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COMPLEX KNOWLEDGE OF COMPLEX SENTENCES: A REVIEW OF PASSIVES IN HERITAGE SPANISH

ABSTRACT

Passive sentences in Spanish come in different varieties and present complexity at the syntactic, semantic and morphological level. This study reviews research showing that child and adult heritage speakers of Spanish develop basic knowledge of these complex sentences early on, even when these are not very frequent in spoken input, but they may be less efficient than baseline speakers interpreting different word orders, gender agreement, the semantics of the *by*-phrase, and the aspectual interpretation of the copulas *ser* and *estar*. Accuracy with the production and comprehension of passives is related to proficiency in the heritage language, and literacy experience enhances the acquisition of all the complexities of verbal passives in Spanish.

KEYWORDS: heritage speakers, Spanish, verbal passives, adjectival passives, literacy

INTRODUCTION

Heritage languages are socio-politically minority languages acquired in a bilingual or multilingual context alongside the majority language (Montrul 2016). When heritage languages are the weaker language of bilinguals, they are distinctively characterized by structural variability in individual speakers. Recent discussion has centred on how heritage languages systems fit within different conceptions of complexity as reflected in their acquisition and use (Laleko and Scontras 2021; Polinsky and Putnam 2024). On some measures of linguistic complexity (McWhorter 2007; Miestamo et al. 2008), heritage languages have shown reduction of morphological paradigms (Schmidt 1985); loss of semantic oppositions (Polinsky 2006), and more rigid word order (Laleko 2024), suggesting that natural processes of simplification are common in these systems.

In first language acquisition, complexity is related to order and schedule of acquisition, such that simple sentences are acquired before complex sentences, present tense before past tense, perfective aspect before imperfective, indicative mood before subjunctive mood, etc. However, little is known about heritage speakers' knowledge of complex sentences,

such as passives and relative clauses, characterized by movement of constituents and/or embedding. Although these complex sentences typically emerge early, by age 3 and 4 in monolingual acquisition, they are not mastered and used productively until much later in childhood (Fox and Grodzinsky 1998). Heritage speakers risk not mastering complex sentences, especially if the heritage language is not supported at school. Except for two studies with very different findings, we lack information about the acquisition and knowledge of passives by heritage speakers more broadly. Putnam and Salmons (2013) found that German heritage speakers in the U.S. were only able to produce impersonal passives in a translation task and had non-native judgements of verbal passives in a judgement task, indicating great difficulty with passives. Bayram et al. (2019) reported that although Turkish heritage speakers in Germany produced significantly fewer passives than an age-matched Turkish-speaking adults, the heritage speakers with higher literacy in Turkish were significantly more likely to produce passives than those with no literacy. Thus, it appears that even when passives are acquired by age 3-4 years, their mastery depends on language use, and probably literacy, which is very relevant in Spanish.

Spanish has different types of passive structures, such as verbal or periphrastic, adjectival and impersonal passives, that differ in complexity and frequency (Green 1975). Verbal passives emerge early in L1 development (Pierce 1992) but are not mastered and fully developed until later the school-age years because they are more frequent in written and academic language than in spoken language (Tolchinsky and Rosado 2005). Because the majority language is overwhelmingly the primary, or only, language of instruction in elementary school for most heritage speakers, exposure to written language could be important to master passives in Spanish. While considering the current research on passives in heritage Spanish this brief review article addresses two important questions: 1) to what extent do heritage speakers develop knowledge of passives structures in Spanish, and 2) how does the language(s) of schooling (bilingual Spanish-English, English-only) contribute to the acquisition of verbal passives in Spanish?

1. PASSIVES IN SPANISH

Sentences with transitive verbs can appear in the active (1) or the passive voice, as in (2).

- (1) La mesera sirvió la cena.
 the waitress served the dinner
 ‘The waitress served dinner.’

In the passive, the theme object appears in subject position and the agent is demoted to an adjunct phrase (*por la mesera* ‘by the waitress’). Spanish has several types of passives: the verbal passive with the agent in the by-phrase (long passive), as in (2), the verbal passive without the agent (short passive), as in (3), the impersonal passive with the reflexive clitic *se* in subject position, as in (4), and the adjectival passive, as in (5) (Jaeggli 1986). The verbal passive is considerably less frequent than the *se*-passive (4), which is the preferred option for downgrading agency in Spanish.

- | | | |
|-----|---|----------------------|
| (2) | La cena _i fue t _i servida t _i por la mesera
the dinner was served by the waiter
'Dinner was served by the waiter.' | long passive |
| (3) | La cena fue servida.
'Dinner was served.' | short verbal passive |
| (4) | Se sirvió la cena.
se served dinner
'Dinner was served.' | impersonal passive |
| (5) | La cena está/estaba servida
'Dinner was served.' | adjectival passive |

Spanish has two copulas, *ser* and *estar*. The verbal passive is formed with the copula *ser* and the past participle of the main verb, which has gender and number agreement. The adjectival passive is formed with the copula *estar*.

Compared to the active sentence in (1), the verbal passive in (2) is more structurally and semantically complex since it involves the movement of constituents from one argument position to another argument positions (A-to-A-movement, Borer and Wexler 1987), as in (2). The object (theme) gets its thematic role from the verb and then becomes the subject because it moves to the specifier position of the tense phrase (TP) to check the nominative case, leaving a trace (Jaeggli 1986). Since the participial form absorbs the agent role, the agent becomes optional, and if expressed overtly, it is projected in an adjunct prepositional *por*-phrase in Spanish. The participle has gender and number agreement: in the passive participle *servida* 'served' agrees in gender (feminine) with the fronted object *la cena* 'the dinner'.

Taken together, the production and interpretation of long Spanish verbal passives involves attending to morphosyntactic cues, reanalyzing theta roles, establishing chains, and interpreting the *by*-phrase. For heritage speakers of Spanish this may be a challenge because heritage speakers are less accurate than native speakers when marking gender (Montrul and Potowski 2007; Montrul et al. 2008), agreement (Foote 2010), and case morphology (Montrul et al. 2012).

Another source of added complexity is the two copular verbs (*ser* and *estar*) and an aspectual contrast in the past (preterite and imperfect). Semantically, verbal passives denote an event; adjectival passives a state. Verbal passives are more common with the verb *ser* in the preterite, while adjectival passives are most common with the verb *estar* in the imperfect. However, when the verbal passive is in the imperfect and the stative passive in the preterite, there are important aspectual differences. Spanish *estar* is considered an aspectual auxiliary marked as perfective (Lema 1992), and the attribute introduced by *estar* is a result, an action completed, or a quality of the subject. On the other hand, participles appearing with *ser* can be perfective or imperfective (Bruhn de Garavito and Valenzuela 2008). The auxiliary *ser* in the passive emphasizes the action that is occurring without reference to beginning or endpoint. The point in time when the ongoing action or event is taking place is determined by the tense: if the passive is constructed with the copula *ser* in the preterite (*fue*), the action has already occurred; if the copula *ser* is used in the imperfect (*era*) instead, the action is interpreted as in progress, as in (6).

- (6) La casa *fue/era* edificada (por la compañía). eventive
 the house was.pret/impf built (by the company)
 ‘The house was/was being built (by the company).’
- (7) La casa *estaba* edificada /*por la compañía stative
 the house was.estar.impf built by the company
 ‘The house was built.’

It has often been assumed that adjectival passives as in (7) do not allow an adjunct agent. However, it appears that the grammaticality of adjectival passives with agent *por*-phrases depends on the (in)definiteness of the noun phrase in the *por*-phrase (Gehrke and Marco 2014), and the aspectual properties of the predicate (Gehrke 2015).

Passives have been the focus of many L1 acquisition studies (Ud Deen 2011). Adjectival passives in Spanish (*Él está colgado de la cabra*. ‘He is hung from the goat.’) are acquired by 4 years of age (Slobin 1994); irreversible verbal passives (*Maria fue lavada por Juan*. ‘Maria was washed by Juan.’) by around 3 years of age; and reversible verbal passives (*Maria fue lavada por Laura*. ‘Maria was washed by Laura.’) by 5 or 6 years of age (Pierce 1992). Still, full command and use of verbal passives in monolingual Spanish is not achieved until the school-age years (Tolchinsky and Rosado 2005) due to the structural and processing factors already mentioned. Children begin to use the verbal passive productively in spoken language after exposure to written language at school. In addition to its inherent complexity, verbal passives in Spanish are typically used in writing (Green 1975). If passives are late acquired in monolingual children who are schooled exclusively in Spanish, it is possible that knowledge and use of these complex sentences does not fully develop in adult heritage speakers with limited literacy in Spanish.

2. PASSIVES IN SPANISH AS A HERITAGE LANGUAGE

In general, studies of passives in Spanish bilinguals are scant. Silva-Corvalán and Montanari (2008) found that a Spanish-English bilingual child between the ages 1;6 and 2;11 produced passives in Spanish without the copula *ser*, and at age 2;1 some adjectival participles (*mojado* ‘wet’, *tapada* ‘covered’,) appeared with *estar* exclusively. Vasilyeva et al. (2010) found that by ages 5;2–6;5 Spanish-English bilingual children have the representation of full passives in Spanish. These data suggest that bilinguals may have the representation of the verbal passive, but struggle with the distinction between *ser* and *estar*, essential for understanding verbal and adjectival passives (Requena and Dracos 2021). Monolingual children acquire the semantic differences of the two copulas by age 4 (Requena et al. 2015) but in bilingual children in the United States their acquisition depends on proficiency in Spanish rather than on age (Requena and Dracos 2021).

As for adult bilinguals, Valenzuela et al. (2015) found that heritage speakers of Spanish with near-native proficiency judged verbal passives with *fue* as acceptable in a grammaticality judgment task. They also rated adjectival passives with *estar* in the imperfect and adjectival and verbal passives with the copulas in the present tense more acceptable than verbal passives with *ser* in the imperfect, which in turn received the lowest acceptability

ratings. Sánchez-Walker and Montrul (2020) investigated comprehension of verbal and adjectival passives in Spanish by L2 learners and heritage speakers. Monolingually-raised native speakers, heritage speakers and L2 learners of Spanish completed a grammaticality judgment task and a picture-matching sentence comprehension task presented in visual and auditory modalities. The grammaticality judgment task tested knowledge of *ser* and *estar* with preterite and imperfect, verbal and adjectival passives and relative clauses.

In the comprehension task, the participants read/heard the sentence such as *La cena está servida* ('Dinner is served') or *La cena fue servida por la mesera* ('Dinner was served by the waitress') and had to match the sentence with the picture that best described the sentence. As predicted, L2 learners and heritage speakers were more accurate with adjectival passives with the copula in the imperfect (*estaba*) than with verbal passives with the copula in the imperfect (*era*). The verbal passives with *era* (with the agent included in a "by agent" phrase) was rated significantly less acceptable than the verbal passives with the copula in the preterite (*fue*). The heritage speakers were more accurate than L2 learners on the comprehension of both adjectival and verbal passives. The heritage speakers who achieved higher accuracy had attended bilingual schools and reported frequent use of Spanish between ages 6-10. This study suggests that childhood exposure to Spanish paired with early instruction and opportunities to produce the language reinforce complex knowledge of complex sentences in heritage speakers.

Although Sánchez-Walker and Montrul found that heritage speakers had no difficulty with adjectival passives, Valenzuela et al. (2015) found that high-proficiency U.S. heritage speakers over-accepted *by-phrases* in adjectival passives compared to Spanish native speakers and Spanish heritage speakers from Canada. Glödstaf (2021) partially replicated the Valenzuela et al.'s study with lower proficiency Spanish heritage speakers in the U.S. Contrary to expectations, native speakers and heritage speakers found all passive conditions acceptable, though for both groups the adjectival passive with an agent received the lowest acceptability rating. While the native speakers distinguished statistically between adjectival passives with and without the *by*-phrase, the heritage speakers did not. It is unclear whether higher ratings for the *by*-phrase with adjectival passives in these studies suggests weaker knowledge of the *by*-phrase restriction or simply the tendency of heritage speakers in general to overaccept ungrammatical sentences in judgment tasks.

Heritage speakers typically produce the verb *gustar* without dative case (**Juan gusta el helado* instead of *A Juan le gusta el helado* 'Juan likes ice cream'). To understand the changes observed with these verbs, Pascual y Cabo (2020) examined whether Spanish heritage speakers' assign a transitive nominative-accusative SVO structure to these verbs as in English. If that is the case, Pascual y Cabo reasoned that heritage speakers would accept ungrammatical passive sentences with *gustar*-type verbs (**El helado es gustado por Juan* 'Ice cream is liked by Juan'). In an acceptability judgment task, child and adult heritage speakers, first-generation Spanish-speaking immigrants to the United States, and monolingual children in Cuba accepted passive constructions with transitive verbs and with agentive psych verbs. Although all groups largely rejected passive sentences with unaccusative verbs, the adult heritage speakers were more accepting of passive unaccusatives and psych verbs, consistent with the reanalysis hypothesis.

In sum, although passives are more frequent in written than in spoken Spanish, studies of very young children and adults show knowledge of the morphology, syntax and

semantics to produce and comprehends passive sentences. Sánchez-Walker and Montrul (2020) found suggestive evidence that higher accuracy on production and comprehension of passives may be related to exposure to written language. Those adult heritage speakers who received some literacy instruction in childhood outperform heritage speakers who lacked such experience. We turn now to two ongoing studies on school-age Spanish heritage children attending dual immersion and English-only schools that examines the role of schooling in the production and comprehension of passives.

PASSIVES AND TEXT EXPOSURE

The contribution of text exposure to linguistic development is fundamental to understanding heritage language growth. Learning to read and write in the heritage language is very likely to play a fundamental role in the development and maintenance of the heritage language (Bayram et al. 2019; Torregrossa et al. 2023). Developing linguistic literacy (Ravid and Tolchinsky 2002) during school leads to increased development of morphological knowledge, which influences how input is processed by speakers with different levels of literacy.

Armstrong (2024) and Montrul and Armstrong (2024) proposed the Literacy Enhancement Hypothesis, according to which learning to read enhances language processing: it creates more robust morphosyntactic representations and aids language processing, both for production and comprehension, by strengthening the parser's ability to efficiently monitor and integrate morphosyntactic features in real time.

Arosio et al. (2017), among others, suggest that learning to read impact the production and comprehension of passive sentences, relative clauses, and other complex sentences in monolingual children. Most heritage speakers develop literacy skills in their second language. If learning to read and write contributes to language development, what are the consequences for L1 growth when literacy is acquired in the L2? There is a clear need for studies to investigate the influence of literacy development on language processing in heritage language learners with different language experiences. This includes reduced or no literacy development, or in the case heritage speakers at school in the U.S., learning to read and write in the L2 (English). We conducted two studies on how school age Spanish heritage speakers with varying degrees of literacy skills in Spanish produce and comprehend passive sentences.

Armstrong (2024) tested the Literacy Enhancement Hypothesis with 8-12-year-old Spanish heritage speakers attending Spanish-English dual immersion or English-only schools. All participants completed a gender proficiency task testing their knowledge of gender agreement and a Sentence Repetition task with passive and active sentences. A series of cognitive (pseudo word reading, digit span, rapid automatized naming) and literacy tasks (text comprehension, word identification, reading fluency, reading vocabulary) were administered as well. In the gender proficiency task, the bilingual children receiving literacy instruction in Spanish were more accurate with both vocabulary and gender agreement (88.6% and 93.9%) than the children instructed only in English (66.2% and 80.8%), as in Figure 1. In the sentence repetition task, all children performed more

accurately repeating active versus passive sentences, yet overall accuracy was greater for children in bilingual dual immersion schools (98% active, 84% passive) than their peers who attended an English-only school (82% active, 38% passive).

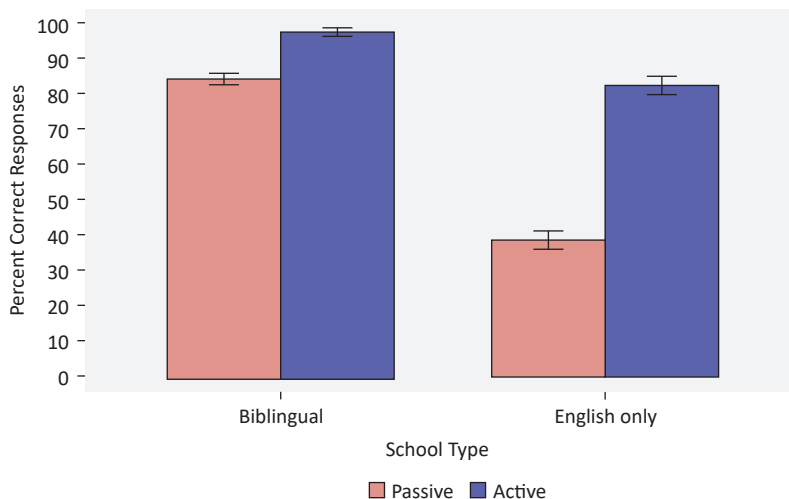


Figure 1. Mean accuracy on repetition of active (blue) and passive (pink) sentences (Armstrong 2024)

Bilingual children who attended bilingual (dual-immersion) school scored more accurately on passives than bilingual children who attended English-only school. Additionally, plausibility (how likely is the action to be performed) (*El hombre mordió a/fue mordido por la ardilla* “The man bit/was bitten by the squirrel” vs. *La ardilla mordió a/fue mordida por el hombre* “The squirrel bit/ was bitten by the man”) had an impact on structural accuracy during repetition in Spanish, suggesting a strategy to prioritize top-down information while processing complex structures. Finally, in all other cognitive and literacy measures, the bilingual children attending bilingual schools performed significantly better than the bilingual children attending English-only schools. These results demonstrate that literacy has effects on sentence processing in children, supporting the Literacy Enhancement Hypothesis. For bilingual children, developing literacy in the heritage language provides a crucial source of additional input that can facilitate the development of complex syntax.

Montrul et al. (Principal investigator) tested comprehension of verbal and adjectival passives in child heritage speakers of Spanish in the United States (ages 7–14), in both English and Spanish. Although Spanish and English have verbal and adjectival passives, the different copulas, the presence of gender and number agreement in the participle and the possibility of different word orders (SV, VS) render Spanish passives more complex than English passives. The participants were monolingual English, monolingual Spanish and bilingual Spanish-speaking children and adults (six different groups). The main instrument was a picture-sentence matching task. Participants were presented with two pictures with reversible actions (a man feeding a woman vs. a woman feeding a man).

They heard a sentence in Spanish and had to choose one of the two pictures, the one that matched the sentence.

The test tested verbal passives with the by-phrase (long passives), verbal passives without the by-phrase (short passives), adjectival passives (copula *estar*), as well as passives with different word orders (SV, VS). One subtest included sentences with animate subjects and objects; the other with inanimate subjects and objects. As in previous studies, the bilingual children were expected to be more accurate with adjectival passives compared with verbal passives; within verbal passives, they would be more accurate with short rather than long passives. The results showed that the bilingual children were less accurate on long passives than on adjectival passives and active sentences. When the children were split into those who were attending dual language education (in Spanish and English) versus those who were educated in English only, the children attending bilingual schools showed less variability and were overall more accurate in Spanish than the children attending English only schools, and more accurate with long passives as well, as in Figure 2.

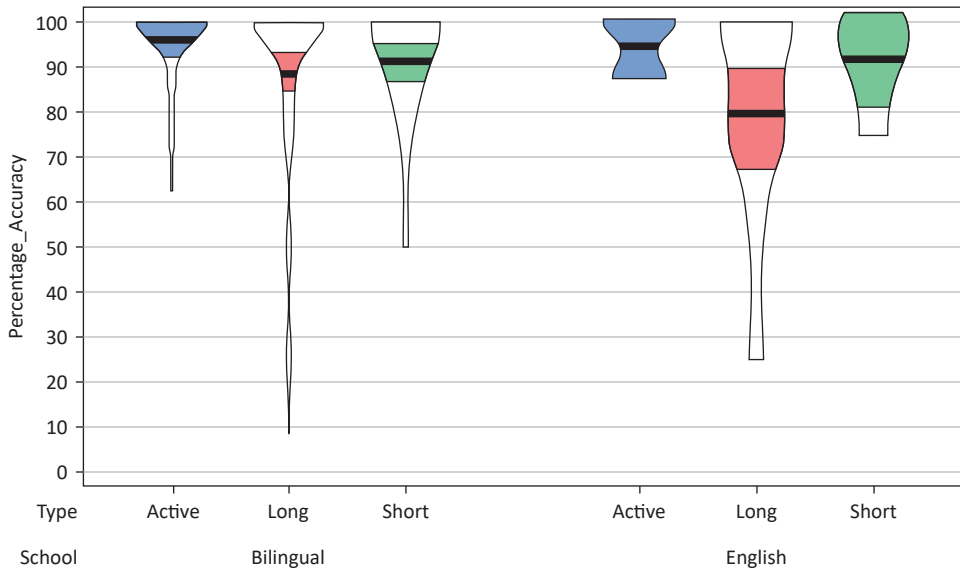


Figure 2. Percentage accuracy on the comprehension of active, long and short passives

Confirming results found by Armstrong (2024) with sentence repetition, the children attending English only school had significantly more difficulty with long passives that were implausible, compared to the children educated in bilingual schools, as in Figure 3.

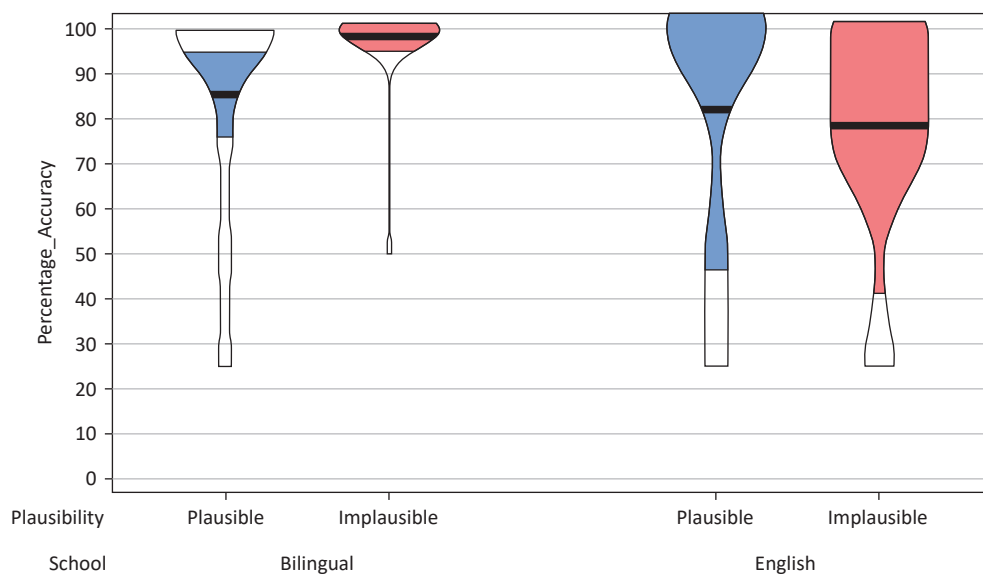


Figure 3. Percentage accuracy on the comprehension of plausible and implausible long passives

Overall, exposure to written language in Spanish in the elementary school years supports the continuous growth and consolidation of linguistic knowledge, and passives in particular, in Spanish heritage speakers.

DISCUSSION AND CONCLUSION

The acquisition of complex sentences in heritage languages is a largely understudied phenomenon. This study surveyed the few studies conducted to date on Spanish as a heritage language. Although heritage speakers exhibit significant variability in several areas of linguistic knowledge, including syntactic and morphological simplifications, this review shows that Spanish heritage speakers, both children and adults, have complex knowledge of complex structures.

Despite disadvantages in linguistic exposure this review emphasizes that heritage speakers also preserve significant structural complexity: the child and adult Spanish heritage speakers studied to date understand passives and can produce them when prompted. This suggests that the basic syntax is in place in knowing ‘something was done to x (by y)’ but then it must be combined with other domains like semantics and pragmatics that communicate additional information. For example, different word orders and aspectual information in copulas and predicates. Part of the difficulty with the complexity of mastering all properties of the Spanish passives is combining the syntactic computations with higher levels of linguistic knowledge (like (in)definiteness, tense/aspect or telicity) that require significantly more input to master the nuance of what the different forms mean.

We have seen that in Spanish, exposure to written language significantly impacts accuracy on both production and comprehension of verbal passives. It remains to be determined whether and when heritage speakers master the subtle semantic and pragmatic complexities of these structures.

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