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What is This?

On the role of experience and age-related effects: Evidence from the Spanish CP

Alejandro Cuza
Purdue University, IN, USA

Joshua Frank
University of Texas at Austin, TX, USA

Abstract

The present study examines and compares the extent to which advanced L2 learners of Spanish and Spanish heritage speakers acquire the syntactic and semantic properties that regulate the grammatical representation of double complementizer questions in Spanish, a CP-related structure not present in English. Results from an aural sentence completion task, an acceptability judgment task, and a preference task indicate significant differences between the two experimental groups and the monolingual controls. However, the heritage speakers outperformed the L2 learners in their target use and interpretation, which suggests a linguistic benefit for earlier exposure and use of Spanish during childhood. We propose that the differences observed among the L2 learners and the heritage speakers can be accounted for in terms of cross-linguistic influence from the dominant language as well as language experience and age of onset of bilingualism as an interrelated dimension in L2 and heritage language development.

I Introduction

Linguistic experience and age of onset of bilingualism play an important role in the second language (L2) acquisition of morphosyntactic patterns not present in the first language (L1) (DeKeyser, 2000; Ellis, 2002; Gass, 1997; Montrul, 2008, 2010a; O'Grady,

Corresponding author:
Alejandro Cuza, School of Languages and Cultures, Purdue University, 640 Oval Drive, West Lafayette Indiana, IN 47907, USA
Email: acuza@purdue.edu

2008; Yang, 2002). For example, Yang (2002) finds a strong positive correlation between delays in parameter setting and structural ambiguity in the input. According to Yang's variational learning model, input variability may lead to L2 underspecification. Researchers have also argued for strong positive correlations between lack of native-like attainment in an L2 and age of onset of bilingualism (Bley-Vroman, 1990; Coppieters, 1987; Johnson and Newport, 1989; Long, 1990). Early bilinguals, those who are exposed to the L2 during early childhood, and post puberty or late L2 learners often display morphosyntactic patterns that diverge from one another.

Despite clear age-related effects in the acquisition process, it is also possible that challenges associated with late language development might be attenuated by the linguistic domain in question, and the degree of language experience, amongst other factors (Bialystok and Hakuta, 1999; Birdsong, 1999, 2009; Bolger and Zapata, 2011; Müller and Hulk, 2001). For example, previous work shows convergent or divergent patterns among early and late bilinguals depending on task type (Bowles, 2011; Montrul, 2011; Montrul, Davidson, de la Fuente and Foote, 2014; Potowski, Jegerski and Morgan-Short, 2009), language experience (Bruhn de Garavito, 2002; Montrul, 2010a) or linguistic domain (phonology vs. morphosyntax) (Au, Knightly, Ju and Oh, 2002).

We contribute to previous research by examining the knowledge that highly advanced English-speaking L2 learners of Spanish have of embedded *wh*-questions introduced by non-*ask/wonder* verbs (e.g. *Catalina le dijo a Jorge que a dónde fue José* 'Catalina asked George where Joseph went'), what we call for the purpose of the present study double complementizer questions (DCQ) (Cuza and Frank, 2011; Demonte and Fernández-Soriano, 2009; Etxepare, 2002, 2010; Lahiri, 1991, 2002; Plann, 1982; Rivero, 1980; Suñer, 1992, 1993; Uriagereka, 1988, 1995; Villa-García, 2012a, 2012b). In addition, we compare L2 learners' knowledge with previous data from intermediate and advanced heritage speakers of Spanish (Cuza and Frank, 2011). Heritage speakers are second-generation immigrants exposed to a family language during early childhood in a natural setting but who normally do not receive formal instruction in the language until adulthood (Valdés, 2001).

By comparing L2 learners with heritage speakers we are able to consider two age-related factors: (1) age of onset of bilingualism (Au et al., 2002; DeKeyser, 2000; Johnson and Newport, 1989; Long, 1990; Montrul, 2008) and (2) language experience (Ellis and Collins 2009; Montrul, 2005, 2010a, 2011; Yang, 2002). The L2 learners were first subjected to intense Spanish exposure as adults. In contrast, the heritage speakers acquired Spanish from birth. Thus, age-related effects vary across the two groups. It is possible that earlier exposure to the Spanish language might give the heritage speakers an advantage over the L2 learners, as has been documented among heritage speakers of Spanish (Keating, VanPatten and Jegerski, 2011; Montrul, 2010b), Korean (Chung, 2013) and Swedish (Håkansson, 1995).

The heritage advantage may also stem from a qualitatively different linguistic experience. Heritage speakers typically acquire Spanish as a first language. This continues for approximately the first four to five years of life before immersion in the school system begins. In contrast, late L2 learners of Spanish acquire the language with English already in place and are often exposed to Spanish to a lower degree. Greater exposure to the minority language during the age of primary language development might give heritage speakers an advantage over post-pubescent L2 learners regarding syntactic ambiguity,

comprehension, language activation and overall linguistic processing (Diessel, 2007; Diessel and Tomasello, 2005; Ellis, 2002; Ullman, 1999).

Despite their differences in terms of age of onset of acquisition and overall experience with the minority or the second language, heritage speakers and L2 learners are similar in that they both have another linguistic system in place and are thus affected by cross-language interaction. Furthermore, they are both exposed to limited Spanish input in a language contact situation. Although the degree of dominance and patterns of minority language use may diverge across and within the two groups, both types of bilinguals have been born and raised in the USA, where English is the dominant societal language and the primary language of schooling. If L2 learners and heritage speakers show similar nonnative-like grammatical patterns, then the patterns cannot be explained by age-related constraints, despite L2 research which argues on the contrary (Bley-Vroman, 2009; Hawkins and Franceschina, 2004; Hawkins and Hattori 2006; Johnson and Newport, 1989).

The following study is organized as follows. Section II presents a syntactic analysis of double complementizer questions in Spanish, while also making reference to the other language, English. Section III discusses previous L2 acquisition research, including proposals on the role of variable input and cross-language interaction. It concludes with the research questions that drive the study. Section IV first introduces the test groups and methodology, and then presents the results and discussion. Section V serves as the conclusion of the study.

II Embedded *wh*-questions in Spanish and English

I *The syntax of double complementizer questions*

Double complementizer questions (DCQs) are embedded *wh*-questions in Spanish introduced by the complementizer *que* ('that'). This construction follows a verb of saying, a complementizer *que*, and a *wh*-phrase word order (V*saying* + C*que* + wh) and can be found in all varieties of oral and written Spanish (Demonte and Fernández-Soriano, 2009). In this construction, the complementizer *que* is a unique functional element of the Spanish grammar that can occur optionally after *ask/wonder* verbs (*preguntar* 'to ask' and *preguntarse* 'to wonder') but is claimed to occur obligatorily after non- *ask/wonder* verbs (e.g. *decir* 'to tell', *gritar* 'to yell', *contestar* 'to reply') (Lahiri, 2002; Plann, 1982; Suñer, 1992, 1993).

As represented by example (1a) below, Suñer (1993) notes that the use of the complementizer after a non-*ask/wonder* verb is required in order to achieve a question interpretation. This is due to the semantic properties of the verb class. On the other hand, the *que* is optional after an *ask/wonder* verb because this verb can only select for a question complement, dispelling any potential ambiguity and rendering the *que* as redundant (1b) (Demonte and Fernández-Soriano, 2009; Etxepare, 2010; Lahiri, 2002; Plann, 1982; Rivero, 1980; Suñer, 1992; Uriagereka, 1988, 1995; Villa-García, 2012a, 2012b):

(1) a. *Ramón le dijo a Celina que dónde cenó anoche.*   (embedded question)
        'Ramon asked Celina where she ate dinner last night.'
     b. *Rosa me preguntó (que) cuándo íbamos a salir.*   (embedded question)
   'Rosa asked me when we were going to go out.'

Table 1. Typology of embedded *wh*-questions in Spanish and English.

Language	Structure	Example
Spanish	$V_{ask/wonder}$ + *wh*	María me preguntó [dónde comí]
	$V_{ask/wonder}$ + C_{que} + *wh*	María me preguntó [que dónde comí]
	$V_{non\text{-}ask/wonder}$ + C_{que} + *wh*	María me dijo [que dónde comí]
English	$V_{ask/wonder}$ + *wh*	Mary asked me [where I ate]

In (1a), Ramon does not know where Celina had dinner last night so he asks her. If the complementizer is removed, then the ensuing complement will no longer be interpreted as a question. Rather, the reader would simply become aware that Ramon told Celina where he had eaten last night. In (1b), the embedded complement is interpreted as a question regardless of whether the complementizer is spelled out or not. In contrast to Spanish, English distinguishes between embedded questions and statements by lexical type (i.e. 'to ask' versus 'to tell'), where the double complementizer question construction is not available. Thus, English represents the unmarked option, which is simpler (i.e. less computationally costly) than the DCQ option in Spanish (Lahiri, 2002)[1]. As represented in Table 1, Spanish has three options for constructing embedded *wh*-questions while English has only one.

These three options demonstrate that Spanish has a relatively complex system for embedding *wh*-questions. Specifically, it permits various verb types and a sometimes optional and sometimes obligatory complementizer. English has a much simpler system. Furthermore, it is the Spanish canonical form ($V_{ask/wonder}$ + wh) that compares most closely to the English form, leading to surface overlap between the two languages.

As shown in (2), there are similarities between the derivational steps in English and Spanish *wh*-movement. The *wh*-phrase rises from a verbal phrase (VP) internal position to the Specifier of CP [Spec, CP] (Radford, 2004; Zagona, 2002). This movement is considered movement of a maximal projection because the constituent moves to the highest position of the phrase, the specifier position.

(2)

ENG: [CP where her friends ate dinner ~~where~~]
SPAN: [CP dónde cenaron (sus amigos) ~~dónde~~]
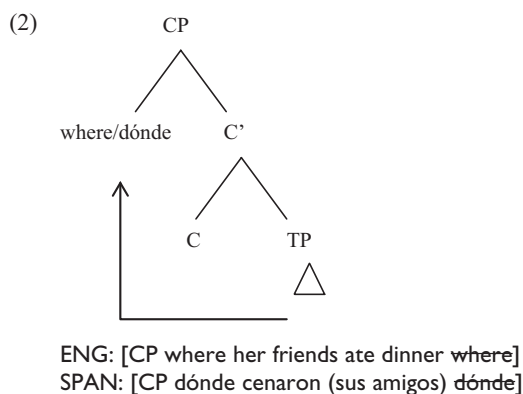
The syntactic derivation represented in (2) accounts for the English embedded *wh*-question construction well because the *wh*-word rises to the [Spec, CP] and every

other constituent follows below. However, the same syntactic analysis also presents an obvious problem for the Spanish DCQ construction. Specifically, one must consider where the complementizer *que* goes. Because *wh*-movement is a movement of maximal projection, nothing within the CP can be above the *wh*-word *dónde* ('where') (Suñer, 1992). According to Bayer and Brandner (2008), the instances where the *que* is spelled out should not be conceptualized as a type of redundancy in the sense that it is not governed by the rules of core grammar. This is further supported by instances where the complementizer *que* is indeed not optional, such as after a non-*ask*/*wonder* verb (1a).

Thus, there appears to be a difference in the deep structure of the Spanish and English indirect questions. Arregi (1998) argues that the Spanish complementizer and the *wh*-phrase are clearly not in the same complementizer phrase. That is to say, specifiers (*wh*-words) are always closer to the edge of the maximal projection than the head (complementizer). He concludes that the structure exemplified in DCQ constructions must involve CP recursion. Along this line of reasoning, Suñer (1992) proposes a second CP to account for the C_{que}+*wh* hierarchy evidenced in Spanish. The CP recursion hypothesis for Spanish is depicted in (3):
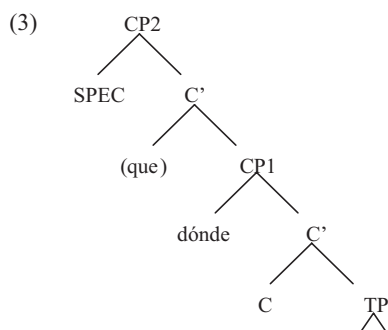
Whereas a single CP structure as in (2) cannot account for these Spanish DCQ structures, CP recursion can. Suñer explains that in the case of indirect questions, the embedded clause has both a declarative and an interrogative feature which are in different complementizer phrases. Furthermore, the complementizer *que* merges in the [Head, CP2]. Moreover, as previously mentioned, just as the [WH] feature of CP1 is satisfied by the *wh*-element *dónde* ('where'), the [WH] feature of CP2 is satisfied by a null operator, or a question particle [Q] in the [Spec, CP2]. Even when the complementizer is not spelled out, the Spanish deep structure is composed of two complementizer phrases, which is more complex than the English structure (1CP) (Suñer, 1992).

Rizzi (1997) proposes an alternative approach for representing the specific type of indirect questions investigated in this study. His cartographic approach, or split CP hypothesis, proposes that the left periphery has a number of functional projections, which include but are not limited to force, topic, focus, and finite phrases. Several recent publications have adopted this analysis when analysing double complementizer constructions (Demonte and Fernández-Soriano, 2009, 2014; Etxepare, 2010; Radford; 2013; Villa-García, 2012a, 2012b). In terms of indirect questions, the complementizer *que* would merge in the head of ForceP, while the *wh*-expression would merge in the specifier position of FocusP (Villa-García, 2012a, 2012b).

Contrary to what the literature may lead one to believe, double complementizer questions are not categorical in the monolingual Spanish norm (Cuza and Frank, 2011). By non-categorical we mean that there are instances in day-to-day communication where a native speaker may express an indirect question without an overt *que* even after a non-*ask*/*wonder* verb of saying.[2] This might be related to the fact that native speakers of Spanish generally prefer to use the verb *preguntar* ('to ask') in embedded questions where the use of a double complementizer is not necessary.[3] Thus, it is possible that DCQ structures are being used progressively less frequently in the native speaker norm (Demonte and Fernández-Soriano, 2013; Radford, 2013).

There is no evidence of dialectal differences regarding DCQ structures. Demonte and Fernández-Soriano (2009) argues that this construction is found in both written and oral registers, and across all Spanish dialects. Furthermore, a review of the Davies Spanish Corpus (2002), narrowing the search for 20th century items only, shows evidence of this structure in a large number of Spanish-speaking countries including Cuba, Spain, Colombia, Peru, Mexico, Bolivia, Puerto Rico, Chile, and Argentina.

2   Learnability implications

The structural representation of embedded *wh*-questions provides a clear point of divergence across the two languages. Spanish/English bilinguals have to learn that in Spanish, CP recursion is required to form embedded questions with verbs of saying. Furthermore, the English surface structure overlaps with the Spanish *ask*/*wonder* verb null *que* option. This could lead to learnability issues (Müller and Hulk, 2001; Yip and Matthews, 2009). Bilinguals may transfer and overextend the less marked structure from English to form embedded questions in Spanish. What is more, they may show even greater preference than the Spanish monolinguals for the use of the verb *preguntar* ('to ask'), given the existing overlap between the two languages.

The learning task is further complicated by the fact that DCQs are CP-related structures at the syntax-semantic interface. Specifically, the learner must extend the selectional properties of non-*ask*/*wonder* verbs (e.g. *decir* 'to tell') to include indirect questions, an option not available in English. In English, questions and statements are lexically selected ('John asked me where I went' vs. 'John told me where I went') and a *wh*-complement followed by a non-*ask*/*wonder* verb must be interpreted as a statement which has [–QU] semantic feature (Suñer, 1993). The learning task is therefore more complex in Spanish as the learners have to learn the lexical selectional properties of these types of verbs, which trigger specific morphosyntactic structures in the subordinate clause.

Finally, Spanish sometimes uses the *que* element to mark report or to embed direct speech.[4] This could be particularly confusing for the L2 learner, who has a different language history vis-à-vis the heritage speaker. For example, the element *que* can be found introducing indirect exclamatives (*Dijo que qué simpatico era* 'He said how nice he was'), direct commands (*¡Que nadie toque nada!* 'Nobody touches anything!'), or in asking for clarification (*Que el jefe renunció, ¿dices?* 'The boss resigned, you are saying?') (Demonte and Fernández-Soriano, 2005, 2009; Etxepare, 2008, 2010; Lahiri, 1991; 2002; Uriagereka, 1995). The L2 learners must develop a sensitivity to the function of

the complementizer *que*, which can serve as a trigger for the acquisition of the DCQ construction. This particular task, along with the other learners' tasks (i.e. acquiring the two CP structure and semantic properties), demonstrate the challenge associated with using and representing DCQ constructions in a native-like manner. The task is made still more difficult given that this structure is not explicitly or implicitly taught in the L2 or heritage language classroom.

When compared to a monolingual group, both bilingual groups have comparable patterns of reduced Spanish input and use. This along with influence from English lead to patterns of non-target development (Montrul, 2002, 2004, 2008; Silva-Corvalán, 2003). Heritage speakers might be at an advantage because they were exposed to Spanish during early childhood (pre-critical period). This has been argued for the acquisition of phonology and pronunciation (Au et al., 2002) and follows previous research arguing for age-related effects in language learning (Bley-Vroman, 1990; Coppieters, 1987; Johnson and Newport, 1989).

III   The bilingual acquisition of CP-related structures

A central issue in L2 acquisition research from a generative framework has been whether L2 learners start the acquisition process with functional projections already in place (Liceras, 1996; Montrul, 2004; Radford, 2004; Schwartz and Sprouse, 1996; Tsimpli and Roussou, 1991; Vainikka and Young-Scholten, 1994, 1996; White, 1989, 2003). Schwartz and Sprouse (1996) argue that the initial state of L2 acquisition is the L1 end-state. Furthermore, it is possible for L2 learners to acquire a native-like representation of new functional projections (see Full Transfer/Full Access Hypothesis). Liceras (1996) argues for a partial access to Universal Grammar after adulthood. Specifically, the building units (features) of functional categories will be acquired or activated independently from one another. Within this framework, target development is constrained by the data available in the input, and some features may be fully acquired while others remain indeterminate (see Full Transfer/Partial Access Hypothesis).

More recently, researchers have focused on the end-state of interlanguage representations relative to both formal features specification and the vulnerability of certain domains (Hulk and Müller, 2000; Müller and Hulk, 2001; Platzack, 2001; Sánchez, 2004; Sorace, 2000, 2005). Platzack (2001) argues that amongst C-group learners, higher structural projections in the C-domain (V2, obligatory subject in Swedish, embedded clauses and *wh*-questions) are more complex and difficult to acquire than lower structural projections at the I-domain. The general proposal is that C-group learners would show non target-like production with C-domain related structures (syntax-pragmatic interface structures) but would have few production difficulties with structures belonging solely to the I-domain.

With regard to the CP-related structures in Spanish specifically, researchers have documented instances of L1 transfer and non-convergence in different areas of the grammar, including that-trace violations (Isabelli, 2004; Liceras, 1989), omission of the complementizer *que* ('that') in complement clauses (Silva-Corvalán, 1993), or lack of obligatory subject–verb inversion in *wh*-questions (Bruhn de Garavito, 2002; Cuza, 2013; Cuza and Strik, 2012; Frank, 2013; Mandell, 1998, 1999). Some authors have

argued for transfer effects from English while others have proposed acquisition difficulties due to the complexity of the structure itself and input factors. Liceras (1989) found no difficulties with the acquisition of null subjects in Spanish but persistent divergences with subject–verb inversion and that-trace effects. Isabelli (2004) found similar results with L2 learners of Spanish living in an immersion context. Despite intense exposure to Spanish, her participants did not show sensitivity to that-trace violations. This contrasts with the results from Montrul, Foote and Perpiñán (2008) who found no transfer effects from English in the acceptability of embedded sentences without the complementizer *que* among L2 learners and Spanish heritage speakers.

Silva-Corvalán (1993) found consistent omission of the complementizer *que* in argument clauses (*Yo creo Ø inventaron el nombre* 'I think (that) they invented the name') among Spanish–English bilinguals from Los Angeles. The author notes that the omission of the complementizer does not necessarily stem from English since Spanish allows this omission in similar contexts (*Te ruego (que) me lo envíes pronto* 'I beg (that) you send it to me promptly'). This is supported by the fact that there weren't any attested cases of *que* omission in relative clauses (*El nombre que ellos inventaron era extraño* 'The name (that) they invented was strange'), which is ungrammatical in Spanish. The author does explain that English allows for the omission of the complementizer that in argument clauses, which may have influenced the bilinguals' performance. Silva-Corvalán proposes a transfer permeability effect in the minority language, which is restricted to existing overlapping surface structures in the more dominant language. This is consistent with more recent accounts on cross-linguistic influence and transfer selectivity (Müller and Hulk, 2001; Yip and Matthews, 2009).

Bruhn de Garavito (2002) compared the knowledge that heritage speakers and L2 learners have of subject–verb inversion in *wh*-questions (*¿Dónde compró Mario el periódico?* 'Where did Mario buy the newspaper?') and adverb placement as part of the verb-movement parameter. Results from a preference task showed significant differences between the two experimental groups and the controls. However, in contrast with age-related approaches to language learning, late and early bilinguals did not behave significantly different, as has been argued for other morphosyntactic structures (Au et al., 2002). However, the author did not test for subject–verb inversion in embedded contexts, where English and Spanish contrast the most.

In a more recent study on 17 adult heritage speakers living in Indiana, Cuza (2013) found persistent difficulty in the acceptability and elicited production (written and aural) of obligatory subject–verb inversion with both matrix and embedded questions. The author attributes the increased difficulty in embedded constructions to cross-linguistic influence from English. Difficulties, however, were less significant in the aural production task (88% target inversion with matrix sentences and 82% target inversion with embedded clauses) than with the acceptability task or the written production task, suggesting a task effect. Frank (2013) found similar results for English-speaking adult learners of L2 Spanish. Specifically, he found persistent difficulties in the written production of obligatory subject–verb inversion in embedded but not matrix question contexts. Importantly, the L2 learners were outperformed by a heritage speaker group, suggesting age-related effects.

Other C-related structures in Spanish such as clitic expression in left-dislocated structures have also been found to be challenging for bilingual speakers. Although the clitic structure appears to be acquired, researchers have documented cross-linguistic influence effects in the L2 acquisition of the semantic constraints regulating object clitic use, placement, and object drop in Spanish (Borgonovo, Bruhn de Garavito, Guijarro-Fuentes, Prevost and Valenzuela, 2006) Cuza, Pérez-Leroux and Sánchez, 2013; Montrul, 2010a). For example, Montrul (2010a) examined the role of age of onset of acquisition and language use in the acquisition of clitic expression, doubling, and word order in topicalization contexts among L2 learners and heritage speakers. In contrast with previous research (Au et al., 2002), Montrul found that heritage speakers produce more clitics in the production task, and more clitic doubling and clitic climbing structures than the L2 learners. The heritage speakers patterned the native speakers in their acceptability and interpretation of more complex structures, including clitic left dislocations (CLLD) and sentences with initial clitics and post-verb subjects.

More evidence for age-related effects was found by Cuza et al. (2013). The authors examined the acquisition of the semantic and syntactic constraints regulating null object and clitic distribution in Spanish. The participants included early and late Spanish–Chinese bilinguals living in Lima, Peru. Results from an interpretation task testing the referential meaning of null objects in negation contexts, two elicited production measures testing the target use of object clitics in anaphoric and CLLD contexts, as well as an aural acceptability judgment task testing sensitivity to grammatical and ungrammatical object drop showed native-like patterns among the youngest learners (simultaneous bilingual group). However, adult immigrants behaved significantly different from the monolingual controls, while the childhood immigrants showed lingering transfer effects despite long exposure to Spanish in a natural setting.

The acquisition of CP-related structures in Spanish and other languages is also affected by the quantity and quality of the linguistic experience and the context of exposure (i.e. classroom versus naturalistic settings) (Ellis, 2002; Gennari and MacDonald, 2009; O'Grady et al. 2011; Yuan, 1997). Reduced exposure to the relevant structure, low frequency levels as well as the presence of alternative options in the L1 and the L2, introduce further complexity in the triggering process. For example, Yuan (1997) examined the extent to which Chinese-speaking learners of English acquire subject and object pronoun use. Results showed a target rejection of ungrammatical subject drop in English but also an acceptance of object drop, which is grammatical in Chinese but ungrammatical in English. The author argues that the learners' difficulties with object drop stem from the absence of sufficient evidence in the L2 input necessary to prevent transfer effects from the more inclusive L1 setting in Chinese (+topic drop) (Yuan, 1997).

O'Grady et al. (2011) investigated the role of saliency, frequency and transparency of the input in the acquisition of form-meaning mappings among young and adult Korean heritage speakers. Specifically, the authors investigated the processing factors involved in the interpretation of scopal patterns in Korean. Results showed a clear preference for the less complex full set reading of negated sentences in Korean. The authors argue that the increased processing cost required for a partitioned set reading prevents heritage speakers from converging with this option, despite potential L2 transfer from English and infrequent and transparent L1 input.

In sum, previous research shows that the acquisition of CP-related structures is challenging for bilingual speakers (Bruhn de Garavito, 2002; Isabelli, 2004; Montrul, 2010a). Cross-linguistic influence effects as well as structure complexity issues appear to prevent bilingual speakers from developing complete patterns of grammatical representation. Previous research, however, is limited to very few studies which have examined the acquisition of CP-related structures among both L2 learners and adult heritage speakers of Spanish (Montrul, 2010a, 2010b). This type of comparison is important to shed light on the role of age of onset of bilingualism in the development of linguistic representations and its potential implications to heritage language theory and pedagogy (Beaudrie and Fairclough, 2012; Montrul, 2008; Polinsky, 2011). Another limitation of previous research is the lack of elicited production data. In the particular case of heritage language learners, it is important to examine and compare elicited production, in addition to grammatical intuition and interpretation. As documented in previous studies, heritage speakers often do very well with elicited aural production but not so well with grammatical intuition (AJT) or written production (Bowles, 2011; Cuza, 2013; Potowski et al., 2009). We aim to cover this gap in the literature with the present investigation.

1   Research questions and predictions

Following previous research, we explore the extent to which L2 learners of Spanish have target knowledge of the DCQ structure. This structure is not present in English and is characterized by being infrequent and non-categorical in day-to-day Spanish input. In addition, we examine the extent to which heritage speakers of Spanish behave similarly to L2 learners, despite their early exposure to the minority language (Montrul et al., 2014; Montrul, 2010a, 2010b). We pose the following research questions:

(1) Do advanced L2 learners of Spanish acquire the syntactic and semantic constraints regulating the production and interpretation of double complementizer questions?

(2) Will L2 learners of Spanish show similar or divergent representation of DCQ structures vis-à-vis Spanish heritage speakers?

If the acquisition and maintenance of target mappings is constrained by a combination of cross-linguistic influence from English and input factors, we would expect both L2 learners and heritage speakers to show similar difficulties as they are both exposed to limited Spanish input and use and they both have English as the dominant language. As discussed earlier, double complementizer questions are infrequent and non-categorical in Spanish. The triggering context is further obscured by a preference for a competing option, namely the use of the verb *preguntar* ('to ask'), which does not require an overt *que*, and on the surface, overlaps with the English structure. From a structure complexity perspective, the addition of the second complementizer in Spanish indirect questions is a computationally complex operation, placing more processing demands on the learners. These factors together with the presence of a much simpler option in English may

prevent L2 learners as well as heritage speakers from having target form-meaning mappings leading to inevitable underspecification.

However, if the difficulties L2 learners have are constrained primarily by age-related effects to language learning (Bley-Vroman, 2009; Hyltenstam and Abrahamsson, 2003; Johnson and Newport, 1989), it is then possible that heritage speakers might have an advantage over the adult L2 learners, given their earlier (and qualitatively different) exposure to the minority language during childhood, as documented in previous research (Håkansson, 1995; Keating et al., 2011; Montrul, 2010a, 2010b). This does not mean the heritage speakers are going to have a target representation vis-à-vis the monolingual speakers, but they might pattern more closely with the monolingual norm than with the adult L2 learner norm.

IV   The study

1   Participants

We present new data from nineteen (*n* = 19) English-speaking L2 learners of Spanish, and compare their results with existing data from fifteen (*n* = 15) US-born Spanish heritage speakers and fourteen (*n* = 14) monolingual speakers. All participants completed a language history questionnaire, which elicited information about their linguistic background and patterns of language use. The questionnaire also included a self-assessment section where the participants were asked to rate their proficiency in English and Spanish on the four linguistic skills (reading, writing, speaking, and listening) using a scale ranging from 'basic' (1) to 'excellent' (4). In addition, all participants completed an adapted version of the DELE (Diploma of Spanish as a Foreign Language) proficiency test as an independent measure of proficiency in Spanish (Montrul and Slabakova, 2003; Montrul 2005, 2010b). Following Montrul and Slabakova (2003), scores between 40 to 50 points were considered as 'high' proficiency level, scores between 30 to 39 points were considered as 'intermediate' proficiency and scores between 0 to 29 points were considered as 'low' proficiency.

The L2 learners' group was formed by high proficiency L2 learners. Their mean score in the DELE test was 44/50 points and their mean age at time of testing was 27 years old (range, 18–38, SD, 6.5). The participants were undergraduate and graduate students at two major research universities in Canada and the United States. They all acquired Spanish as adults, where intense exposure to the language was first introduced in college. Most participants reported speaking 'English' or 'mostly English' at home (89%). At work, 58% reported speaking 'English' or 'mostly English', while 42% reported speaking 'Spanish', 'a little bit more Spanish' or 'both'. In social situations, 52% indicated to speak 'English' or 'mostly English', 26% reported speaking 'a little more English', and 16% reported speaking 'both'. 21% of the participants (4/19) indicated feeling equally comfortable in both languages, while 79% indicated feeling more comfortable in English. Their reported self-proficiency in English was native-like (4/4) and in Spanish it was good/fluent (3.3/4).

The heritage speakers' group consisted of Spanish heritage speakers born and raised in the USA (Cuza and Frank, 2011). All the speakers except two were university

students at a major research university and they had an average age at testing of 22.3 (range, 18–43; SD, 6.8). Furthermore, all participants except one acquired Spanish from birth. Their parents were born in Mexico, Nicaragua and Peru. As the L2 learners, the participants completed an adapted version of the DELE test in Spanish. Their mean score in the DELE test was 38/50. Seven participants were 'high' proficiency speakers and eight were 'intermediate'. 20% (3/15) of them reported speaking 'Spanish' or 'mostly Spanish' at home, 40% (6/15) reported speaking 'both' and 20% (3/15) reported speaking 'mostly English' or 'more English'. The majority of the participants reported using more English at school, work, and social situations and 60% indicated feeling more comfortable in English. All participants were born and raised in the USA except one who was born in Puerto Rico. Their reported self-proficiency in English was almost native-like (3.8/4) and in Spanish it was almost good/fluent (2.8/4). The native speakers group was formed of monolingual Spanish speakers from Cuba. Their mean age at time of testing was 30 years old. None of the participants have lived or visited an English-speaking country and their level of proficiency in English across the four language skills was reported to be limited/basic (1.3/4). There are no reported dialectal differences in the use of DCQ structures in Spanish.

2 Methods and design

Participants completed an aural sentence completion task (Crain and Thornton, 1998), a written acceptability judgment task (AJT) and a written preference task (Geeslin and Guijarro-Fuentes, 2006; Montrul, 2008). The aural sentence completion task was the first task, and it tested whether the participants were able to produce DCQ structures introduced by non-*ask*/*wonder* verbs of saying (*decir* 'to tell' and *gritar* 'to yell'). The participants were asked to complete a sentence based on the information provided in the preamble, as shown in (4):

(4) Preamble: *Rosa le contó a Juan adónde fue de compras y Juan le dijo: ¿Cuándo fuiste?*
'Rose told John where she went shopping, and John asked her: When did you go?'
Prompt: *Juan le dijo a Rosa …* 'John asked Rose …'
Target: *que cuándo fue de compras* 'when she went shopping'
Non-Target: *Ø cuándo fue de compras* 'when she went shopping'

The *wh*-words tested included *cuándo* ('when'), *quién* ('who'), *adónde* ('where') and *dónde* ('where'). There was a total of 12 test items (6 × 2 verbs) plus 11 distracters. The researchers read the preambles and the prompts aloud, and used a continuation rise to formulate the prompt or stem. The responses were digitally recorded and later coded for analysis. Target responses (use of *que*) were awarded with 1 point and non-target responses (no use of *que*) received no points (0). In cases where the participant used a direct quote (*Juan le dijo a Rosa: ¿Cuándo fuiste de compras?* 'John told Rosa: When did you go shopping?') or the verb *preguntar* ('to ask'), the response was excluded from the analysis.

The written AJT tested the use DCQ structures in three types of verbs: *decir* ('to tell'), *gritar* ('to yell') and *contestar* ('to answer'). The participants were instructed to indicate

if the sentence provided was odd, slightly odd, I don't know, more or less fine or fine based on the information provided in the preamble. They were also asked to provide a reason if they considered the sentence as 'odd' or 'slightly odd'. This is represented in example (5) below:

(5) Preamble: *Diego le contó a Fernando con quién salió anoche y Fernando le dijo: ¿Adónde fueron?*
'Diego told Fernando who he went out with last night and Fernando asked him: Where did you go?'
Test Item: *Fernando le dijo a Diego que adónde fueron.*
'Fernando asked Diego where they went.'
Scale: 1 (odd) 2 (slightly odd) 3 (I don't know) 4 (more or less fine) 5 (fine)
Please justify if odd or slightly odd: _____

In (5), the expected answer was 4 or 5, which were assigned a score of 4 or 5 points respectively. There were 18 test tokens (9 grammatical and 9 ungrammatical) and 17 distracters. The task was counterbalanced across participants.

In the preference task, the participants were asked to read the preamble and choose one of the two sentences provided right after, as in (6) below:

(6) Preamble: *Sandra le contó a Juan cuánto pagó por el carro y Juan le dijo: ¿A quién le pagaste tanto dinero?*
'Sandra told John how much she paid for the car and John asked her:
To whom did you pay so much money?'
Test items:
(a) _____ *Juan le dijo a Sandra a quién le pagó tanto dinero.*
'John told Sandra who she paid so much money.'
(b) _____ *Juan le dijo a Sandra que a quién le pagó tanto dinero.*
'John asked Sandra who she paid so much money.'

In (6), the expected answer was (b), as that is the one that conveys the meaning supported by the preamble via the DCQ construction. If the participant chose the sentence with the double complementizer, a score of 1 point was awarded. If the participants chose the sentence without the complementizer (6a), a score of 0 was awarded. There were a total of 18 test items and 17 distracters. We did not test the use of the verb *preguntar* ('to ask') or contexts that did not favor the use of the DCQ structures in Spanish as we were interested in controlling for *wh*-type and verb type. This alone required a large number of test items plus distracters (35 tokens in total for the AJT and the preference task).

3 Results

As predicted, results from the sentence completion task showed low levels of DCQ production among the L2 learners and the heritage speakers compared to the control participants. The heritage speakers did better than the L2 learners and both groups were outperformed by the monolingual speakers. These results are shown in Figure 1.
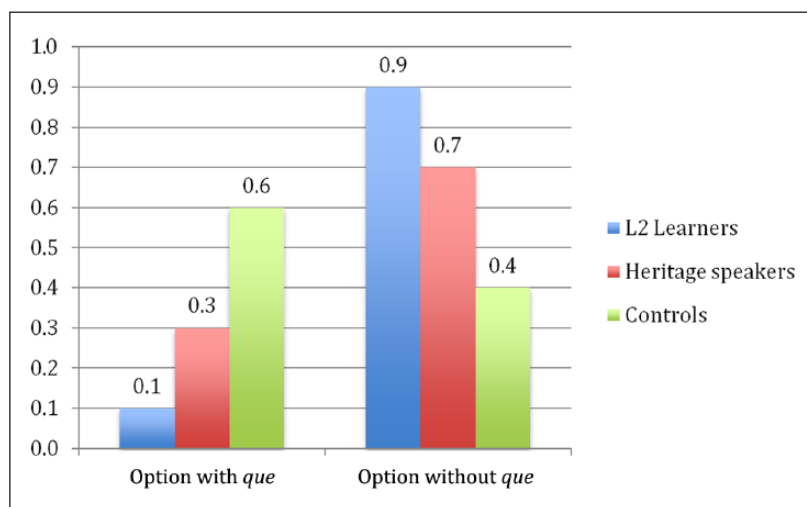
Figure 1. Sentence Completion Task. Proportion of questions with double complementizer and without the double complementizer realized by group.

The target proportion of responses was obtained by dividing the total number of DCQ structures produced by the total number of indirect questions realized. To identify indirect questions from direct quotes, we considered the use of third person singular in the subordinate clause. As mentioned earlier, the use of a double complementizer with the verb *preguntar* ('to ask') and direct quotes were excluded from the analysis. As represented in the examples above, only the past tense was used in the preambles and prompts. This avoided any effects related to *-s* deletion in second person singular, and consequent lack of distinction between direct and indirect quotes.

The obtained proportions of DCQ structures realized were transformed to arcsine values before conducting parametric tests. An univariate ANOVA analysis with group as independent factor and the proportion of DCQs realized as dependent variable showed significant differences per groups ($F(2, 45) = 7.214, p < .002$). Tukey post-hoc analyses testing the differences between groups showed a highly significant difference between the L2 learners and the controls ($p < .001$), but no significant difference between the heritage speakers and the controls ($p < .079$). Although the heritage speakers appear to do better than the L2 learners (30% vs. 10%), their differences were not statistically different ($p = .310$). In order to observe the individual variation within and between groups, we conducted an individual analysis. The results are represented in Table 2.

Regarding the L2 learners, only 1/19 of them showed high number of target DCQ production, and 2/19 produced very low numbers (2 to 4 instances). The rest of the participants (84%) did not produce any DCQ structures at all. The high behavior participant (L2B02) indicated to feel equally comfortable in English and Spanish, to speak both languages at work and rated himself as almost balanced in both languages. The two low behavior participants (L2A07 and L2B06) were also very advanced learners. Participant

Table 2. Sentence completion task: Individual analysis (number of participants per group).

Number of items	L2 learners	Heritage speakers	Controls
7–12	1/19 (5%)	4/15 (27%)	8/14 (57%)
5–6	0/19 (0%)	3/15 (20%)	1/14 (7%)
1–4	2/19 (11%)	0/15 (0%)	3/14 (21%)
0	16/19 (84%)	8/15 (53%)	2/14 (14%)

L2A07 indicated speaking both languages at school and social situations, and Spanish only at work.

In contrast with the L2 learners, the heritage speakers appear to be doing better. 27% of them showed high production of DCQ structures (compared to 5% of the L2 learners) and 53% showed zero use of the double complementizer (compared to 84% of the L2 learners). Three of the high behavior participants indicated speaking Spanish or both languages at home and two of them indicated to speak both languages in social situations. The control group outperformed both experimental groups with a much higher number of target structures produced (57%). However, 3/14 participants produced very low numbers of DCQs and 2/14 produced no DCQ structures at all. This indicates morphosyntactic variability in the monolingual norm. It is possible that a change in progress is taking place regarding the use of this particular structure in Cuban Spanish.

These individual results suggest that the heritage speakers are doing better than the L2 learners, supporting previous research claiming age-related effects for the advantage of heritage speakers (Keating et al., 2011) However, these results have to be taken with caution. In both groups, the largest percentage of speakers omitted the DCQ structure.

4   Acceptability judgment task

Results from the AJT showed low acceptance rates of 'acceptable' sentences (option with *que*) (3.4/5) and higher acceptance rates of 'unacceptable' ones (option without *que*) (4.1/5) among the L2 learners. The heritage speakers showed similar behavior with both acceptable (4.4/5) and unacceptable sentences (4.5/5). The control group showed higher acceptance rates of acceptable sentences (4.7/5) and much lower rates with unacceptable sentences (3.6/5). This is represented in Figure 2.

A repeated measures ANOVA analysis with group as independent factor and unacceptable items as dependent factor showed a marginal significant differences per group ($F(2, 45) = 2.760$, $p < .07$). Tukey post-hoc tests showed significant differences between the heritage speakers and the controls ($p < .05$), but no significant differences between the controls and the L2 learners ($p = .366$) or between the two experimental groups ($p = .501$).

Regarding acceptable items, results showed significant differences between groups ($F(2, 45) = 6.915$, $p < .002$). The controls and the L2 learners behaved significantly different ($p < .003$) but there were no significant differences between the controls and the heritage speakers ($p = .728$). Both groups accepted DCQ structures at high levels. The
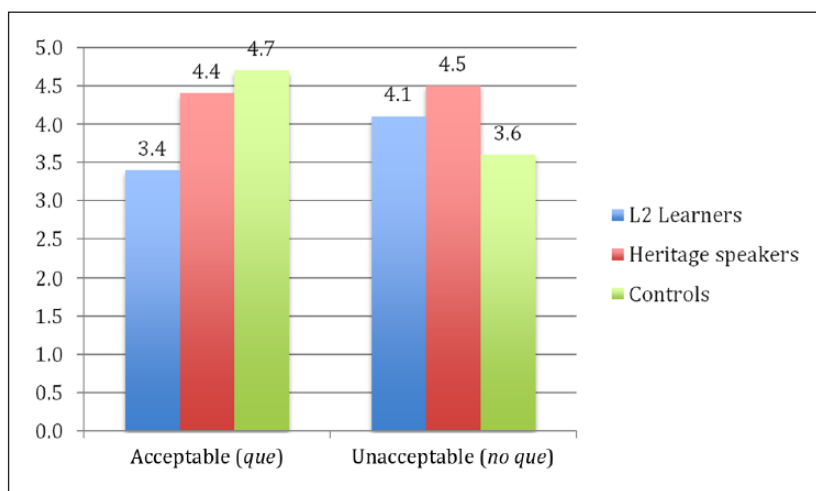
Figure 2. Acceptability Judgment Task. Mean scores for the acceptability of the *option with que* and *without que* per group.

Table 3. Acceptability judgment task: Individual analysis for acceptable and unacceptable items.

Group	Accepted	Unsure	Rejected
L2 Learners:			
Acceptable (*que*)	11/19 (58%)	0/19 (0%)	8/19 (42%)
Unacceptable (*no que*)	14/19 (74%)	0/19 (0%)	5/19 (26%)
Heritage speakers:			
Acceptable (*que*)	14/15 (93%)	0/15 (0%)	1/15 (7%)
Unacceptable (*no que*)	14/15 (93%)	0/15 (0%)	1/15 (7%)
Controls:			
Acceptable (*que*)	14/14 (100%)	0/14 (0%)	0/14 (0%)
Unacceptable (*no que*)	7/14 (50%)	3/14 (21%)	4/14 (29%)

two experimental groups behaved significantly different ($p < .025$) for the advantage of the heritage speakers.

   Although the control participants did not reject the lack of DCQ use completely in this task, they did treat acceptable ($M = 3.6$) and unacceptable items ($M = 4.7$) significantly different for the advantage of the acceptable items ($p < .001$). This indicates that their grammatical intuition is target-like. This, however, was not the case with the L2 learners, who treated both acceptable and unacceptable sentences statistically similarly ($p = .112$). As the L2 learners, the heritage speakers also showed no distinction between acceptable or unacceptable sentences, and accepted both of them almost equally ($p = .851$).

   An individual analysis confirmed the group results. For this analysis, participants who accepted 6/9 items were considered as 'accepted' behavior speakers. Those who accepted

5/9 items were considered as 'unsure' behavior speakers, and those who accepted 4/9 or fewer items were considered as 'rejected' behavior speakers. As represented in Table 3, the majority of the L2 learners (14/19) accepted unacceptable items (no *que*) and only 5/19 rejected them, which shows low levels of intuition on the unacceptability of these structures. However, four out of the five 'rejected' participants also accepted the acceptable ones, which indicates some sensitivity to the target structure among these four learners. One of these participants also showed high production of DCQs in the production task and three of them reported speaking mostly Spanish or both English and Spanish at work. The heritage speakers, on the other hand, showed no distinctions in their intuitions of acceptable vs. unacceptable items except one participant. The same participant who rejected unacceptable sentences also produced high number of DCQs in the production task. The monolingual speakers also showed a great deal of variability as 7/14 participants accepted sentences without the double complementizer (unacceptable items) and 3/14 were unsure. Again, this raises questions regarding the syntactic representation of DCQ structures in the Spanish monolingual norm.

In contrast with the results of the aural production task, these results show no advantage from the heritage speakers group over the L2 learners. In what follows we discuss the results of the preference task and examine the extent to which our participants were able to assign target interpretation of the DCQ structure.

5   Preference task

Results from the preference task showed low levels of DCQ preference by the L2 learners (40%), as predicted. As in the production task, the heritage speakers outperformed the L2 learners with a higher number of DCQ structures preferred (60%). This is represented in Figure 3. As previously mentioned, preference for the option with *que* (target structure) was given a score of one and preference for the option without *que* received no score (0). These categorical values were transformed to arsine values before conducting the parametric tests. A univariate ANOVA analysis with group as independent factor and the proportion for the option without *que* preference as dependent factor showed significant differences per group ($F(2, 45) = 4.848$, $p < .012$). Tukey post-hoc comparisons showed significant differences between the controls and the L2 learners ($p < .009$), but no differences between the controls and the heritage speakers ($p = .323$). In contrast with the acceptability task, the heritage speakers did much better compared to the L2 learners. Although the two experimental groups were not significantly different from each other ($p = .257$), only the L2 learners were significantly different from the controls.

An individual analysis within groups confirmed the group results. For this analysis, participants who preferred the double complementizer structure 10 times or more out of 18 items were considered as 'preference' behavior speakers, while those who chose this option 9/18 times were considered as 'unsure' speakers, and those who chose this option 8 times or less were considered as 'no-preference' speakers. As shown in Table 4, the heritage speakers showed an advantage over the L2 learners. 67% of the participants preferred the double complementizer structure, compared to 47% of the L2 learners. There appears to be a task effect as the majority of the heritage speakers did much better
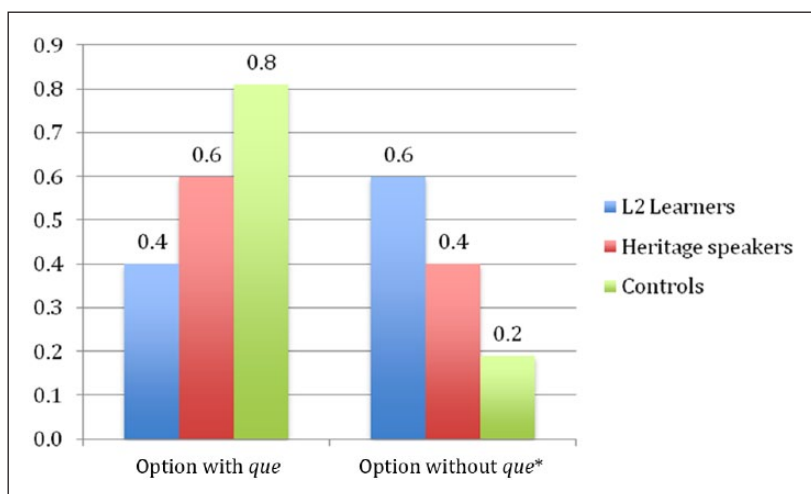
Figure 3. Preference Task. Mean scores of preference for the *option with que* and the *option without que* per group.

Table 4. Preference task: Individual results for option with *que*.

Group	Preference	Unsure	No preference
L2 learners	9/19 (47%)	1/19 (5%)	9/19 (47%)
Heritage speakers	10/15 (67%)	0/15 (0%)	5/15 (33%)
Control	12/14 (86%)	2/14 (14%)	0/14 (0%)

in this task than in the acceptability or in the elicited production measure. Although the L2 learners were outperformed by the heritage speakers, they also did much better in this task than in the previous ones. It is possible that once the two structures are presented together, the internal representation of the speakers is more activated as they can compare the two structures and choose the one that is more preferable to them. This was also a factor among the monolingual speakers who preferred the double complementizer structure 86% of the time, compared to the variability shown in the acceptability task and in the production task.

6   Discussion

As predicted, the L2 learners show difficulties with the target intuition, interpretation, and production of DCQ structures. Overall, they do not display target knowledge of the syntactic and semantic constraints regulating double complementizer structures, despite their high levels of bilingual proficiency. We would like to argue that the diverging patterns stem from three different yet interconnected factors in the acquisition process. First, there is the issue of input frequency and insufficient evidence

(O'Grady et al., 2011; Yang, 2002; Yuan, 1997). As mentioned earlier, DCQ structures are not frequent in day-to-day input, and this might cause difficulty in the activation and eventual specification of this structure. Low frequency levels are related to the existence of a more common form in Spanish; the verb *preguntar* ('to ask') with null *que*. Native and non-native speakers overwhelmingly prefer this option for introducing indirect questions. This form is also less complex than the DCQ structure because it does not require an overt *que* (e.g. *Juan le preguntó a María adónde fue* 'John asked Mary where she went'), which introduces more phrase structure complexity. The existence of a simpler form in the grammar to express the same meaning introduces a second dimension in the acquisition process that directly interacts with input frequency, namely, structure complexity.

We would also like to argue for a third dimension in the acquisition process, which also interacts with input frequency and structure complexity, specifically, cross-linguistic influence and structure overlap (Müller and Hulk, 2001; Silva-Corvalán, 1993; Yip and Matthews, 2009). English provides L2 learners with an overlapping structure with the verb *preguntar* ('to ask'). L2 learners may transfer the use of this structure into Spanish and avoid the use of the complementizer *que* altogether. By analogy, the L2 learner may extend the null *que* construction to non-*ask/wonder* verbs of saying, partially motivated by the underspecification of the function of the *que*. This extension might occur regardless of whether the learner understands the semantic entailments of the verb of saying. It is important to note that there were four L2 learners who behaved target-like across the three testing measures. These participants did indicate in the language background questionnaire that they use Spanish considerably more than the other participants. This suggests a role for language production/activation as well as the possibility of native-like attainment when ideal conditions are met (Birdsong, 1992, 2005, 2009; Schwartz and Sprouse, 1996).

A related question in our study considered whether L2 learners would show similar behavior to Spanish heritage speakers exposed to Spanish since early childhood. We predicted that if similar difficulties obtained, then deficits with target language knowledge could not be directly associated with age-related effects. While the data show overall difficulties among both bilingual groups when compared to the control group, the heritage speakers did outperform the L2 learners in the preference and production tasks. Although statistical significance was not reached when comparing group means in the production task, individual differences do show some discreet but clear advantages for the heritage speaker group. This suggests a role for age-related effects as an added dimension in the acquisition process (Coppieters, 1987; Johnson and Newport, 1989; Montrul, 2010a) and confirms recent research comparing the morphosyntactic competence of heritage speakers vis-à-vis L2 learners (Keating et al., 2011; Montrul 2010a, 2010b). Heritage speakers have not only been exposed to Spanish from birth, with the potential neurolinguistic benefits that this implies, but also, by default, have had a longer and qualitatively different exposure to Spanish during their lifespan.

The advantage of the heritage speakers is clear in the results of the preference task. When the two structures were presented together, 10/14 of the heritage speakers preferred the structure with the overt *que*. This was not the case with the adult L2 learners. Still, it is not surprising that heritage speaker and control group patterns do not converge

as demonstrated by the results of the acceptability task. In contrast to monolinguals, heritage speakers have been exposed to English from an early age and have received little formal instruction in their heritage language. As a result, they are susceptible to cross-linguistic influence effects, lack of metalinguistic awareness, and issues related to structure frequency. Furthermore, there is a possibility of incomplete acquisition (Montrul, 2008, 2011) and/or L1 attrition (Bylund, 2009; Polinsky, 2011) during early childhood. However, further research testing this particular structure with child heritage speakers is necessary to confirm this.

The asymmetries observed across the three different tasks add to previous research documenting competence differences among heritage speakers depending on the type of elicitation procedure (Bowles, 2011; Cuza, 2013; Potowski et al., 2009). It is clear that heritage speakers are at a disadvantage with metalinguistic oriented tests like acceptability judgments. Future research should avoid making overgeneralizations on the linguistic competence of heritage speakers based solely on their grammatical intuition.

Interestingly, even the control participants were not categorical in their rejection of unacceptable items (3.6/5) in the AJT. As shown in Table 3, this variability was not limited to one or two speakers but to half of the participants (7/14). However, there were two unacceptable items that were rated as fine or completely fine by 12/14 of the speakers despite the lack of complementizer (#*Ramón le contestó a José Ø con quién estudió para el examen*, interpreted as 'Ramon asked Joseph with whom he studied for the exam' and #*El hijo le gritó a su padre Ø dónde podía encontrar más chocolates*, interpreted as 'The son asked his father where he could find more chocolates'). This level of variability was also present in the production task where only 60% of the participants' responses included a DCQ structure.

This variability can be interpreted in a number of ways. Some might consider these results as evidence of 'different speakers, different grammars' (Dabrowska, 2012). This interpretation could potentially be further supported if it is determined that DCQ constructions are falling out of use in Spanish. Further research is required in order to consider this possibility. Another plausible explanation is that, while the null *que* option is ungrammatical under the question interpretation, it may be 'good enough' for some monolinguals (Ferreira and Patson, 2007). Good enough in the sense that there is no breakdown in communication thanks to the disambiguating preamble. This would not only explain the AJT results but also the variability found in the production task. Importantly, one would still predict that monolinguals and bilinguals produce and represent the *que* differently because the latter group is subject to influence from the other language, age-related effects, and other factors associated with the bilingual experience.

V   Conclusions

This study examined the L2 acquisition of double complementizer questions in Spanish, a CP-related structure not available in English and not typically taught in Spanish language classrooms. We considered age of onset of acquisition as a potential learnability factor by comparing two similar but also divergent bilingual populations, namely adult L2 learners (late bilinguals) and Spanish heritage speakers (early bilinguals). We proposed that if L2 learners show similar patterns of difficulties as the

heritage speakers, then their difficulties cannot be accounted for in terms of age-related constraints.

Results from three tasks clearly demonstrate differences in use, acceptability and interpretation between groups. Specifically, our data demonstrate that the L2 learners' patterns are significantly different from the monolingual speakers' across all tasks. We have argued that these divergences stem from low input frequency of the structure in question, the existence of a less complex competing structure in Spanish, and cross-linguistic influence from a less marked option in English.

Furthermore, our results demonstrate a heritage speaker advantage over the L2 learners in their interpretation and production of DCQ structures. These results support previous work arguing for age-related constraints to native-like attainment (Hyltenstam and Abrahamsson, 2003; Long, 1990) and, more recently, research documenting a morphosyntactic advantage for heritage language learners over adult learners (Montrul, 2010a, 2010b). Although heritage speakers do sometimes closely pattern L2 performance, they do seem to benefit from earlier exposure to their minority language.

It remains unclear what an inaccurate native speaker response really means as far as the double complementizer question is concerned, and how this differs with a heritage or L2 speaker's inaccurate response. In the present study we have discussed how and why the groups diverge. The next step is to consider the divergences within each group, and by extension, the similarities across groups.

Notes

1. A reviewer points out that Radford (2013) offers published DCQ examples in a specific variety of British English (e.g., *I spoke to him to say that what had happened*). This suggests dialectal variation in English. This construction, however, is not easily accepted in American English, the dialect of our study.
2. For recent research on the role of structure variability and non-categorical input in final attainment please see De Prada-Pérez (2013).
3. In an independent inquiry on the usage of the null and overt *que* in embedded questions using the Davies Corpus of Spanish (2002), the authors found that Spanish speakers have a clear preference for introducing embedded *wh*-questions with the verb *preguntar* ('to ask') (93%), and use the null *que* much more frequently than the overt *que* (76%).
4. A reviewer suggests that the *que* as a reportative marker implies a difference in both the

interpretation and the syntax of overt versus null *que* constructions. We note that the function of the *que* remains unresolved. Under Radford's (2013) analysis, the complementizer is maximally underspecified and simply marks finiteness, implying that the complementizer *que* does not serve any specific semantic or pragmatic function.

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