Case Studies in Eliciting the Spanish Subjunctive in Heritage Bilingual Children
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Abstract

Previous research has shown that the Spanish subjunctive is a vulnerable mood in the process of acquisition for adult heritage speakers. Specifically, the subjunctive use in optional contexts tends to be more prone to simplification (i.e. in adjectival clauses). This subjunctive emerges in monolingual Spanish-speaking children as early as two years of age and reaches more adult-like development by age 7. This development seemingly correlates with their development of theory of mind. Reduced exposure to Spanish can also affect heritage children's use of the Spanish subjunctive. However, little is known about heritage bilingual children's knowledge of heritage Spanish in the U.S. Previous literature leaves in question whether heritage speakers' development of the Spanish subjunctive is the result of reduced exposure alone or if it is connected to the development of the cognitive underpinnings of this linguistic mood. Therefore, the current study aims to add to this line of research by examining heritage bilingual children's production of the Spanish subjunctive in adjectival clauses.

I report on six case studies on the use of the subjunctive in child heritage speakers of Spanish between the ages of three and five. I administered a task designed to elicit both the indicative and subjunctive moods and a theory of mind task assessing cognitive development. Demographic information was also collected from parents/guardians about the child's exposure to and use of English and Spanish for the purposes of analyzing the participants exposure to and production of Spanish.

Preliminary results demonstrate that the children mostly opted for the indicative mood in scenarios that required the subjunctive. More data would be necessary to reach firm conclusions about the effect of theory of mind development. As such, these first findings suggest that factors such as exposure to Spanish and generation in the U.S. may be better predictors than theory of mind development alone for child heritage speakers.

Introduction

A central debate in developmental psychology is how linguistic development and cognitive development interact with each other. This study aims to examine this interaction in heritage language speakers. Heritage speakers are defined as individuals who speak a language at home that is different from the dominant language in their country of residence (e.g. Spanish in the US). This minority language is connected to their cultural background and is usually restricted to the home/community. Importantly, heritage speakers' exposure to their heritage language is restricted and speakers come to develop a more functional knowledge of their minority language rather than monolingual native-level knowledge. That is, they are usually able to produce and comprehend the heritage language with some level of proficiency. This proficiency however can range from almost monolingual native levels of comprehension and production to basic comprehension alone (Montrul 2009). These differences can be attributed to a variety of factors including age of exposure to the dominant language, frequency of use of the

heritage language, and the language of formal schooling. Their bilingual experience affects the grammar of heritage speakers as various complex grammatical forms, including the Spanish subjunctive have shown to be vulnerable to simplification.However, little is known about the connection between the cognitive underpinnings of moods like the subjunctive and their production in bilingual heritage speakers.

The subjunctive is a linguistic mood used to connote states of uncertainty, subjectivity and hypothetical situations (e.g. If I **were** a rich man...). This is in contrast to the indicative mood, which is used to indicate states of certainty, objectivity, and current states of affairs (e.g. Because I **am** a rich man…). The differences between the indicative and subjunctive moods in English come from pragmatic context, whereas Spanish relies on subtle morphological differences to make the distinction between these two moods. This subtlety is exemplified with the verb *amar* (to love) in the phrase "Si yo **ame** a un hombre…" (*If I **love**-SUBJUNCTIVE a man…*) in the subjunctive mood, which expresses a hypothetical situation. This contrasts with "Yo **amo** a un hombre…" (*I **love**-INDICATIVE a man*) in the indicative mood, which expresses a situation that is currently true. Given the complexity of this linguistic mood and its infrequent use in English, it is therefore not surprising that this linguistic form is vulnerable to simplification in bilingual speakers (Silva-Corvalan,1994).

However, development of the subjunctive in monolingual Spanish- speaking children has been linked to sophisticated cognitive development involving theory of mind, which involves the ability to evaluate the beliefs and desires of other people as well as a hypothetical state of the world (Pérez-Leroux, 1998). However, the connection between theory of mind development and the development of the Spanish subjunctive has yet to be tested in bilingual heritage Speakers. This study aims to investigate this intersection of cognitive and linguistic development in child heritage speakers by expanding and improving on the methodology of Pérez-Leroux's work, specifically by including more sensitive metrics of linguistic development.

Background

Cognitive and Linguistic Development

Pérez-Leroux (1998) approached children's development of the subjunctive by comparing it to their development of theory of mind, which reflects an individual's ability to entertain hypothetical beliefs and understand that someone can believe something that is false. The development of theory of mind is often tested using a false belief task. For example, a false belief task would involve a character's false belief about where a particular item is hidden or what another person would believe is inside a particular container. In a direct false belief task, for example, character A puts a ball in a box and leaves the scene. While Character A is gone, Character B moves the ball to another box. In the end, the child is asked where Character A will look for the ball. A child who is able to entertain false beliefs will indicate the box in which Character A originally placed the ball because Character A never saw the ball moved and can therefore falsely believe it is still there. There is evidence that different levels of theory of mind seem to become available early on in childhood (Baillageon et al, 2010) however, full theory of

mind development can take several years, often extending throughout childhood (Carlson et al, 2013).

Pérez-Leroux (1998) tested monolingual Spanish speakers between the ages of 3-6 on their production of the Spanish subjunctive and their theory of mind ability. She presented the children with a production task that included a variety of stories and accompanying images in which a character is looking for an object that is not in the image. The child would therefore need to use the subjunctive mood in their response to what the character is looking for. A direct false belief task was used to test the children's development of theory of mind. Analysis revealed a strong correlation between the number of subjunctive productions and number of correct false belief attributions. Age was found to be the best predictor of both subjunctive production and development of theory of mind as performance on the theory of mind task and productions of the subjunctive increased with age. However, the presence and use of the subjunctive has been shown to differ significantly between heritage speakers and their monolingual counterparts. It is also still largely unknown whether the relationship between development of theory of mind and the subjunctive carries over to bilingual heritage speakers.

Bilingual Heritage Speakers and the Spanish Subjunctive

In a pioneering study, Silva-Corvalan (1994) found through sociolinguistic interviews with heritage-speaking adults in Los Angeles that use of the subjunctive in adjectival relative clauses was particularly vulnerable to simplification in this population, meaning that these heritage speakers tended to replace the subjunctive with the indicative mood in their productions. Montrul (2007) found that adult heritage speakers have trouble both interpreting and producing the subjunctive mood. Montrul (2009) compared adult heritage speakers of Spanish with fully competent adult native speakers and found that heritage speakers had difficulties with the subjunctive in adjectival clauses when compared to their monolingual counterparts. Adult heritage speakers have also been found to struggle with interpretation of the subjunctive mood (Montrul & Perpiñán, 2011). The findings of this literature therefore leave the question about where the simplification and struggles with the subjunctive mood stem from. It is still unclear whether the omission of the Spanish subjunctive in heritage-speaking adults' production of adjectival clauses is due to loss of the linguistic form (*attrition*), or if it is instead due to an *incomplete acquisition* of the Spanish language.

The answer to this question begins by investigating children. Blake (1983) found that while the early signs of the subjunctive mood in adjectival clauses emerge in monolingual children as early as age two, the linguistic form is not fully developed until around age 7- thus reflecting the effects of formal schooling. Merino (1983) conducted a longitudinal study following children from kindergarten to the upper grades and found that complex structures in Spanish, like the subjunctive in general, were vulnerable to simplification. Silva-Corvalán (2014) conducted a longitudinal study with two heritage bilingual children through the span of 6 years. This study also found that the subjunctive mood was vulnerable to simplification in addition to other linguistic forms. Silva-Corvalán (1994) found that the use of the subjunctive in adjectival

clauses was particularly vulnerable to simplification as this structure was among the most affected in her data.

The development of the subjunctive mood can look drastically different between monolingual speakers and their heritage-speaking counterparts. Monolingual speakers can come to acquire an almost adult-like form of the subjunctive by around age 7. However, their heritage speaking counterparts have developed a much more simplified form of the subjunctive in adjectival clauses at this age that appears to follow them to adulthood. Pérez-Leroux (1998) suggested that this development is correlated with development of theory of mind in child monolingual speakers. However, this correlation has yet to be tested in bilingual heritage speakers. If development of theory of mind correlates with development of the Spanish subjunctive, then delays in heritage speakers' acquisition of the subjunctive could be due to delays in theory of mind development. However, if this correlation does not exist in heritage speakers, the delay in development of the subjunctive can likely be due to other factors including exposure to Spanish and its more complex forms. This study aims to expand on Pérez-Leroux's work by asking the following questions:

Research question 1 (RQ1) addresses linguistic knowledge of the subjunctive by asking: Do heritage speakers between the ages of 3 and 5 produce the Spanish subjunctive accurately through an elicitation task?

Research question 2 (RQ2) addresses the role of theory of mind in development of the Spanish subjunctive by asking: Is there a relationship between heritage bilingual children's production of the Spanish subjunctive and their development of theory of mind?

Methods

Participants

A total of six participants were recruited from two churches in Los Angeles. These six participants consisted of five boys and one girl. In order to participate in the study, a child needed to be between the ages of 3 and 5, of Mexican descent at minimum through their mother, and be comfortable enough speaking both English and Spanish to complete the tasks. The participants' parents were presented with a consent form along with two vocabulary inventories. The first was a list of words generated from frequently used nouns in the CHILDES database through which parents were able to indicate which words their child could produce and/or understand in Spanish. The second inventory was a questionnaire through which parents indicated how often the child used either English or Spanish in a variety of contexts including school, home, and the community along with demographic information. Upon receiving consent from the parents, the following tasks were explained to the child in age-appropriate terms and the child had the opportunity to give assent.

<u>Tasks and Stimuli</u>

Elicitation Task

The first task presented to the child was an elicitation task aimed at eliciting both the Spanish indicative and subjunctive moods. Participants were presented with one practice scene for each mood, for a total of two practice scenes, and three test scenes for each mood resulting in a total of six test scenes. For the scenes, the child was presented with a stuffed animal named Paco. The children were told that Paco would be looking for things that may or may not be in his magic bag and that their job was to say what Paco is looking for. In the scenes that elicited the indicative mood, the child would be presented with two pictures like the ones shown in Figure 1.

Figure 1

Participants are presented with a picture of a fast car and a slow car. Participants are expected to indicate that Paco is looking for the fast car, thus using the Spanish indicative because the object Paco is looking for is present.

The participant was first asked to identify the items on the card. Then the participant is told in Spanish that "Paco quiere jugar con su carro. Este carro camina rápido, pero este carro camina lento. A Paco le gustan los carros rápidos. Paco busca el carro que…" *(Paco wants to play with his car. This car is fast, but this car is slow. Paco likes fast cars. Paco is looking for the car that…)*. Because the car that Paco is looking for is present in the cards shown to the participant, the appropriate response would be to use the indicative form of the verb *estar* (to be) in saying "*el carro que* **es** *(ind) rapido*" (the car that **is** (IND) fast).

For the scenes that elicited the subjunctive mood, participants were presented with the images shown in Figure 2. Again, participants were asked to identify the item on the card. Participants were then told that "Paco has this ball, but this ball doesn't have air. Paco wants to play with a ball, but he can't play with this one because it doesn't have air. So Paco is looking for a ball that…". Because the ball that Paco is looking for is not present, the correct response would use the subjunctive form of the verb *tener* (to have) in responding "...*una pelota que* **tenga** *(SUBJ) aire*" (a ball that **has** (SUBJ) air). Both the practice and test sets of stories were completed within 20 minutes.

Figure 2

Participants were presented with a picture of a deflated ball and told that Paco wants to play with a ball, but he cannot use this one because it doesn't have air. Because the ball Paco is looking for is not present, this prompts use of the Spanish subjunctive.

False Belief Task

This task was presented through a series of eight stories. An example of these stories is that of a boy and a girl who are playing with their red ball. The girl has to leave, so she places the ball in a green toy box for safekeeping. While the girl is gone, the boy moves the ball from the green box to the blue box. The girl returns to the story and the participant is asked where the girl will look for the ball. In a child who can appropriately assign false beliefs, they will presume that because the girl didn't see the ball moved that she will look for it in the place she had originally placed it- the green box.

Figure 3
A direct false belief task was used to assess children's development of theory of mind

A child who cannot appropriately assign false beliefs will say that the girl will look in the blue box because that is where it is placed currently- ignoring the fact that the girl did not see this move happen and therefore should not know to look there. Participants were presented with eight stories for the purpose of varying the character who hides the ball, the color of the box in which the ball is hidden, and the orientation of the box in which the ball is hidden. This was done to control for any preferences participants could have for either orientation, color, or gender of the character hiding the ball.

<u>Procedure</u>

Upon gaining consent from the parent/guardian and assent from the child, the parent/guardian was presented with a vocabulary inventory to indicate which words the child can produce and understand in Spanish. They were also presented with a demographic questionnaire to indicate how often the child was exposed to English and Spanish and in which contexts. The child was then presented with 2 practice scenarios of the elicitation task. They practiced one indicative and one subjunctive scenario. They were then presented with 6 more scenarios that were recorded and later analyzed. This task took approximately ten minutes. The false belief task was administered in a separate session through which the children were presented with eight different versions of the false belief story. These variations were generated in order to control for external factors that could have influenced a child's response. The different stories varied the person hiding the ball, the box in which the ball is hidden, and the orientation of the box on the screen.

Results

Preliminary results suggest that development of theory of mind may not be the best predictor of subjunctive production in bilingual heritage speakers. Participants tended to prefer using the indicative mood during the elicitation task, even in scenarios meant to elicit the subjunctive mood. We report only one token of the subjunctive in the phrase "*una llave que….. no esté quebrada*" (a key that is not (SUBJ) broken). Aside from the one token of the subjunctive mood, other responses to this and other subjunctive elicitations used the indicative form of the verb, which for the example above used *está* as opposed to *esté*. Theory of mind results showed one child assigning false beliefs with 87% accuracy, two children performing at 37% accuracy, one child performing at 13% accuracy and two children who were unable to accurately assign false beliefs in any of the presented scenarios. Interestingly, the one token of the subjunctive came from one of the two children who did not accurately assign false beliefs. I also report the case of the child who assigned false beliefs with 87% accuracy, but was unable to produce the subjunctive during the elicitation task.
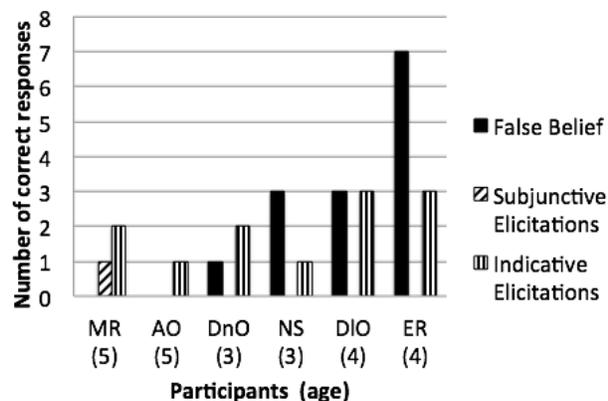
Figure 4
Reports of performance on elicitation and theory of mind tasks. Only one token of
the subjunctive reported from a child who did not show theory of mind. The child with
the highest performance on the theory of mind task did not produce the subjunctive.
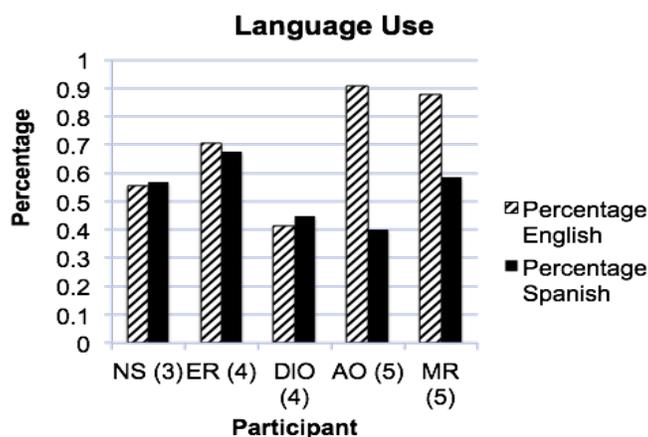
Figure 5
Demographic data was collected on each child to evaluate their use of English and Spanish at home, school, and in the community

I made an age-by-age comparison between the production of the Spanish subjunctive in the bilingual heritage speakers in this study and their monolingual counterparts in Pérez-Leroux's 1998 study.

Ages	Pérez-Leroux (1998)	This Study
3;5-4;0	Children producing subjunctive: 2/8 Average productions: 1.25	Children producing subjunctive: 0/2 Average productions: 0
4;1-5;1	Children producing subjunctive: 4/6 Average productions: 2.5	Children producing subjunctive: 0/2 Average productions: 0
5;2-5;7	Children producing subjunctive: 5/6 Average productions: 1.83	Children producing subjunctive:1/2 Average productions: .5

Table 1
Comparing use of the Spanish subjunctive in monolingual and bilingual heritage speakers of

Ages 3;5- 4;0

Pérez-Leroux (1998) reports 2/8 monolingual 3;5- 4 year olds producing the subjunctive with an average of 1.25 productions overall. Our data on heritage speakers of the same age reports 0 of 2 children producing the subjunctive with no tokens of the subjunctive in this data set.

Ages 4;1- 5;1

Pérez-Leroux (1998) reports 4 of 6 monolingual 4;1- 5;1 year olds producing the subjunctive with an average of 2.5 productions overall. Our data on heritage speakers of the same age reports 0 of 2 children producing the subjunctive with no tokens of the subjunctive in this data set.

Ages 5;2-5;7

Pérez-Leroux (1998) reports 5 of 6 monolingual 5;2- 5;7 year olds producing the subjunctive with an average of 1.83 productions overall. Our data on heritage speakers of the same age reports 1 of 2 children producing the subjunctive with one token of the subjunctive in this data set.

Discussion

Given the performance of the child heritage speakers in this study, I was unable to find the correlation between development of the Spanish subjunctive and theory of mind that Pérez-Leroux (1998) had suggested for monolingual speakers. However, given the different linguistic experiences of both monolingual and heritage speakers, our results on elicitation of the subjunctive fall in line with prior research on the development of this linguistic mood. The subjunctive mood has shown to be a very complex linguistic form in Spanish that develops over an extended period of time through literacy, even for monolingual speakers (Blake, 1983). The demographic data collected on heritage speakers suggests that their exposure to English has increased in older children and eventually surpasses their exposure to Spanish. Given the limited exposure that bilingual heritage speakers have to Spanish, it is therefore not surprising that more complex moods like the subjunctive are not acquired at the same rate. This is also not surprising given that English makes use of pragmatics rather than morphology to distinguish between the subjunctive and indicative moods.

An interesting example of this use is the only token of the subjunctive that we have in our data. This token came in the form of a much more frequent verb than the one that had been elicited. The intended phrase for this elicitation had been "*una llave que…..abra la puerta*" (a key that would open (SUBJ) the door). However, participants prefered to produce the more common verb *estar* (to be) as opposed to the less common verb *abrir* (to open). The limited exposure to Spanish that these heritage speakers receive is being reflected not only in the fact that they preferred to use the indicative in these scenarios, but also in the verbs that they chose to use in their responses. It is therefore possible that development of the subjunctive in heritage speakers may be more connected to the child's exposure to Spanish and the frequency with which they hear these linguistic forms rather than ability to pass a false belief task.

Future directions for this work include acquiring a larger sample size and performing these tasks with slightly older children in light of the lengthy nature of the subjunctive development. Other

directions include investigating the effects of dual-language education on the development of the subjunctive mood in light of previous literature that cites formal education in the development of this mood for monolingual speakers (Blake, 1983). The results of this work could be used to impact the curriculum of these dual-language programs and how they are used to expose heritage speakers to the most complex forms of the Spanish language. By applying this work to education it may also be possible to investigate the effects of heritage language education on adults. We could begin to see if it would be easier for adults to learn something they never knew or re-learn something they had known and subsequently lost. The effects of dual-language education on these complex structures are still largely unknown, and studying this effect can give a better understanding of whether heritage speakers' experiences are a case of attrition, incomplete acquisition, or simply a normal pathway in bilingual acquisition.

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Appendix

Paco tiene dos bicicletas. Una azul y otra roja. Quiere jugar con su amigo Paco y a Paco le gusta el color azul. Paco busca la bicicleta que..... es azul! (IND)
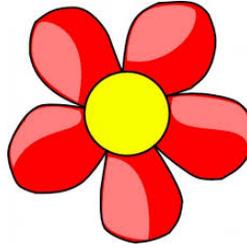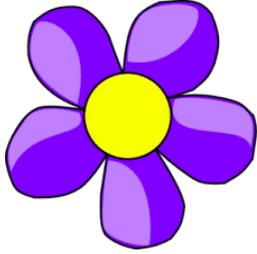

Paco quiere jugar pelota, pero esta pelota no tiene aire. Paco busca una pelota que.... tenga aire! (SUBJ)

Paco tiene dos relojes, y quiere saber la hora. Uno esta quebrado, pero el otro no está quebrado. Paco busca el reloj que… no está quebrado! (IND)

 Paco quiere hacer una llamada, pero no puede usar este porque tiene carga. Paco busca un teléfono que…. tenga carga! (SUBJ)

Paco le quiere dar flores a su mama. Tiene una flor roja y una morada. A su mama le gusta el color morado. Paco busca la flor que…. es morada! (IND)
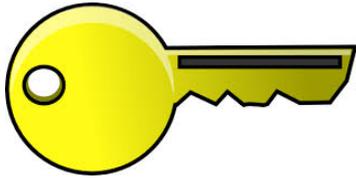
Paco quiere entrar a su casa, pero esta llave no abre el candado. Paco busca una llave que… abra el candado! (Subj)

Paco quiere jugar con sus carro. Este carro camina rápido, pero este carro camina lento. A paco le gustan los carros rápidos. Paco busca el carro que… camina rapido! (IND)

Paco quiere usar sus zapatos, pero estos zapatos no tienen lazos. Paco busca unos zapatos que… tenga(n) lazos! (SUBJ)