	0.00

The items that contain SF adjectives recorded a higher frequency of *estar* in both groups; it is also observed that in the adjectives with *estar*-bias such as *nervioso* ('nervous') (item 16) and *tranquilo* ('quiet') (item 17), *estar* was more frequently chosen, especially by the SPAH group. Within this set of items, only the adjective *débil* ('weak') (item 19) did not reach the 50% expected production in any group. The semantic field change implied by the *ser*/*estar* alternation in this case could have directed the preference for *ser*, since it is also a plausible interpretation within the context in which it appears:

(18) Mariya zabotilas' o paciente, kotoryj pochti oslep i byl ochen' slab.
Mariya take-care-PST.IPFV.F about patient-M.SG.LOC which-M.SG.NOM almost go-blind-PST.PFV.M and be-PST.IPFV.M very weak-M.SG
'Maria cared for a patient who was almost blind and very weak'.

The proportions of *estar* obtained from Russian LF adjectives registered lower values in both groups, even if a statistically significant difference could only be confirmed for the SPAH group. The asymmetry of frequencies shows some correspondence with what could be expected if we assume an effect of the input. Adjectives with a clear *ser*-bias, such as *negro* ('black') (item 12) or *amable* ('friendly') (item 11), reproduced in (19), account for the lowest productions of *estar*. The sum of the bias present in the same input and a possible negative transfer effect of the LF adjective seems to have a greater impact in the L2SPA group than among heritage speakers.

(19) Ona ochen' priyatnaya, tshhatel'no odeta, kazhetsya spokojnoj.
she-NOM is-Ø very nice-F.SG.NOM carefully dressed-F-SG seem-3SG.PRS.IPFV calm-F.SG.INST
'She is very nice, carefully dressed, and seems calm.'

In general, *estar*-preferred contexts are less transparent than *ser*-preferred ones. In the search for crosslinguistic influence, this becomes more apparent in the production of *estar* in heritage speakers. In the individual by-item analysis, the influence of frequency symmetry on the behavior of the L2SPA group stands out.

6. Discussion

Two research questions were formulated in this study. The first focused on the acquisition and development processes of a heritage language versus those of an L2. The results for the production of *ser* and *estar* have shown a greater production of expected responses for the *ser*-preferred contexts compared to the *estar*-preferred ones in both groups. These results contrast with other similar studies (Lowther and Lindsey 2005; Silva-Corvalán 2001), which found a tendency to overgeneralize the use of *ser* and a tendency to produce innovative uses of *estar*. According to our results, the SPAH group outperformed the L2SPA group at least on one condition of *ser*-preferred contexts, which may indicate that it is possible to stabilize the copulative constructions with *ser* in the grammar of Spanish HS, as indicated by previous studies (Cuza et al. 2021). In their study, these authors attributed

this advantage of adult HS over child HS to the intensive use of Spanish reported by the participants in the administered questionnaire. Their individual analysis allowed them to acknowledge that the adequate domain of *ser* in these constructions is subject to a dynamic process that depends on the exposure to the HL, its use, and speakers' level of competence.

Regarding the production of *estar*, our results are in line with previous studies that identified the *estar* + adjective combinations as less accessible structures or with a more limited domain, especially for L2 speakers (Bruhn de Garavito and Valenzuela 2006; Geeslin 2003; Requena and Dracos 2021, among others). The proportions of using *estar* as an expected response did not reach 75% for the SPAH group and they were around 50% in the L2SPA group. It has been proposed that, from an aspectual distinction, *estar* is the marked form as opposed to *ser*, which is assumed to be the default form. (Schmitt 1992; Schmitt and Miller 2007). From the point of view of bilingual acquisition, this marking condition makes forms of *estar* especially complex and less stable (Guijarro-Fuentes et al. 2023). The by-item analysis that was carried out, taking frequency symmetry into account, revealed a more systematic presence precisely in the *estar*-preferred items, which agrees with previous studies acknowledging frequency effects in HS grammars in the acquisition of aspectual morphology (Thane 2023). It could be understood that the production of the most vulnerable part of the Spanish copula pair (*estar*) is more permeable to the conditions presented by the input in the language, such as frequency. On the contrary, a systematic effect of frequency was not observed in the production of *ser*. This difference in effects for each of the members of the selection can be explained based on the proposal by Putnam and Sánchez (2013, p. 489), which foresees fluctuations in the development of HS grammars, derived from different levels of language ability activation, which would account for the wider range of variation across speakers. The restructuring of featural mapping from dominant language onto heritage language is, besides the level of competence or the frequency of the input, one of the conditions that modulate the levels of activation. This condition was concerned with the second research question, which aimed at delimiting the effect of the distinction between short and long form Russian adjectives on the production of Spanish copula choice.

In this paper, the effect of L1/dominant language is operationalized by establishing, on the one hand, interlinguistic convergence scenarios (*ser* + long forms; *estar* + short forms), which could cause a facilitative effect of transfer. On the other hand, divergence scenarios where a lower production of expected responses could be attributed precisely to the mismatch between Russian and Spanish mechanisms could also be confirmed. Concerning *ser*-preferred contexts, the effect of the type of interlinguistic scenario is registered in both groups of participants. For SPAH, the effect is significantly more pronounced than for the L2SPA group, due to the ceiling effect that takes place in convergence scenarios. This result could be explained by the level of competence and not necessarily by the facilitative effect of dominant language. However, the negative transfer effect seems more persistent, given that, in both groups, the items containing adjectives in the short form are associated with lower proportions of expected responses. Among the *estar*-preferred contexts, the results of the SPAH group reflect behavior in line with the predictions of interlinguistic influence. It can therefore be assumed that the heritage speakers in our study can restructure their L1 based upon the feature mapping of their dominant language (Putnam and Sánchez 2013). Language transfer in HS grammars has been attested at several levels of the grammar, namely phonology, morphology, syntax, semantics, and lexicon (Polinsky 2018), as well as those regarding linguistic interface phenomena (Cuza and Frank 2014; Cuza et al. 2013; Montrul 2010; Montrul and Ionin 2010; Sánchez et al. 2023). If the results by interlinguistic scenario are compared between *ser*-preferred and *estar*-preferred contexts, the effect of dominant language transfer for heritage speakers seems to be mediated by the level of mastery they show of the linguistic phenomenon in the heritage language. In this sense, our results point in the same direction as Romano (2021), when he stated that, at very advanced levels of proficiency, L2 and HL grammars are not affected by transfer from the dominant/native language. In our study, the use of the structure *ser* + adjective, which is

a very stable combination among HS speakers, may reflect a partial transfer effect. It is in the results of the combination *estar* + adjective where the influence of Russian acquires greater weight.

For the results of the production of *estar* in the L2SPA group, the absence of differences between interlinguistic scenarios, as well as their behavior at chance—in both crosslinguistic conditions the predicted probability means are around 50%—seem to indicate persistent difficulties when carrying out this restructuring exercise. In contrast, the effect of L1 transfer is observed in the production of *ser* forms. Therefore, the incidence of correspondence between Russian and Spanish seems to emerge only when a sufficient level of command of the functioning of the construction in the second language has been reached. Thus, a threshold is established in the development of the L2 grammar from which the effects of the relationship between languages can influence: the fact that the Russian language formally represents, based on a morphological mechanism, the differences in meaning that Spanish expresses through a lexical-semantic mechanism in these predicative constructions.

Based on the discussion by (Guijarro-Fuentes et al. 2023), where the distinction between facilitative and negative cross-linguistic influence is discussed, a clear facilitative effect of adjectives in the long form combined with *ser* can be verified. This contrasts with the effect of adjectives in the short form. The low production of *estar* in the L2SPA group may indicate that the main difficulties for this group in the process of learning the combination *estar* + adjective are of a lexical nature (Guijarro-Fuentes et al. 2023). In other words, L2 learners must learn the semantic features of Spanish adjectives, which do not always coincide with Russian adjectives, based on the partial correspondence between both languages. The task of incorporating grammatical phenomena from L2 that does not completely coincide with the equivalent in L1 involves a restructuring of feature reassembly (Lardiere 2009). The effect of frequency symmetry for the *ser*-preferred items also in this group is consistent with the proposal that lexical knowledge is partially conditioning the domain of the Spanish copula choice. However, the effect of lexical frequency is not as stable and homogeneous as in other optionality phenomena such as modal selection in Spanish (Gudmestad 2014; Giancaspro 2020, among others).

From the general performance of the production of *ser* and *estar* between the two groups, the results confirm that the heritage speakers outperform the L2 group. This suggests a possible benefit of earlier exposure and use of Spanish. Similar advantages have been found in the domain of syntactic and syntactic-discursive phenomena (Cuza and Frank 2014; Montrul 2010). In summary, the results obtained can confirm that both cross-linguistic influence and age of onset of bilingualism are key aspects in the linguistic development of a L2 and a HL that have an impact on the use of Spanish copula choice.

7. Conclusions

The present study delimited the competence of L2 Spanish, L1 Russian speakers and Russian dominant, Spanish heritage speakers in the use of the Spanish copula choice in predicative constructions. We applied a crosslinguistic perspective that allowed us to set four different conditions and delve into the L1 transfer effects in the competence of heritage and L2 Spanish, L1 Russian speakers. According to our results, differences in the acquisitions patterns of the Spanish copula choice could be ascertained in the predicative construction. More specifically, the selection of *ser* appears to be more stable than the selection of *estar* in the grammar of the two groups of speakers. Additionally, a transfer effect constrained to speakers' competence level was confirmed. Though promising, we believe that more research involving different tasks, linguistic structures, and features as well as different profiles of speakers belonging to different Spanish varieties is needed to be able to confirm the results delineated in this study. All in all, this study contributes to the description of the linguistic competence of an underrepresented population in heritage language research, where most research has been undertaken in English-dominant contexts.

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I.M.N., P.G.F. and I.B.V.; data curation, I.M.N.; writing—original draft preparation, I.M.N. and I.B.V.; writing—review and editing, P.G.F. and I.B.V.; visualization, I.M.N.; supervision, P.G.F.; project administration, P.G.F.; funding acquisition, P.G.F. All authors have read and agreed to the published version of the manuscript.

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Data Availability Statement: The data presented in this study are available on request from the corresponding author.

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Appendix A

Condition 1: Long form for *ser*-preferred contexts
Pero nunca mencionaba ninguna otra cualidad que hiciera entender si era bonito o feo.
Больше она о нем ничего не говорила, и было непонятно, красивый он или нет.
'She didn't say anything else about him, and it was unclear if he was handsome or not.'
El libro que le había regalado a su hijo, cuando era pequeño.
Эту книгу она подарила своему сыну, когда тот был маленький.
'This is the book she gave her son when he was a little boy.'
Se cree que por ser vieja soy tonta.
Вы, наверное, думаете, что раз я такая старая, то в добавок еще и дура!
'You must think that because I'm so old, I'm also stupid!'
La niña, que apenas se parecía a la madre, era demasiado activa.
Девочка, не в мать, была слишком активная.
'The girl, unlike her mother, was too active.'
El retrato era maravilloso, el rostro de la mujer noble y delicado, un rostro de otra época.
Портрет был чудесный, и женское лицо было благородным, тонким, нездешнего времени.
'The portrait was marvelous, and the woman's face was noble, delicate, out of time.'

Condition 2: Short form for *estar*-preferred contexts
Aunque ella es realmente joven y puede cambiar con él tiempo.
Впрочем, она еще очень молода и со временем может измениться.
'However, she is still very young and may change over time.'
Los rusos, sobre todo, eran particularmente *atractivos*.
Особенно привлекательны были русские люди.
'Russian people were particularly attractive.'
Me río porque eres muy graciosa.
Я смеюсь, потому что ты очаровательна.
'I'm laughing because you're adorable.'
El vino era tan barato que ni siquiera entraba en la cuenta.
Вино было совсем дешево и даже в счёт не шло...
'The wine was so cheap it was not even included in the bill.'
Fue un fracaso porque la dosis era demasiado alta.

Не получилось, потому что доза была слишком велика.
'It worked because the dose was too high.'

Condition 3: Long form for *estar*-preferred contexts
Hay que pasarle agua al trapo, está negro.
Тряпочку пора прополоскать, прямо чёрная.
'You should wash the cloth. It is black.'
Estaba guapa, muy arreglada, parecía serena.
Она очень приятная, тщательно одета, кажется спокойной.
'She is very pleasant, carefully dressed, seems calm.'
Sus zapatilas ahora estaban muy sucias.
Туфли теперь страшно грязные.
'The shoes are now terribly dirty.'
Y es verdad que la Artemisa de Rembrandt está gorda.
Артемизия у Рембрандта действительно толстая.
'Rembrandt's Artemisia is really thick.'
El fondo es una penumbra demasiado misteriosa o está demasiado lúgubre.
*ф*он картины загадочно темен, или просто очень мрачный.
'The background of the painting is mysteriously dark, or just very gloomy.'

Condition 4: Short form for ser-preferred contexts
Se encargaba de saber cómo les iba la vida a esos vigilantes, si estaban tranquilos.
Старался выяснить, как живется охранникам, спокойны они.
He was trying to find out how the guards live, they are calm.
Aquella tarde él estaba particularmente nervioso.
В тот вечер он был особенно взволнован.
That night he was particularly excited.
Se había quedado prácticamente ciego y estaba muy débil.
Парень, который почти ослеп и был очень слаб.
A guy who was almost blind and was very weak.
Los dos están libres y disponibles.
Оба свободны, оба готовы любить.
Both are free, both are ready to love.
La miró: estaba flaco y pálido, una palidez azulada.
Он посмотрел на неё: он был худ, голубовато-бледен.
He looked at her: he was thin, bluish-pale.

Notes

1 With no bearing for the purposes of the present paper, interested readers can find an alternative linguistic analysis in Geist (2010), Borik (2014) and references thereafter.

2 As one of the reviewers rightly pointed out, the alternation of LF adjectives in the nominative and instrumental cases has effects on the aspectual interpretation of the predication. However, case variation falls out of the scope of this study and only nominative LF forms were included in the language samples that made up the task. For alternative formal proposals, interested readers are referred to Geist (2007) and Matushansky (2000) among others.

References

Arche, María J. 2012. On the Aspectuality of the Individual-Level/Stage-Level dichotomy. *Borealis: An International Journal of Applied Linguistics* 12: 109–32.

Arche, María J., Antonio Fábregas, and Rafael Marín. 2019. Main questions in the study of copulas: Categories, structures, and operations. In *The Grammar of Copula Across Languages*. Edited by María J. Arche, Antonio Fábregas and Rafael Marín. Oxford: Oxford University Press, pp. 1–30.

Babby, Leonard H. 2009. *The Syntax of Argument Structure*. Cambridge: Cambridge University Press.

Bailyn, John. 1994. The Syntax and Semantics of Russian Long and Short adjectives: An X'Theoretic account. In *Formal Approaches to Slavic Linguistics*. Edited by Jindrich Toman. Ann Arbor: Michigan Slavic Publications, pp. 1–30.

Bates Douglas, Martin Mächler, Ben Bolker, and Steve Walker. 2015. Fitting Linear Mixed-Effects Models Using lme4. *Journal of Statistical Software* 67: 1–48.
Borik, Olga. 2014. The argument structure of long and short form adjectives and participles in Russian. *Lingua* 149: 139–65. [CrossRef]
Bruhn de Garavito, Joyce. 2009. Eventive and Stative Passives: The Role of Transfer in the Acquisition of ser and estar by German and English L1 Speakers. In *Selected Proceedings of the 11th Hispanic Linguistics Symposium*. Edited by Joseph Collentine, Maryellen García, Barbara Lafford and Francisco Marcos Marín. Somerville: Cascadilla, pp. 27–38.
Bruhn de Garavito, Joyce, and Elena Valenzuela. 2006. The Status of Ser and Estar in Late and Early Bilingual L2 Spanish. In *Selected Proceedings of the 7th Conference on the Acquisition of Spanish and Portuguese as First and Second Languages*. Edited by Carol A. Klee and Timothy L. Face. Somerville: Cascadilla, pp. 100–9.
Camacho, José. 1995. La distinción aspectual entre *ser* y *estar*. *Anuario Del Seminario De Filología Vasca "Julio De Urquijo"* 38: 93–100.
Camacho, José. 2012. Ser and estar: The individual/stage level distinction and aspectual predication. In *The Handbook of Hispanic Linguistics*. Edited by José Ignacio Hualde, Antxon Olarrea and Erin O'Rourke. Hoboken: Blackwell Publishing, pp. 453–76.
Cuza, Alejandro, and Joshua Frank. 2014. On the role of experience and age-related effects: Evidence from the Spanish CP. *Second Language Research* 31: 3–28. [CrossRef]
Cuza, Alejandro, Nancy Reyes, and Eduardo Lustres. 2021. Copulas *ser* and *estar* production in child and adult heritage speakers of Spanish. *Lingua* 249: 102978. [CrossRef]
Cuza, Alejandro, Rocío Pérez-Tattam, Elizabeth Barajas, Lauren Miller, and Claudia Sadowski. 2013. The development of tense and aspect morphology in child and adult heritage Spanish: Implications for heritage language pedagogy. In *Innovative Research and Practices in Second Language Acquisition and Bilingualism*. Edited by John W. Schwieter. Amsterdam: John Benjamins, pp. 193–220.
Davies, Mark. 2002. Corpus del Español. Available online: http://www.cor-pusdelespanol.org (accessed on 3 March 2022).
Denisova, Anna P. 2011. Rasgos específicos del empleo de los verbos de existencia en el español comparado con el ruso. *Cuadernos de Rusística Española* 7: 41–59.
Escandell-Vidal, Mª Victoria, and Manuel Leonetti. 2002. Coercion and Stage/Individual Distinction. In *From Words to Discourse*. Edited by Javier Guitérrez-Rexach. Amsterdam: Brill, pp. 159–79.
Fernández-Leborans, María Jesús. 1995. Las construcciones con el verbo estar; aspectos sintácticos y semánticos. *Verba* 22: 253–84.
Geeslin, Kimberly L. 2003. A comparison of copula choice in advanced and native Spanish. *Language Learning* 53: 703–64.
Geeslin, Kimberly L. 2014. The Acquisition of the Copula Contrast in Second Language Spanish. In *The Handbook of Spanish Second Language Acquisition*. Edited by Kimberly L. Geeslin. Hoboken: Wiley, pp. 219–34.
Geist, Ljudmila. 2007. Predication and Equation in Copular Sentences: Russian vs. English. In *Existence: Semantics and Syntax*. Edited by Ileana Comorovski and Klaus Von Heusinger. Dordrecht: Springer, pp. 79–105.
Geist, Ljudmila. 2010. The argument structure of predicate adjectives in Russian. *Russian Linguistics* 34: 239–60.
Geist, Ljudmila. 2019. Copular Sentences in Russian vs. Spanish at the Syntax-Semantics Interface. *Proceedings of Sinn Und Bedeutung* 10: 99–110. [CrossRef]
Giancaspro, David. 2020. Not in the mood: Frequency effects in heritage speakers' subjunctive knowledge. In *Studies in Bilingualism. Edited by Bernhard Brehmery and Jeanine Treffers-Daller*. Amsterdam: John Benjamins, pp. 72–97. [CrossRef]
Grashchenkov, Pavel. 2007. Argument Structure of Russian Adjectives [Word Document]. Workshop on Argument Structure and Syntactic Relations, Gasteiz. Available online: https://www.academia.edu/34971959/The_Argument_Structure_of_Russian_Adjectives (accessed on 11 May 2023).
Gudmestad, Aarnes. 2014. On the role of lexical items in the second-language development of mood use in Spanish. In *Selected Proceedings of the 2012 Second Language Research Forum*. Edited by Ryan T. Miller , Katherine I. Martin, Chelsea M. Eddington, Ashlie Henery , Nausica Marcos Miguel, Alison M. Tseng, Alba Tuninetti and Daniel Walter. Somerville: Cascadilla Proceedings Project, pp. 120–33.
Guijarro-Fuentes, Pedro, José Amenós-Pons, and Aoife Ahern. 2023. Acquisition of estar + adjectives in L2 Spanish by L1 French and Portuguese speakers. *Spanish in Context* 20. [CrossRef]
Hyun Lim, Jung, and Kiel Christianson. 2013. Second language sentence processing in reading for comprehension and translation. *Bilingualism: Language and Cognition* 16: 518–37. [CrossRef]
Jarvis, Scott. 2017. Transfer: An Overview with an Expanded Scope. In *Crosslinguistic Influence and Distinctive Patterns of Language Learning*. Edited by Anne Golden , Scott Jarvis and Kari Tenfjord. Bristol: Multilingual Matters, pp. 12–28.
Kagan, Olga, and Debra Friedman. 2003. Using the OPI to Place Heritage Speakers of Russian. *Foreign Language Annals* 36: 536–45.
Karpacheva, Olga. 1999. *The Case of Russian Predicate Adjectives*. Calgary: University of Calgary.
Kilgarriff, Adam, Vít Baisa, Jan Bušta, Miloš Jakubíček, Vojtěch Kovář, Jan Michelfeit, Rychlý Rychlý, and Vít Suchomel. 2014. The Sketch Engine: Ten years on. *Lexicography* 1: 7–36.
Kotov, Andrey. 2014. The semantic opposition of full and short predicative adjectives in Russian. *Scientific Notes of Orel State University* 61: 235–42.
Lardiere, Donna. 2009. Some thoughts on the contrastive analysis of features in second language acquisition. *Second Language Research* 25: 173–227.
Leonetti, Manuel. 1994. *Ser y estar: Estado de la cuestión*. Barataria: 182–205.

Leonetti, Manuel, Isabel Pérez-Jiménez, and Silvia Gumiel-Molina. 2015. Ser and estar: Outstanding questions. In *New perspectives on the study of Ser and Estar*. Edited by Isabel Pérez-Jiménez, Manuel Leonetti and Silvia Gumiel-Molina. Amsterdam: John Benjamins, pp. 1–22.
Lowther, Kelly, and Brittany Lindsey. 2005. Variation in Heritage Language Learner Spanish: *Ser* or *Estar*? That is the Question. *Divergencias. Revista de Estudios Lingüísticos y Literarios* 3: 1–19.
Luján, Marta. 1981. The Spanish Copulas as Aspectual Indicators. *Lingua* 54: 165–210. [CrossRef]
Maienborn, Claudia. 2005. A discourse-based account of Spanish ser/estar. *Linguistics* 43: 155–80. [CrossRef]
Marín, R. 2004. *Entre Ser y Estar*. Madrid: Arcolibros.
Marín, Rafael. 2010. Spanish adjectives within bounds. In *Adjectives: Formal Analyses in Syntax and Semantics*. Edited by Patricia Cabredo Hofherr and Ora Matushansky. Amsterdam: John Benjamins, pp. 307–32.
Martin, Joshua, and Daria Bikina. forthcoming. Intersectivity at the interface: The syntax and semantics of Russian adjectives. *Journal of Slavic Linguistics*, *in press*.
Matushansky, Ora. 2000. The Instrument of Inversion. Instrumental Case and Verb Raising in the Russian Copula. In *Proceedings of the 19th WCCFL*. Edited by Roger Billerey and Lillehaugen Brook. Somerville: Cascadilla Press, pp. 101–15.
Mesa Alonso, M., M. Domínguez Herrera, E. Padrón Sánchez, and N. Morales Aguilera. 1993. *Ser* y *estar*: Consideraciones sobre su uso en español. *Islas* 104: 150–56.
Montrul, Silvina. 2010. How similar are L2 learners and heritage speakers? Spanish clitics and word order. *Applied Psycholinguistics* 31: 167–207. [CrossRef]
Montrul, Silvina. 2016. *The Acquisition of Heritage Languages*. Cambridge: Cambridge University Press.
Montrul, Silvina. 2023. Heritage Languages: Language Acquired, Language Lost, Language Regained. *Annual Review of Linguistics* 9: 399–418. [CrossRef]
Montrul, Silvina, and Rebecca Foote. 2014. Age of acquisition interactions in bilingual lexical access: A study of the weaker language of L2 learners and heritage speakers. *International Journal of Bilingualism* 18: 274–303. [CrossRef]
Montrul, Silvina, and Tania Ionin. 2010. Transfer effects in the interpretation of definite articles by Spanish heritage speakers. *Bilingualism: Language and Cognition* 13: 449–73. [CrossRef]
Nesset, Tore, and Laura A. Janda. 2023. The long and the short of it: Russian predicate adjectives with zero copula. *Russian Linguistics*. [CrossRef]
Oh, Janet S., and Terry Kit-Fong Au. 2005. Learning Spanish as a Heritage Language: The Role of Sociocultural Background Variables. *Language, Culture and Curriculum* 18: 229–41. [CrossRef]
Pascual y Cabo, Diego, ed. 2016. *Advances in Spanish as Heritage Language*. Amsterdam: John Benjamins.
Pereltsvaig, Asya. 2000. *Short and Long Adjectives in Russian: Against the Null-N Analysis*. Montréal: McGill University.
Perpiñan, Silvia, Rafael Marín, and Itziri Moreno Villamar. 2019. The role of aspect in the acquisition of ser and estar in locative contexts by English-speaking learners of Spanish. *Language Acquisition* 27: 35–67. [CrossRef]
Polinsky, Maria. 2018. *Heritage Languages and Their Speakers*. Cambridge: Cambridge University Press.
Putnam, Michael T., and Liliana Sánchez. 2013. What's so incomplete about incomplete acquisition? A prolegomenon to modelling heritage language grammars. *Linguistic Approaches to Bilingualism* 3: 478–508. [CrossRef]
R Core Team. 2020. *R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing*. Vienna: R Core Team. Available online: https://www.R-project.org/ (accessed on 10 May 2023).
Requena, Pablo E., and Melisa Dracos. 2021. Spanish copula selection with adjectives in school-aged bilingual children. *International Journal of Bilingualism* 25: 548–67. [CrossRef]
Romano, Francesco. 2021. L1 versus Dominant Language Transfer Effects in L2 and Heritage Speakers of Italian: A Structural Priming Study. *Applied Linguistics* 42: 945–69. [CrossRef]
Safa, Azim Javadi. 2018. An overview of cross-linguistic influence in language learning. *Journal of Applied Linguistics and Language Research* 5: 186–203.
Sánchez, Liliana, Michele Goldin, Esther Hur, Abril Jiménez, Julio César López Otero, Patrick Thane, Jennifer Austin, and Jennifer Markovits. 2023. Dominance, Language Experience, and Increased Interaction Effects on the Development of Pragmatic Knowledge in Heritage Bilingual Children. *Heritage Language Journal* 20: 1–39. [CrossRef]
Schmitt, Cristina. 1992. *Ser and Estar: A Matter of Aspect*. Cambridge: NELS.
Schmitt, Cristina, and Karen Miller. 2007. Making discourse-dependent decisions: The case of the copulas *ser* and *estar* in Spanish. *Lingua* 117: 1907–29. [CrossRef]
Sharpen, Rosalie. 2016. L1 Conceptual Transfer in the Acquisition of L2 Motion Events in Spanish and English: The Thinking-for-Speaking Hypothesis. *Open Linguistics* 2: 235–52. [CrossRef]
Shvedova, Natalia, ed. 1980. *Russjaka Grammatika*. Moscow: Nauka, vol. I–II.
Silva-Corvalán, Carmen. 2001. *Sociolingüística y pragmatica del español*. Washington: Georgetown University Press.
Silva-Corvalán, Carmen. 2014. *Bilingual Language Acquisition: Spanish and English in the First Six Years*. Cambridge: Cambridge University Press.
Silva-Corvalán, Carmen, and Simona Montanari. 2008. The acquisition of ser, estar (and be) by a Spanish–English bilingual child: The early stages. *Bilingualism: Language and Cognition* 11: 341–60. [CrossRef]
Silvagni, Federico. 2015. Ser-I, esta-S. *Lingue e Linguaggio* 2: 215–32.

Sing, Tobias, Oliver Sander, Niko Lengauer, and Thoma Beerenwinkel. 2005. ROCR: Visualizing classifier performance in R. *Bioinformatics* 21: 78–81. [CrossRef]
Sunderman, Gretchen. 2013. Translation Recognition Tasks. In *Research Methods in Second Language Psycholinguistics*. Edited by Jill Jegerski and Bill VanPatten. London: Routledge, pp. 185–211.
Swender, Elvira, Cynthia L. Martin, Mildred Rivera-Martinez, and Olga E. Kagan. 2014. Exploring Oral Proficiency Profiles of Heritage Speakers of Russian and Spanish. *Foreign Language Annals* 47: 423–46. [CrossRef]
Thane, Patrick D. 2023. Frequency effects and aspect morphology with state verbs in heritage Spanish. *Linguistic Approaches to Bilingualism*. [CrossRef]
Timberlake, Alan. 1993. Russian. In *The Slavonic Languages*. Edited by Bernard Comrie and Greville Corbett. London: Routledge, pp. 827–86.
Valdés, Guadalupe. 1989. Teaching Spanish to Hispanic Bilinguals: A Look at Oral Proficiency Testing and the Proficiency Movement. *Hispania* 72: 392–401. [CrossRef]
Valenzuela, Elena, Mike Iverson, Jason Rothman, Kristina Borg, Diego Pascual y Cabo, and Manuela Pinto. 2015. Eventive and Stative passives and copula selection in Canadian and American heritage speakers of Spanish. In *New Perspectives on the Study of Ser and Estar*. Edited by Isabel Pérez-Jiménez, Manuel Leonetti and Silvia Gumiel-Molina. Amsterdam: John Benjamins, pp. 267–92.
VanPatten, Bill. 1987. The acquisition of ser and estar: Accounting for developmental patterns. In *Foreign Language Learning: A Research Perspective*. Edited by Bill VanPatten, Trisha Dvorak and James Lee. Rowley: Newbury House, pp. 61–75.
Vinogradov, Viktor, and Igor Miloslavsky. 1986. *Sopostavitelnaja Morfologija Russkogo i Ispanoskogo Jazykov*. Moscow: Russkij jazyk.
Winitz, Harris, and Blanca Sagarna. 2007. Acquiring Explicit Grammatical Knowledge Using the Spanish Verbs Ser and Estar as Examples. *Journal of Psycholinguistic Research* 36: 319–39. [CrossRef]