This dissertation investigates the acquisition of Spanish as a heritage language from a linguistic perspective. The main objective is to locate and explain vulnerability in heritage grammars. The relative vulnerability of internal and external interfaces is tested in a unique and novel way, namely by comparing interfaces within phenomena, so as to keep other possibly intervening variables constant. Data from acceptability judgment tasks and elicited production tasks targeting mood and subject position reveal that syntax is the most robust domain, while the external interface between syntax and discourse-pragmatics is most vulnerable, in line with the Interface Hypothesis.

This thesis moreover provides an important contribution to the field by investigating a relatively understudied population of heritage speakers, and shows that the specific socio-linguistic circumstances of the host country, as well as the linguistic properties of the majority language spoken there, can have important effects on the heritage language. Others variables, such as the specific task that is used, the type of knowledge that is targeted (implicit or explicit), the amount of input received in early childhood, the age at which testing takes place (in childhood vs. in adulthood), and the age of onset of the weaker language (heritage vs. L2 speakers) are also shown to influence the degree and the type of vulnerability. As such, this dissertation demonstrates that heritage language acquisition is a highly complex phenomenon, in which various language-internal and language-external factors are intertwined in an intricate way.
Vulnerability in heritage speakers of Spanish in the Netherlands

An interplay between language-internal and language-external factors
Published by
LOT
Kloveniersburgwal 48
1012 CX Amsterdam
The Netherlands
phone: +31 20 525 2461
e-mail: lot@uva.nl
http://www.lotschool.nl

Cover illustration: Lukraak Grafisch Ontwerp

ISBN: 978-94-6093-326-4
NUR 616

Copyright © 2019: Brechje van Osch. All rights reserved.
Vulnerability in heritage speakers of Spanish in the Netherlands
An interplay between language-internal and language-external factors

ACADEMISCH PROEFSCHRIFT

ter verkrijging van de graad van doctor
aan de Universiteit van Amsterdam
op gezag van de Rector Magnificus
Prof. dr. ir. K.I.J. Maex
ten overstaan van een door het College voor Promoties ingestelde commissie, in het openbaar te verdedigen in de Agnietenkapel
op dinsdag 1 oktober 2019, te 10.00 uur

door

Brechje Antonet van Osch
geboren te Boxtel
Promotiecommissie:

Promotor: Prof. dr. A.C.J. Hulk
Copromotores: Dr. S.P. Aalberse
Dr. A.P. Sleeman

Overige leden:
Prod. dr. J.C. Schaeffer
Prof. dr. J.E. Rispens
Prof. dr. E.O. Aboh
Dr. M.C. Parafita Couto
Prof. dr. J. Rothman
Dr. C.M. Moreira Flores

Faculteit der Geesteswetenschappen

The research presented in this dissertation was funded by a grant from the graduate program of the Netherlands Graduate School of Linguistics (LOT), which received the funds from the Netherlands Organization for Scientific Research (NWO) in the context of the project “Language — from cognition to communication” (NWO project number 022.004.015).
# Table of contents

Acknowledgments ......................................................................................... vii  
Author contributions ................................................................................... ix  
List of abbreviations ................................................................................... xi  
List of figures and tables ........................................................................... xiii  

## Chapter 1 ................................................................................................. 1  
1.1 Introduction .......................................................................................... 1  
1.2 First things first: What constitutes a heritage speaker? ....................... 2  
1.3 What does heritage Spanish look like? .............................................. 3  
1.4 Differences between the Netherlands and the United States ............. 4  
1.5 The development of the heritage language ....................................... 5  
1.6 Comparing heritage and L2 speakers: Explicit vs. implicit knowledge ..... 6  
1.7 Interface vulnerability in heritage Spanish ....................................... 7  
1.7.1 Mood in Spanish ........................................................................... 9  
1.7.2 Word order in Spanish ............................................................... 11  
1.8 Research questions and outline ....................................................... 13  

## Chapter 2 ................................................................................................. 15  
2.1 Introduction .......................................................................................... 15  
2.2 Spanish mood ..................................................................................... 16  
2.3 Previous research with mood in Spanish heritage speakers ............. 19  
2.4 Research Questions ............................................................................ 20  
2.5 Method ................................................................................................ 20  
2.5.1 Participants .................................................................................. 20  
2.5.2 Tasks and procedure .................................................................... 22  
2.5.3 Stimuli ........................................................................................... 23  
2.6 Results ................................................................................................ 26  
2.6.1 Group results ................................................................................ 26  
2.6.2 Statistical analyses ....................................................................... 27  
2.6.3 Monolingual speakers' variability ............................................... 28  
2.6.4 Heritage speakers' results ......................................................... 29  
2.6.5 Monolingual and heritage patterns ............................................ 29  
2.6.6 Individual results ......................................................................... 30  
2.6.7 Verb types within the external interface .................................... 31  
2.7 Discussion .......................................................................................... 33  
2.7.1 Alternative accounts .................................................................... 35  
2.7.2 Limitations of the present study ............................................... 36  
2.8 Conclusion ......................................................................................... 36
## Table of contents

### Chapter 3

3.1 Introduction ............................................................................................................. 40
3.2 Spanish mood ........................................................................................................... 41
3.3 Previous research .................................................................................................... 43
   3.3.1 Spanish mood by heritage speakers ................................................................. 43
   3.3.2 Task type effects in heritage speakers ............................................................... 43
   3.3.3 Mood in L1 and 2L1 acquisition ...................................................................... 45
3.4 Research question and hypotheses ......................................................................... 45
3.5 Method ...................................................................................................................... 46
   3.5.1 Participants ........................................................................................................ 46
   3.5.2 Tasks and procedure ......................................................................................... 48
   3.5.3 Coding .............................................................................................................. 50
3.6 Results ..................................................................................................................... 51
   3.6.1 Comparison between production and judgment ................................................ 53
3.7 Discussion ................................................................................................................. 55
   3.7.1 Obligatory vs. variable mood .......................................................................... 55
   3.7.2 Indicative vs. subjunctive mood ..................................................................... 55
   3.7.3 Judgment vs. production .............................................................................. 56
3.8 Conclusion ............................................................................................................... 58

### Chapter 4

4.1 Introduction ............................................................................................................. 59
4.2 The subjunctive ....................................................................................................... 61
4.3 Explicit vs. implicit knowledge ............................................................................. 63
4.4 Previous Research .................................................................................................. 64
   4.4.1 Heritage speakers and L2 speakers compared ................................................... 64
   4.4.2 The subjunctive ............................................................................................... 64
   4.4.3 Problems with previous studies ..................................................................... 66
4.5 Research questions and hypotheses ....................................................................... 67
4.6 Method .................................................................................................................... 68
   4.6.1 Participants ...................................................................................................... 68
   4.6.2 Tasks & procedure ........................................................................................ 70
4.7 Results ..................................................................................................................... 74
   4.7.1 Elicited Production Task ................................................................................ 74
   4.7.2 Acceptability Judgment Task ......................................................................... 76
   4.7.3 Individual results ........................................................................................... 77
   4.7.4 The role of exposure and instruction ............................................................... 78
4.8 Discussion ............................................................................................................... 79
4.9 Conclusion .............................................................................................................. 81
Appendices

Chapter 7 .......................................................................................................................... 133
  7.1 Introduction............................................................................................................... 133
  7.2 Word order with intransitive verbs in Spanish ......................................................... 134
  7.3 Word Order in Dutch and English ........................................................................... 136
  7.4 Previous Research ................................................................................................... 139
  7.5 Research Questions and Hypotheses ....................................................................... 140
  7.6 Method ..................................................................................................................... 141
    7.6.1 Participants ......................................................................................................... 141
    7.6.2 Tasks and procedure ......................................................................................... 143
  7.7 Results ...................................................................................................................... 145
    7.7.1 Acceptability Judgment Task ............................................................................ 145
    7.7.2 Production task .................................................................................................. 148
      7.7.2.1 Coding ........................................................................................................... 148
      7.7.2.2 Analysis ....................................................................................................... 149
  7.8 Discussion ................................................................................................................ 153
  7.9 Conclusion .............................................................................................................. 157

Chapter 8 .......................................................................................................................... 159
  8.1 Vulnerability at the interfaces .................................................................................. 159
    8.1.1 Mood ................................................................................................................. 160
    8.1.2. Subject position ............................................................................................... 160
    8.1.3. How to explain interface vulnerability? .............................................................. 161
    8.1.4 Alternative explanations .................................................................................... 162
  8.2 The effect of task ...................................................................................................... 163
    8.2.1 Effect of prosody ............................................................................................... 164
    8.2.2 Judgment vs. production .................................................................................... 165
  8.3 The role of the host country and the immigrant community ..................................... 167
  8.4 The role of the majority language ............................................................................ 169
  8.5 The role of the amount of input .............................................................................. 170
  8.6 The age at testing: A developmental perspective .................................................... 172
  8.7 Conclusion ............................................................................................................... 175

References ....................................................................................................................... 177

Appendices ....................................................................................................................... 195

 Appendix I: Mood items – AJT ...................................................................................... 195
 Appendix II: Mood items – EPT .................................................................................... 201
 Appendix III: Subject position items – AJT – adults (exp. 1) ....................................... 206
Appendix IV: Subject position items – AJT – 5-year-olds................................. 209
Appendix V: Subject position items – AJT – 9- and 13-year-olds.......................... 211
Appendix VI: Subject position items – AJT – adults (exp. 2)................................. 214
Appendix VII: Subject position items – EPT – adults (exp. 2)............................... 217

Summary .................................................................................................................. 221

Samenvatting........................................................................................................... 229

Curriculum Vitae .................................................................................................. 237
Acknowledgments

And so, I have reached the end of my PhD. By the time I will defend my thesis, six years will have passed since I started this project. So much has happened during those years, not only professionally, but also in my personal life: I met my (now) husband, got married, bought a house, moved to a different city, and had a baby. I’m in many ways a different person now than I was six years ago.

Many people have played a role in the realization of this dissertation. First and foremost, I am endlessly grateful to my supervisors: Aafke Hulk, Petra Sleeman and Suzanne Aalberse, who, each in their own way, have contributed so much to this dissertation and to my academic development.

Aafke, your direct and straight-to-the-point comments and questions, though sometimes confronting, were always spot on. You have helped me by not letting me get lost in the details, by making me focus on the big picture, and by forcing me to think pragmatically and strategically when necessary. At the same time, you have given me confidence by showing me that you trust in me and in my abilities as a researcher. I also very much appreciate your genuine interest and care for the wellbeing of all your PhDs.

Petra, I’ve never met someone with such a sharp eye as you have. Without you, this dissertation would probably contain dozens of typos and errors (more than it does now). I know you have devoted a great amount of time to read my work (sometimes even in the backseat of a car on a holiday to France), as shown by your always extremely thorough feedback, and I am very grateful to you for that.

Finally, Suzanne, I have been so fortunate to have you on the team, not only because of your valuable input from a slightly distinct linguistic approach, often making me see things from a different perspective, but also because of your wit and humor, which has given our meetings a very agreeable vibe.

I would like to express much gratitude to the Netherlands Graduate School of Linguistics (LOT) and Netherlands Organization for Scientific Research (NWO), whose generous funding made this research possible, and moreover enabled me to travel all around the globe to present my work. Many thanks also to LOT-directors Frank Wijn and Henriëtte de Swart, as well as my fellow LOT-graduate-program (LOTgenoten) Jeroen Bretele, Sophie Villerius and Saskia Lensink, for the fruitful meetings during which we discussed our progress throughout the years.

I am very much indebted to all the participants who took part in the studies described in this book, and the parents of the child participants for their trust. Many thanks also to the people at Rutgers University, especially Jennifer Austin, for making me feel at home and helping me with the data collecting in New Jersey.

Dirk Jan Vet, the lab technician at the PCHooftuis, has been an invaluable help on various occasions. Thank you so much, Dirk, for all the hours spent in the lab helping me setting up the experiments, always with the kindest disposition (even after I forgot to bring back your laptop for months!).
I am very grateful to Paul Boersma, the ACLC statistics guru. Paul, I learned a lot from you, and I’m amazed how someone with such as busy schedule as yourself still finds the time to sit down with students for hours and engage in endless email conversations (many of which were sent in the middle of the night, so I guess your secret is that you simply don’t sleep).

I would also like to thank my ACLC PhD colleagues, among many others Jeike, Margreet, Patrick, Camille, Jeroen, Iris, Tessa, Merel, Jing, Caitlin, Tiffany, Marjolein, Sanne, Margot, Natalia, Vanja, Marieke, and Imme, for the Efteling, the bowling outing, Sinterklaas surprises, the lunches and the occasional drinks. A very special thank you goes to my dear office mates Maja and Hernán, for the perfect mix of silence and smalltalk occasionally turning into hour-long conversations about veganism, (university) politics or music. Hernán, also props for being my live Spanish grammar checker at all times and of course for being my paranymp during my defense. To Rosa, my other paranymp, thank you so much for our “intervisie” sessions, which in reality were more like “catching-up-over-coffee-sessions”. I will miss these get-togethers, and I’m very happy that I got to know you.

Elisabet, I am grateful to you, not only for your indispensable academic contribution (without you, chapter 6 of this book would have been a lot shorter), but also for the many talks we had during conferences all over the world: Tromsø, Toulouse, Limerick, Southampton, we’ve travelled a lot together!

Now turning to people outside the university: my dear friends Robin and Eva, thank you for all the after (or during) work coffees, teas and beers at van Zuiilen, when we were all still studying/working at the PCHoofthuis. Our heated debates, deep conversations and superficial girl talk have been a great source of much-needed distraction! My dilemmaatjes Joep, Martje, Marloes, Hayk en Joeske, how amazing it is to have colleagues that are friends that are family. Without you, the past six years would have been a lot more boring. Mama and papa, thank you for your support and love, and of course for taking care of Filip when I really needed an extra day of work. My siblings (in law) Gijs, Meiyi, Joep, Mardi, Floortje and Isaac, I love you carnales, thanks for being who you are. A big thank you to Floortje in particular for making the beautiful illustration on the cover of this book. And of course, my “other” familia: Dani, Maggy, Maria, Daniela y Guillaume, muchísimas gracias por su apoyo e interés.

Then there is my sweet son Filip, my very own little Spanish heritage speaker. Without realizing it, you have done so much for me. Your mere existence has brought me so much joy, and you have helped me put things in perspective from the moment you were growing in my belly.

Finally, and by far most importantly: Nelson, my love, my partner and my best friend. There are so many reasons to thank you. For always patiently answering all my questions about your Spanish intuitions, for being “the voice” behind all my experiments, for listening to me practicing presentations over and over again, for gradually realizing that linguistics is actually quite cool, for putting up with my stress (most of the time), for making me laugh every day (40% of the time ;)), for being o.k. with me working all those extra days the past few months, and above all: for being my biggest fan. I am so lucky to have you in my life. Te amo infinito.
Author contributions

Chapter 1: Introduction
Written by Brechje van Osch with valuable feedback from Suzanne Aalberse, Aafke Hulk and Petra Sleeman.

Chapter 2: Mood in syntax and interface contexts
Brechje van Osch was responsible for the design of the experiment and the materials. Part of the materials were based on Borgonovo et al. (2015) and Borgonovo and Prévost (2003). Brechje van Osch moreover recruited and tested the participants and performed the statistical analysis of the data. All this was done under the supervision from Suzanne Aalberse, Aafke Hulk and Petra Sleeman. The chapter was written by Brechje van Osch, with helpful feedback from Suzanne Aalberse, Aafke Hulk and Petra Sleeman.

Chapter 3: Mood – Comparing judgment and production
Brechje van Osch was responsible for the design of the experiment and the materials. Part of the materials were based on Borgonovo et al. (2015) and Borgonovo and Prévost (2003). Brechje van Osch moreover recruited and tested the participants and performed the statistical analysis of the data. All this was done under the supervision from Suzanne Aalberse, Aafke Hulk and Petra Sleeman. The chapter was written by Brechje van Osch, with helpful feedback from Suzanne Aalberse, Aafke Hulk and Petra Sleeman.

Chapter 4: Comparing heritage and L2 speakers
Brechje van Osch was responsible for the design of the experiment and the materials. Part of the materials were based on Borgonovo et al. (2015) and Borgonovo and Prévost (2003). Brechje van Osch moreover recruited and tested the participants and performed the statistical analysis of the data. All this was done under the supervision
Author Contributions

from Suzanne Aalberse, Aafke Hulk and Petra Sleeman. The chapter was written by Brechje van Osch, with helpful feedback from Suzanne Aalberse, Aafke Hulk and Petra Sleeman.

Chapter 5: Subject position in internal and external interface contexts
Brechje van Osch designed the experiment and the materials, recruited and tested the participants and performed the statistical analysis. All this was done under the supervision from Suzanne Aalberse, Aafke Hulk and Petra Sleeman. The chapter was written by Brechje van Osch with the help of Petra Sleeman.

Chapter 6: Subject position – The development
Brechje van Osch and Elisabet García González designed the experiment, created the materials and tested the participants. The statistical analysis was done by Brechje van Osch. All this was done under the supervision from Suzanne Aalberse, Aafke Hulk and Petra Sleeman. The chapter was written by Brechje van Osch, with help from Elisabet García González and with valuable feedback from Suzanne Aalberse, Aafke Hulk and Petra Sleeman.

Chapter 7: Subject position – Comparing majority languages
Brechje van Osch designed the experiment and the materials. The participants were recruited by Brechje van Osch with help from Jennifer Austin for the US participants. Brechje van Osch tested the participants and performed the statistical analysis. All this was done under the supervision from Suzanne Aalberse, Aafke Hulk and Petra Sleeman. The chapter was written by Brechje van Osch.

Chapter 8: Discussion and Conclusion
Written by Brechje van Osch with valuable feedback from Suzanne Aalberse, Aafke Hulk and Petra Sleeman.
List of abbreviations

1  first person
2  second person
3  third person
5yo five-year-old
9yo nine-year-old
13yo thirteen-year-old
AoO age of onset
AJT acceptability judgment task
COND conditional
DELE Diploma Español de Lengua Extranjera
EPT elicited production task
FocP focus phrase
HS heritage speakers
IH Interface Hypothesis
IND indicative
IP inflectional phrase
L1 first language
L2 second language
LDT Lexical Decision Task
MRT Mood Recognition Task
NEG negation
NL The Netherlands
NS native speakers
O object
PART participle
PERF perfect aspect
PL plural
PRES present tense
PRET preterite aspect
PRO pronoun
R range
S subject
SD standard deviation
SE standard error
SG singular
Spec Specifier
SUBJ subjunctive
V verb
V2 verb second
VP verb phrase
List of figures and tables

Figure 2.1. Mean ratings on the syntax context.
Figure 2.2. Mean ratings on the internal interface context (relative clauses).
Figure 2.3. Mean ratings on the external interface contexts (negated communication, perception and epistemic predicates with embedded clauses).
Figure 2.4. Mean ratings in the external interface context, split out per verb type.
Figure 3.1. Production results on all subjunctive-targeting conditions, split out between groups and contexts.
Figure 3.2. Production results on the obligatory context and the relative clause context, split out between groups, contexts and conditions.
Figure 4.1. Percentages of indicative (infelicitous), subjunctive (felicitous) and other responses per condition per group.
Figure 4.2. Mean ratings for the subjunctive (felicitous) and indicative (infelicitous) sentences per condition per group.
Figure 5.1. Main effect of verb type in monolingual speakers.
Figure 5.2. Main effect of focus in monolingual speakers.
Figure 5.3. Effects of verb type and focus in monolingual speakers.
Figure 5.4. Main effect of definiteness in monolingual speakers.
Figure 5.5. Main effect of verb type in heritage speakers.
Figure 5.6. Main effect of focus in heritage speakers.
Figure 5.7. Main effect of definiteness in heritage speakers.
Figure 5.8. Word order preferences across conditions for both groups.
Figure 6.1. Order preferences across conditions for monolingual 9-year-olds, 13-year-olds and adults.
Figure 6.2. Order preferences across conditions for 5-year-old, 9-year-old, 13-year-old and adult heritage speakers.
Figure 7.1. Preferences for SV and VS across conditions for each group (judgment).
Figure 7.2. The effect of focus in monolinguals and heritage speakers (judgment).
Figure 7.3. The effect of definiteness in Dutch-dominant and English-dominant heritage speakers (judgment).
Figure 7.4. Use of SV and VS across conditions for each group (production).
Figure 7.5. Effect of focus in monolinguals and heritage speakers (production).
Figure 7.6. Effect of definiteness in Dutch-dominant and English-dominant heritage speakers (production).
Figure 8.1. Stressed and unstressed subjects in broad and narrow focus for the three groups (elicited production).
<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Mood alternation in negated sentences.</td>
</tr>
<tr>
<td>2.2</td>
<td>Significance values for the correlation between the proficiency tests.</td>
</tr>
<tr>
<td>2.3</td>
<td>Participants’ MRT and proficiency scores.</td>
</tr>
<tr>
<td>2.4</td>
<td>Significance values for t-tests between indicative and subjunctive ratings, per group, context and condition.</td>
</tr>
<tr>
<td>2.5</td>
<td>Heritage speakers’ individual patterns for the conditions targeting subjunctive in all three contexts.</td>
</tr>
<tr>
<td>3.1</td>
<td>Expected mood in each condition within contexts.</td>
</tr>
<tr>
<td>3.2</td>
<td>Significance values for the correlation between the proficiency tests.</td>
</tr>
<tr>
<td>3.3</td>
<td>Participants’ MRT and proficiency scores.</td>
</tr>
<tr>
<td>3.4</td>
<td>Significant differences between moods, split out between groups, contexts, conditions and tasks.</td>
</tr>
<tr>
<td>4.1</td>
<td>Mean age, proficiency and MRT scores per group.</td>
</tr>
<tr>
<td>4.2</td>
<td>Number of participants per group who produced the subjunctive more than the indicative.</td>
</tr>
<tr>
<td>4.3</td>
<td>Number of participants per group who rated the subjunctive higher than the indicative.</td>
</tr>
<tr>
<td>5.1</td>
<td>Expected pattern based on the theoretical literature (SV = subject–verb, VS = verb–subject).</td>
</tr>
<tr>
<td>5.2</td>
<td>Attested pattern in Zapata et al. (2005).</td>
</tr>
<tr>
<td>5.3</td>
<td>Age and proficiency scores for all participants.</td>
</tr>
<tr>
<td>6.1</td>
<td>Significance values for each factor per age group in heritage speakers.</td>
</tr>
<tr>
<td>7.1</td>
<td>Heritage speakers’ judgment pattern in Zapata et al. (2005).</td>
</tr>
<tr>
<td>7.2</td>
<td>Summary of participants’ demographics and proficiency measures.</td>
</tr>
<tr>
<td>7.3</td>
<td>Word order patterns in judgment for all three groups.</td>
</tr>
<tr>
<td>7.4</td>
<td>Word order patterns in production for all three groups.</td>
</tr>
<tr>
<td>7.5</td>
<td>Effect sizes for each factor in the monolingual control group.</td>
</tr>
</tbody>
</table>
Chapter 1

Introduction

1.1 Introduction

This dissertation is about heritage speakers of Spanish in the Netherlands. Heritage speakers are a specific subtype of bilinguals, who speak both the majority language of the country they live in and a so-called 'heritage language': a minority language that was acquired in childhood because it was spoken to them at home or in an otherwise naturalistic setting. Often, the heritage language is an immigrant language, as is the case for Spanish in the Netherlands. Typically, heritage speakers receive relatively less input in their heritage language than in the majority language, especially from the moment they start formal education. By the time they reach adulthood, most heritage speakers are completely fluent in the majority language, but their competence in the heritage language differs in many ways from that of monolingual speakers of the same language. The topic of heritage speakers is highly relevant today, given that more than half of the people in the world speak at least two languages (Grosjean, 2010), and with migration rates rapidly increasing (McAuliffe & Ruhs, 2018), this number will only grow larger in the future. Understanding more about the linguistic competence of heritage speakers can be of considerable importance to immigrant communities that value the maintenance of their language and culture in this increasingly globalized world.

Within linguistics, heritage languages have been studied from a socio-linguistic perspective since around the 1950s (see Aalberse, Backus, & Muysken, 2019, for an overview on heritage language research within different linguistic traditions). However, research on the acquisition of heritage languages from a more cognitive linguistic point of view, which is the approach taken in this dissertation, started roughly two decades ago. This means that there is still a lot of uncharted territory to explore. For instance, the vast majority of studies on heritage Spanish thus far have been carried out in the United States, where Spanish is the largest minority language. While this research has contributed a great deal of valuable knowledge, it is not certain that the findings from these studies can be generalized beyond the context of the US. This dissertation intends to add a few small pieces to a huge puzzle by investigating heritage speakers of Spanish in a different and relatively understudied (socio)linguistic context, namely the Netherlands.

As the title suggests, my main question concerns vulnerability in Spanish as a heritage language. Why do we find that some elements of language are more susceptible to divergence in heritage speakers than others? One possibility considered in this dissertation is that vulnerability is in part determined by the specific domain of language we look at. In order to gain insight into this question, I focus on structures that integrate knowledge from various linguistic domains: syntax, semantics, and discourse–pragmatics. Apart from this language-internal component,
I also explore how vulnerability in these phenomena interplays with various factors that are external to the language itself, such as the specific tasks engaged in, the characteristics of the heritage community and the host society, the majority language, and the age at testing. Moreover, a comparison with adult L2 (second language) speakers of Spanish will shed light on the effect of the age of onset in language acquisition. This chapter will provide an introduction to the various language-internal and -external factors that may play a role in heritage language acquisition.

1.2 First things first: What constitutes a heritage speaker?

Perhaps due to the fact that heritage languages have been studied from many different perspectives and in different research traditions, a clear definition of what exactly constitutes a heritage language, or a heritage speaker, has not yet been established. For instance, scholars disagree as to whether linguistic competence should be part of what defines a heritage speaker. If someone is equally proficient in the heritage language as in the majority language, or even more proficient, is this person still a heritage speaker? Definitions also differ with regards to whether a heritage language is necessarily shared by a wider community in the country of residence (as is the case, for example, with Spanish in the US or Turkish in Germany) or whether any language can be a heritage language, as long as it is not the majority language of the country, and as long as it is acquired through naturalistic exposure in the home. In this dissertation, I will adopt the definition of a heritage language used by Rothman (2009) and summarized in Kupisch & Rothman (2018:567) as follows:

A language qualifies as a heritage language if it is a language spoken at home or otherwise readily available to young children, and crucially this language is not a dominant language of the larger (national) society [...] the heritage language is acquired on the basis of an interaction with naturalistic input and whatever in-born linguistic mechanisms are at play in any instance of child language acquisition. Differently [from monolingual acquisition], there is the possibility that quantitative and qualitative differences in heritage language input, influence of the societal majority language and differences in literacy and formal education can result in what on the surface seems to be arrested development of the heritage language or attrition in adult bilingual knowledge (Rothman, 2009: 156).

To be clear, proficiency does not play a role in this definition. Thus, anyone who has been exposed to a minority language in childhood (in a naturalistic way, so not in
Moreover, this definition does not include any restriction regarding the existence of a wider speech community. This is relevant to this dissertation, because there is not a large Spanish-speaking community in the Netherlands. Finally, it is important to mention that this dissertation includes both people who grew up with two Spanish-speaking parents and those who grew up with only one Spanish-speaking parent. Although there are considerable differences between these two types of speakers with regard to the amount of input received in the heritage language and the age of onset of the majority language, both cases qualify as heritage speakers according to the definition above.

1.3 What does heritage Spanish look like?

As linguists became aware that there existed such a thing as heritage Spanish, one of the first goals was to describe this variety of Spanish and the ways in which it differs from Spanish in Spain and Latin America. Much research has been devoted to answering this question and by now we have a fairly clear picture of what heritage Spanish looks like, at least in the context of the US. Despite the fact that there is considerable variation between different speakers, certain general characteristics can be distinguished. Most of the evidence for divergence comes from the domain of morpho–syntax, such as from grammatical gender, and the expression of person, number, tense, aspect and mood on the verb (Montrul, 2011a). In phonology, there are reports of heritage speakers pronouncing the Spanish ‘v’ not as /b/ but as /v/ (Hualde, Olarrea, Escobar, & Travis, 2010) and of neutralizing the double /rr/ to /r/ (Bernal-Enriquez & Hernández Chávez, 2003). When it comes to the lexicon, heritage speakers’ vocabularies tend to be smaller than those of monolingual speakers and limited to informal and colloquial registers (Montrul, 2013). Some heritage speakers also make use of code-switching: alternating between Spanish and English within one and the same conversation (e.g., Poplack, 1980). Interestingly, syntactic structures, such as clitics and the syntax of null subjects, tend to be rather unaffected in heritage Spanish (Montrul, 2008a), but constructions where syntax interacts with semantics or discourse or pragmatics, on the other hand, are notoriously problematic (Montrul, 2007; Cuza & Frank, 2010; Montrul & Ionin, 2010; Keating, VanPatten, & Jegerski, 2011; de Prada Pérez & Pascual y Cabo, 2012; Pascual y Cabo, Lingwall & Rothman, 2012). The latter constructions are called interface phenomena, because they lie at the interface between two or more linguistic modules. This dissertation focuses on two of these interface phenomena, namely 1) mood and 2) word order, which will be described in more detail in sections 1.7.1 and 1.7.2.

Another interesting observation in heritage speakers in the US relates to the type of knowledge they possess. Several scholars have noted that heritage speakers perform better in tasks that target their unconscious and intuitive knowledge of the

---

1 Technically, this definition also includes so-called ‘overhearers’ (e.g., Au, Knightly, Jun, & Oh, 2002), who can understand their heritage language, but cannot speak it. However, this subtype of heritage speaker is not considered in this dissertation.
language, such as oral production tasks, than in tasks that tap into more explicit and conscious knowledge, such as grammaticality judgment tasks (e.g., Montrul, 2012). This makes sense, given that heritage speakers acquire their language in a naturalistic setting and generally have little to no access to formal instruction in the language.

So now we have seen some well-documented features of Spanish as a heritage language. However, these features are based mostly on research carried out in the US. What about heritage Spanish in other parts of the world? Studies on heritage Spanish in the Netherlands are rare, with the exception of Pablo Irizarri van Suchtelen’s recent work on first- and second-generation immigrants from Chile (e.g., Irizarri van Suchtelen, 2016) and a handful of other studies mentioned there. The next section addresses important differences between the US and the Netherlands that are relevant to understanding some of the findings presented in this dissertation.

1.4 Differences between the Netherlands and the United States

The most important difference between the Netherlands and the US regards the size of the Spanish-speaking community in the two countries. Spanish is the immigrant language with the highest number of speakers in the US (Montrul, 2013). In many parts of the country one can find Hispanic neighborhoods, where Spanish is very present in the day-to-day life. In the Netherlands, no such neighborhoods exist; the Spanish-speaking community is much smaller and more dispersed. Based on these facts, we can assume that heritage speakers living in the US receive relatively more spoken input, and from a wider range of interlocutors. Moreover, they have more opportunities to speak the language with other members of the community than heritage speakers of Spanish in the Netherlands, whose Spanish-speaking community is often limited to their parent(s) and siblings. The Netherlands also differs from the US regarding the importance of foreign languages in society. In the Netherlands, foreign languages, especially English, are ubiquitous in the media and the education system. English is a mandatory subject from as early as age 11 (Rose, 2016), the last two years of primary school, and in the first three years of secondary school at least one other foreign language (generally French or German) is obligatory as well, as stated on the official government website ([foreign languages in secondary education] n.d.).

The situation is very different in the United States, where the media are predominantly in English, and only 20% of children learn a foreign language in primary or secondary school (Devlin, 2018). A final difference between the two countries regards the social attitude towards the heritage language. In the US, Spanish is a stigmatized language, associated with an immigrant population of low socio-economic status. In contrast, in the Netherlands, Spanish as a foreign language enjoys a high prestige. Heritage speakers of Spanish are generally admired for their language skills, and studying Spanish as a foreign language at high school or university is becoming increasingly popular. Are these differences somehow reflected in heritage speakers’ command of their heritage language? This question is addressed in chapter 3 of this dissertation, where I show that heritage speakers in the Netherlands show
different task preference patterns than what is generally reported for US-based heritage speakers. I argue that this finding can be attributed to specific characteristics of the Spanish-speaking community in the Netherlands as compared to the US.

Another obvious difference between the US and the Netherlands is the majority language, which is English in the US and Dutch in the Netherlands. Many of the characteristics found in heritage Spanish in the US described in section 1.3 may be the result of transfer/cross-linguistic influence from English, the dominant language of the heritage speakers. For instance, errors with gender may be related to the fact that English does not have grammatical gender, while errors with verb conjugations in Spanish may be caused by the fact that English verbs have very little inflection. But the same phenomena may just as well be explained by simplification: an endogenous process whereby a complex grammatical system loses features, resulting in a reduced system. Given the morphological simplicity of English it is not always easy to distinguish between simplification and transfer. This is why it is important to look at heritage Spanish in contact with other majority languages. Chapter 7 of this dissertation compares heritage Spanish in the US and in the Netherlands and shows that certain linguistic differences between Dutch and English are reflected in heritage speakers’ judgment and production of Spanish word order. This implies that the specific majority language plays an important role in heritage Spanish, thus underlining the importance of testing various different language constellations in heritage language research.

1.5 The development of the heritage language

As described in section 1.3, two decades of heritage language linguistics has rendered a fairly clear picture of the ways in which heritage Spanish in the US differs from monolingual varieties of Spanish. What is less clear to date is exactly how these grammars come to be the way they are. Interestingly, research on young bilingual children (until age 4) generally claims that there are no real qualitative differences with monolingual children (e.g., De Houwer, 1995; Meisel, 2004): they develop their two languages separately, and while bilingual children may experience some delays, it is generally assumed that they will eventually catch up. But the overwhelming evidence for divergence in adult heritage speakers demonstrates that a lot can still happen to the heritage language after age 4. This is a crucial period, because it is the age at which children start going to school, and as a consequence, the input in the majority language increases drastically.

Several proposals have been put forward to explain what happens to the heritage language after early childhood. First of all, it may be the case that structures that were already acquired in early childhood are subsequently lost as a result of reduced exposure and use of the heritage language (e.g., Polinsky, 2011). It is also possible that structures that were not yet fully in place at age 4 fail to develop fully.

---

and are never mastered due to reduced input and use. This account has been labelled ‘incomplete acquisition’ or ‘acquisition without mastery’ (Montrul, 2016). A third possibility is that the problem does not lie in the amount of exposure that heritage speakers receive throughout their life, but in the quality of that input. Under this account, the assumption is that heritage speakers’ input differs in several ways from the input received by monolingual children. First, heritage children generally receive less formal education (if any) in their heritage language. This means that they are not exposed to written language and formal registers to the same extent as monolingual children (Pires & Rothman, 2009). Moreover, the input provided at home may be different from Spanish as it is spoken in Spain or Latin America, because the Spanish spoken by the parents of the heritage speakers may have changed as a result of reduced use and/or prolonged contact with the majority language of the country (e.g., Montrul & Sánchez Walker, 2013). Finally, apart from input differences, heritage language acquisition also differs from monolingual acquisition in that there are two languages being acquired simultaneously. Considering the continuous contact between the heritage language and the majority language, transfer from the majority language may be expected to play a role as well (e.g., Benmamoun, Montrul, & Polinsky, 2013).

Given that most research has focused on adult heritage speakers, who are supposedly at the end state of acquisition, it is impossible to disentangle issues such as language loss, incomplete acquisition, qualitative input effects, cross-linguistic influence, and possibly other processes that shape heritage language acquisition. In order to do so we have to look at the development of the heritage language in younger speakers. But research on bilingual children past age 4 has been surprisingly scarce; only recently have scholars started to shift their attention to school-age heritage children. Chapter 6 of this dissertation adds to this discussion by investigating heritage speakers of Spanish from four different age ranges: 5 years old, 9 years old, 13 years old, and adults. This gives us an insight into how the heritage language develops between early childhood and adulthood. The data indicate that several of the processes mentioned above may play a role simultaneously: loss of knowledge for some elements, delayed acquisition for others, and influence from the majority language for yet others.

### 1.6 Comparing heritage and L2 speakers: Explicit vs. implicit knowledge

A common topic in the heritage language literature concerns the comparison between heritage speakers and adult second language speakers of the same language. This line of research offers important insights into the role of age in language acquisition. We all know that monolingual children acquire their language incredibly fast, effortlessly and successfully. This stands in stark contrast to the difficult task of acquiring a second language later in life, which rarely leads to native-like proficiency in all domains of language, despite abundant hours of exposure and extensive instruction (e.g., Abrahamsson & Hyltenstam, 2009; Hyltenstam & Abrahamsson, 2003). The discrepancy between early and late language acquisition
has led researchers to propose that there is a fundamental difference between the way children and adults acquire languages, a proposal better known as the Fundamental Difference Hypothesis (Bley-Vroman, 1990) or the Critical Period Hypothesis (Penfield & Roberts, 1959; Lenneberg, 1967). Within the framework of generative grammar, the assumption is that children are guided by an innate domain-specific linguistic system (Universal Grammar) with which they can acquire language in an implicit manner, that is, through mere exposure, automatically, effortlessly, and without awareness. According to some theories, adults no longer have access to this system and are forced to rely on domain-general learning mechanisms. These mechanisms lead to more explicit knowledge: conscious knowledge that requires attentional control and is thus more time-consuming. (e.g., Ellis 2009a). This would explain the greater difficulty with learning that characterizes adult second language acquisition.

So where do heritage speakers fit in this picture? They too have acquired their heritage language at an early age. Nevertheless, research has shown that heritage speakers show striking similarities to second language learners with respect to the type of deviations they exhibit (Montrul, 2013). What this shows is that exposure to a language in early childhood by no means guarantees monolingual-like acquisition of that language. Does this mean that early acquisition of a language provides no advantage whatsoever? If that were the case, we would expect there to be no differences whatsoever between heritage speakers and second language speakers of the same language. In chapter 4, we address this question by directly comparing heritage speakers to second language speakers of Spanish in the Netherlands with respect to their knowledge of the subjunctive. The results show that, while both bilingual groups diverge from monolinguals, there is a difference between the heritage speakers and the second language speakers with regard to the type of knowledge they possess: while heritage speakers’ knowledge is more implicit, L2 speakers have predominantly explicit knowledge. This difference between the two groups suggests that age of acquisition of the other language plays a role after all.

1.7 Interface vulnerability in heritage Spanish

As I mentioned in section 1.3, not all elements of language are affected equally in heritage speakers of Spanish. One area of language that has been demonstrated to be vulnerable in heritage speakers is so-called interface phenomena, which are the focus of this dissertation. To understand what interfaces are, one has to assume, as generative linguists do, that grammar consists of separate sub-modules—namely syntax, semantics, and phonology (e.g., Jackendoff, 2002)—that are responsible for the structure, meaning, and sound of language, respectively. But we need more than these three modules for successful language use and comprehension. For instance, in order to fully understand the meaning of a sentence, we sometimes need information

---

3 Other theories (e.g., Schwartz & Sprouse, 1996) argue for full access to UG in adult second language acquisition.
Interfaces are the connections between modules, either between two submodules of formal grammars, or between a linguistic and a non-linguistic module. The former are called internal interfaces, while the latter are known as external interfaces (Sorace & Serratrice, 2009). Interface phenomena, then, are phenomena that require the integration of two or more modules. For instance, a syntax–discourse interface phenomenon integrates syntactic and discourse information. This means that a structure can only be used and interpreted correctly under certain discourse conditions. Let me give an example of a syntax–discourse interface phenomenon that has been investigated extensively: the expression of subject pronouns in pro-drop languages such as Spanish, Italian and Greek. The syntax of these languages dictates that subject pronouns do not have to be expressed overtly. But under certain discourse conditions, overt subjects are expected, namely when there is a shift in topic from one sentence to the next. The discourse context is thus necessary to determine whether or not the subject needs to be expressed overtly.

Heritage speakers of Spanish have robust knowledge of the syntax of subjects in their heritage language; they know that Spanish is a pro-drop language. But they have problems with the discourse constraints on subject expression (Keating et al., 2011). This points towards increased vulnerability of the syntax–discourse (external) interface as compared to syntax proper.

Interface vulnerability is not unique to heritage speakers; it has been observed in other bilingual populations as well, such as child bilinguals (Hulk & Müller, 2000), second language learners (Sorace, 2000b), and adult bilinguals who suffer from attrition (language loss) in their L1 (Tsimpli, Sorace, Heycock, & Filiaci, 2004). To account for vulnerability at the interfaces, Sorace and colleagues formulated the Interface Hypothesis (e.g., Sorace & Filiaci, 2006). In its original version, all interfaces were assumed to be problematic (e.g., Sorace, 2005), but a revised version (e.g., Sorace & Serratrice, 2009; Tsimpli & Sorace, 2006) made a further distinction between internal and external interfaces, the latter of which were argued to be particularly vulnerable in bilingual populations.

So, what is it about interfaces that makes them so vulnerable in bilingual populations? Initially, the problem was argued to be representational in nature, meaning that the grammatical system of one language is affected by that of another language (Tsimpli et al., 2004). On this account, when the two languages of a bilingual

---

4 Although I consider discourse and pragmatics to be distinct modules, they are often considered as a single module (discourse–pragmatics) in the literature. Throughout this dissertation, the terms discourse, pragmatics, and discourse–pragmatics are used interchangeably. Given that both discourse and pragmatics are considered external modules, this does not affect the conclusions drawn from the results.
differ regarding an external interface phenomenon, the language with the less complex mapping affects the other language. Later, however, it was suggested that the vulnerability at the interfaces might (also) be due to processing limitations induced by bilingualism itself (e.g., Sorace & Filiaci, 2006). Psycholinguistic research suggests that integrating information from syntax and discourse is more costly than the processing of purely syntactic dependencies, even for monolingual speakers (for a detailed discussion on this see Sorace, 2011). Given that bilinguals constantly have to switch between languages, and inhibit one of their languages while speaking the other, they have fewer processing resources available for these costly external interface structures.

The Interface Hypothesis has been tested extensively, but the results are not very consistent. Whereas some studies have indeed found evidence for increased vulnerability at the external interfaces (e.g., Domínguez, 2013; Iverson, Kempchinsky, & Rothman, 2008; Montrul, 2008b; Serratrice, Sorace, Filiaci, & Baldo, 2009), other studies have demonstrated robust knowledge of external interface phenomena (e.g., Rothman, 2008; Slabakova & Ivanov, 2011; Slabakova, Rothman, & Kempchinsky, 2012). This inconsistency may have to do with the fact that many studies have approached the issue by comparing two completely different phenomena, such as aspect (internal interface) vs. mood (external interface) in Spanish (Montrul, 2008b) or specificity and genericity in DPs (internal interface) vs. subject expression (external interface) in Italian (Sorace & Serratrice, 2009). The problem with comparing two completely different phenomena is that, apart from the type of interface they pertain to, they may differ in various other respects as well, such as frequency of occurrence or salience, among other things. If a difference is found between the two structures, how can one be certain that it is due to the difference in linguistic domains (i.e., syntax proper, an internal interface or an external interface) and not some other factor?

Another possible reason for the observed inconsistencies in previous studies, discussed in Montrul (2011b), relates to the difficulty involved in assigning a given structure to one interface or the other. For some structures, there is disagreement among linguists about the specific interface they belong to.

To circumvent these issues, this dissertation compares interfaces not between two different phenomena, but within the same phenomenon. I investigate two phenomena that are at the crossroads of multiple interfaces. What these two phenomena have in common is that they have different functions, and each function pertains to a different interface (or syntax proper) which can be tested individually. This approach makes it possible to tease apart different interfaces within a single phenomenon while keeping other possibly intervening variables constant. I will explain this further in the following two subsections.

1.7.1 Mood in Spanish
The first of the two phenomena tested in this dissertation is mood. Spanish distinguishes between indicative and subjunctive mood. Roughly speaking, the indicative is used for propositions that are true in the actual world (realis) while the subjunctive is used for propositions that are not true in the actual world (irrealis). This
difference is morphologically marked on the verb by different suffixes. There are syntactic, semantic and pragmatic constraints on the acceptability of indicative or subjunctive mood in Spanish. The syntactic constraint entails the obligatory selection of mood in the complement clause by certain predicates in the main clause. For instance, an assertive epistemic predicate such as *saber* (‘to know’) in the main clause requires indicative mood in the complement clause, while a volitional predicate such as *querer* (‘to want’) requires subjunctive mood, as illustrated in examples (1) and (2):

(1)  
\[
\text{Sé que } \text{vas} / *\text{vay} \text{as conmigo.}
\]
\[
\text{know.1SG.PRES.IND that go.2SG.PRES.IND / go.2SG.PRES.SUBJ} \text{ with me}
\]
\[
\text{‘I know that you go with me.’}
\]

(2)  
\[
\text{Quiero que *vas/ vayas conmigo.}
\]
\[
\text{want.1SG.PRES.IND that go.2SG.PRES.IND / go.2SG.PRES.SUBJ} \text{ with me}
\]
\[
\text{‘I want you to go with me.’}
\]

The semantic constraint applies to relative clauses. In these cases, the selection of mood is determined by the specificity of the antecedent. With specific antecedents, indicative mood is the more felicitous option, while for non-specific antecedents the subjunctive is preferred (Borgonovo, Bruhn de Garavito, & Prévost, 2015), as illustrated in examples (3) and (4):

(3)  
\[
\text{Buscamos un hotel que tiene una piscina.}
\]
\[
\text{look.1PL.PRES.IND a hotel that have.3SG.PRES.IND} \text{ a swimming pool}
\]
\[
\text{‘We are looking for a hotel that has a gym.’ (and I know that there is one)}
\]

(4)  
\[
\text{Buscamos un hotel que tenga una piscina.}
\]
\[
\text{look.1PL.PRES.IND a hotel that have.3SG.PRES.SUBJ} \text{ a swimming pool}
\]
\[
\text{‘We are looking for a hotel that has a gym.’ (but I don’t know whether there is one).}
\]

Since specificity is generally considered to be a semantic property of the antecedent (e.g., Borgonovo et al., 2015), this context for mood can be argued to pertain to the internal interface between syntax and semantics.

Finally, the pragmatic constraint applies to complement clauses of negated epistemic, communication or perception verbs (Borgonovo & Prévost, 2003), also known as polarity subjunctive. According to Quer (2001), in these sentences, the mood in the complement clause depends on the speakers’ commitment to the truth of the proposition expressed in that clause. If an indicative verb is used in the main clause, the speaker implies that he/she thinks that the statement made in the complement clause is true, as illustrated in example (5). If, on the other hand, the subjunctive is used, this can indicate either that the speaker commits to the truth of the proposition or that he/she does not, as example (6) shows. This means that, if a
speaker wants to express that he/she does not commit to the truth of the proposition in the complement clause, subjunctive is the only acceptable option.

(5) Pedro no dice que es su culpa.
Pedro NEG say. 3PL.PRES.IND that.is.3SG.PRES.IND his fault
‘Pedro does not say that it is his fault.’ (but I think it is / # and I don’t think so either)

(6) Pedro no dice que sea su culpa.
Pedro NEG say. 3PL.PRES.IND that.is.3SG.PRES.SUBJ his fault
‘Pedro does not say that it is his fault.’ (but I think it is / and I don’t think so either)

As this constraint relates to the speaker’s stance, it is generally argued to be located at the external interface between syntax and pragmatics (e.g., Pascual y Cabo et al., 2012)

In sum, each of these three contexts in which mood selection takes place represents a different interface location: one purely syntactic context, one context at the internal interface between syntax and semantics, and one context at the external interface between syntax and pragmatics. Chapters 2, 3, and 4 of this dissertation focus on mood in these three contexts. The data presented in these chapters show a three-way hierarchy regarding the degree of divergence attested in the three contexts; the syntactic context is most robust, and the syntax–pragmatics context is where heritage speakers diverge most from monolinguals. The syntax–semantics context lies in the middle. This is in line with a version of the Interface Hypothesis that integrates both version 1 (which predicts vulnerability in all interfaces alike) and version 2 (which singles out the external interface as a particularly vulnerable domain). As predicted by version 1, both interface types provoke more problems than pure syntax. Moreover, in line with version 2, the external interface context is more vulnerable than the internal interface context.

1.7.2 Word order in Spanish
The second interface phenomenon discussed in this dissertation is word order in intransitive sentences (i.e., sentences without objects) in Spanish. Spanish word order is highly flexible: the subject can either precede the verb or follow it; both orders are always grammatical, as illustrated in examples (7) and (8):

(7) Juan gritó.
Juan shout.3SG.PRET
‘Juan shouted.’

(8) Gritó Juan.
shout.3SG.PRET Juan
‘Juan shouted.’
However, there are certain factors that determine whether one order or the other is more appropriate in a given context. Three of these are addressed in this dissertation, namely: verb type, focus, and definiteness. Verb type refers to the distinction between unergative and unaccusative predicates. These two verb classes differ from one another semantically; while unergative verbs generally express agentive, non-motional, and non-telic activities, such as ‘to shout’, unaccusative predicates express telic processes with a low degree of agentive control. Prototypical examples are verbs indicating a change of state or location, such as ‘to arrive’. The semantic differences between these verb classes are reflected syntactically in the order of the constituents: while unergative verbs generally follow the subject, unaccusative verbs precede it, as illustrated in examples (9) and (10).

(9)  

Juan gritó.  
Juan shout.3SG.PRET  
‘Juan shouted.’

(10)  

Llegó Juan.  
arrive.3SG.PRET Juan  
‘Juan arrived.’

Since both syntactic and semantic features are involved, it is generally assumed that the difference between unaccusative and unergative predicates pertains to the internal interface between syntax and semantics (e.g., Hertel, 2003).

The second factor determining word order is presentational focus, which is used to introduce unpredictable or non-recoverable information into the discourse. I distinguish between broad focus, which introduces an entire sentence, and narrow focus, which singles out one argument in the sentence. According to the literature (e.g., Belletti, 2001), when there is narrow focus on the subject, the subject tends to follow the verb, regardless of the type of verb. This is shown in examples (11) and (12).

(11)  

¿Quién gritó? Gritó el niño.  
who shout.3SG.PRET? shout.3SG.PRET the boy  
‘Who shouted? The boy shouted.’

(12)  

¿Quién llegó? Llegó el niño.  
who arrive.3SG.PRET? arrive.3SG.PRET the boy  
‘Who arrived? The boy arrived.’

Given its relation to the previous discourse, focus is generally considered to pertain to the external interface between syntax and discourse.

Finally, I look at the definiteness of the subject, which has been investigated less extensively than verb type and focus, at least in generative studies. In the variationist
literature however, it is mentioned that indefinite subjects are more likely to follow the verb, while definite subjects are more likely to precede the verb (e.g., Rivas, 2008), as shown in examples (13) and (14).

(13)  
\textit{El niño llegó.}  
the boy arrive.3SG.PRET  
'The boy arrived.'

(14)  
\textit{Llegó un niño.}  
arrive.3SG.PRET a boy  
'A boy arrived.'

I consider definiteness to pertain to the external interface between syntax and discourse–pragmatics, because of the relation between definiteness and topicality: definite subjects are preferred when referring to antecedents that have been previously mentioned in the discourse or that are shared knowledge between interlocutors, whereas indefinite subjects are usually used to introduce a new referent.

Thus, we have one factor, verb type, that pertains to the internal interface between syntax and semantics, and two factors, focus and definiteness, that pertain to the external interface between syntax and discourse–pragmatics.

Chapters 5, 6, and 7 present experimental data on word order in heritage speakers. The combined findings from these three different studies indicate that verb type is the most robust factor of the three, which is in line with the predictions that follow from the revised version of the Interface Hypothesis. The two external interface factors, focus and definiteness, are more vulnerable in heritage speakers, but not consistently across age groups, majority languages, and experimental tasks.

1.8 Research questions and outline

In sum, this dissertation is about heritage speakers of Spanish in the Netherlands. One of the main objectives is to identify which elements of language are vulnerable in this population and to explain why. I approach this question from the perspective of the Interface Hypothesis. The first research question therefore is:

i.  
Do heritage speakers of Spanish in the Netherlands show evidence for increased vulnerability at the interfaces?

To answer this question, I look at two phenomena that are at the crossroads of multiple interfaces, thus providing an ideal testing ground for the Interface Hypothesis. Chapters 2, 3 and 4 focus on Spanish mood in syntactically, semantically and pragmatically constrained contexts. Chapters 5, 6, and 7 look at the semantic and the pragmatic–discourse constraints on word order in intransitive sentences.
I am furthermore interested in how interface vulnerability may possibly interact with the various language-external factors that have been mentioned in this introduction. To this end, I pose the following additional research questions:

ii. *What is the effect of task type?* Do heritage speakers show differences between implicit and explicit knowledge? (Chapter 3)

iii. *What is the effect of the host country?* Do heritage speakers in the Netherlands differ from heritage speakers in the United States? (Chapter 3)

iv. *What is the effect of the age of onset of the weaker language?* Do heritage speakers differ from L2 speakers of Spanish? (Chapter 4)

v. *What is the effect of age at testing?* How does the heritage language develop from early childhood to adulthood? (Chapter 6)

vi. *What is the effect of the majority language on the heritage language?* Do Dutch-dominant heritage speakers differ from English-dominant ones? (Chapter 7)

The final chapter of this dissertation (chapter 8) will present an overview and an extensive discussion of the data presented in chapters 2 to 7, as well as provide some tentative answers to the research questions and implications for further research.
Chapter 2
Mood in syntax and interface contexts*

Abstract
This study investigates Spanish heritage speakers in the Netherlands on their judgments of Spanish mood in a syntactic context and in two interface contexts: the internal interface between syntax and semantics and the external interface between syntax and pragmatics. The revised version of the Interface hypothesis predicts most vulnerability in the external interface context, and least in the syntactic context. The results of a scalar acceptability judgment task provide support for this hypothesis. We furthermore discuss other possibly relevant factors such as cross-linguistic influence, the default status of the indicative, order of L1 acquisition and variability and frequency in monolingual Spanish.

2.1 Introduction
One of the greatest challenges in heritage language research lies in explaining why some linguistic phenomena are more vulnerable to change or transfer effects than others. A range of studies have demonstrated a dissimilarity between purely (morpho–)syntactic phenomena and more variable phenomena that are constrained by semantics or pragmatics: whereas the former appear to be quite stable in heritage speakers, the latter often pose considerable difficulties (Montrul, 2007; Montrul & Ionin, 2010; Cuza & Frank, 2010; Keating, VanPatten, & Jegerski, 2011; de Prada Pérez & Pascual y Cabo, 2012; Pascual y Cabo et al, 2012).

A hypothesis attempting to account for this difference is the Interface Hypothesis (hereafter: IH) (Sorace 2000b, 2005; Sorace & Filiaci, 2006; Belletti, Bennati, & Sorace, 2007). The IH was originally proposed for the end stage of L2 knowledge, but has later been extended to a variety of other bilingual populations, including heritage speakers (e.g. Montrul & Polinsky, 2011). It predicts full acquisition of purely syntactic phenomena but persistent vulnerability with properties where syntax interfaces with other domains. A later version of the IH (Tsimpli & Sorace, 2006; Sorace & Serratrice, 2009; White, 2011) makes a further distinction between internal and external interfaces. Whereas internal interfaces integrate information from two linguistic domains, like syntax and semantics, external interfaces combine syntax with more general domains of cognition and world knowledge, such as discourse and pragmatics. The latter type is predicted to be particularly vulnerable.

The IH has been investigated with various types of bilingual populations. Several of these studies have demonstrated that external interfaces are vulnerable, whereas narrow syntax is spared (Tsimpi et al., 2004; Sorace & Filiaci, 2006; Iverson et al., 2008; Montrul, 2008b). Yet, others have found the exact opposite: relatively few problems with properties pertaining to interface phenomena (e.g., Rothman, 2008; de Prada Pérez & Pascual y Cabo, 2012; Rinke & Flores, 2014) or persisting difficulties with syntactic phenomena (e.g., Cuza, 2012). However, the problem with many of these studies is that they often either investigate isolated phenomena or compare two completely different phenomena that are not only positioned at different interfaces but also differ in many other respects, making the comparison less precise. A more appropriate approach would be to examine one linguistic phenomenon that can occur in different contexts: in a purely syntactic context as well as in an interface context.

Spanish mood lends itself perfectly for such an approach. Sometimes, mood in the subordinate clause is syntactically selected by the verb in the main clause. In these cases, choice of mood is obligatory; the wrong mood leads to ungrammaticality. In other contexts, both moods are possible, but which mood is most felicitous depends on the semantic or pragmatic properties of the context. In those cases, we are dealing with an interface between syntax and semantics or pragmatics. The IH would predict vulnerability in interface contexts and particularly in the external interface contexts, where choice of mood is constrained by pragmatics. This chapter is organized as follows: in the following section, we will discuss the three contexts in which Spanish mood is investigated in this study. Next, a summary of the previous research on the topic will be presented, followed by a description of the present study’s main focus. Section 2.5 explains the methodology of the experimental study and section 2.6 reports the results. Finally, a detailed discussion of the empirical data and some concluding remarks are presented.

2.2 Spanish mood

In Spanish, a distinction is made between indicative and subjunctive mood. Indicative mood is generally considered to be the default mood (Quer, 2009), because it is more frequent, especially in main clauses, and has a less marked interpretation. Indicative mood is associated with new information and certainty. Subjunctive mood almost exclusively occurs in subordinate clauses and typically denotes presupposed information or non-factive information such as: doubt, emotions, wishes, opinions or future events (Bosque, 1989).

In some subordinate clauses, the mood of the embedded verb depends on the lexico–semantic features of the main verb. Episodic predicates, which describe occurrences, acts, events or activities, require indicative, whereas volitional predicates like querer (‘to want’) or esperar (‘to hope’) are obligatorily followed by

---

1 But see Portner (1997) for an account on subjunctive as the default mood.
subjunctive mood, as illustrated in (1) and (2). Following Kempchinsky (2009), we assume that, although the semantics of the matrix verbs are also involved, the mechanism with which the feature of mood in the embedded clause is selected is a purely syntactic mechanism.

(1) \( \text{Sé que } \text{vas / *vayas conmigo.} \)

\( \text{know.1SG.PRES that go.2SG.PRES.IND/SUBJ with me} \)

‘I know that you go with me.’

(2) \( \text{Quiero que *vas/ vayas conmigo.} \)

\( \text{want.1SG.PRES that go.2SG.PRES.IND/SUBJ with me} \)

‘I want you to go with me.’

In other cases, mood alternation is possible and the context determines which mood is most felicitous. An example are relative clauses, in which, according to most analyses (Borgonovo et al., 2015 and references therein), mood selection is related to the specificity of the antecedent it refers back to. If the antecedent is specific (i.e., the speaker knows the identity of the antecedent), indicative mood should be used. If, on the other hand, the antecedent is non-specific, subjunctive mood is the more felicitous option, as illustrated in (3) and (4). Since specificity is a semantic property of the antecedent, this use of mood is usually considered to pertain to the internal interface between syntax and semantics.

(3) \( \text{Buscamos un hotel que tiene un gimnasio.} \)

\( \text{look.1PL.PRES.IND a hotel that have.3SG.PRES.IND a gym} \)

‘We are looking for a hotel that has a gym.’ (and I know there is one)

(4) \( \text{Buscamos un hotel que tenga un gimnasio.} \)

\( \text{look.1PL.PRES.IND a hotel that have.3SG.PRES.SUBJ a gym} \)

‘We are looking for a hotel that has a gym.’ (but I don’t know whether there is one).

Another type of context in which choice of mood depends on contextual properties entails negation in sentences with an embedded clause, also known as polarity subjunctive. In this case, mood in the embedded clause is determined by the speakers’ commitment to the truth of the proposition expressed in that clause. According to Quer (2001), subjunctive mood signals a shift in the evaluation model of the speaker to the epistemic model of the matrix subject. If the speaker thinks the proposition is true, both moods are allowed. But, if the speaker does not commit to the truth of the proposition, subjunctive is the only felicitous option. This is demonstrated in (5) and (6). This constraint, which applies to epistemic, communication, or perception matrix predicates (Borgonovo & Prévost, 2003), is related to speaker stance and can thus be argued to be located at the external
interface between syntax and pragmatics (following Pascual y Cabo et al., 2012 and Kempchinsky, 2009).

(5)  *Pedro no dice que sea su culpa.*
Pedro NEG say.3SG.PRES.IND that is.3SG.PRES.SUBJ his fault
‘Pedro does not say that it is his fault.’ (but I think it is / and I don’t think so either)

(6)  *Pedro no dice que es su culpa.*
Pedro NEG say.3SG.PRES.IND that is.3SG.PRES.IND his fault
Pedro does not say that it is his fault.’ (but I think it is / # and I don’t think so either)

The three above described contexts and the mood required in each condition within every context are summarized in table 2.1 below. The [+commitment] condition within the external interface context is different from the other conditions, in that only in this condition, both moods are expected to be (equally) felicitous.

**Table 2.1. Mood alternation in negated sentences.**

<table>
<thead>
<tr>
<th>Context</th>
<th>Interface location</th>
<th>Condition</th>
<th>Expected mood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lexical selection</td>
<td>Syntax</td>
<td>Episodic verbs</td>
<td>Indicative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Volitional verbs</td>
<td>Subjunctive</td>
</tr>
<tr>
<td>Relative clauses</td>
<td>Internal interface</td>
<td>[+specific]</td>
<td>Indicative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[-specific]</td>
<td>Subjunctive</td>
</tr>
<tr>
<td>Negation</td>
<td>External interface</td>
<td>[+commitment]</td>
<td>Indicative/subjunctive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[-commitment]</td>
<td>Subjunctive</td>
</tr>
</tbody>
</table>

Little evidence exists for regional variation with respect to mood in the contexts presented here. Dutch, the dominant language of our heritage speakers, does not have mood distinctions. Only in archaic fossilized expressions like “het zij zo” (‘so be it’) does the subjunctive occur, but it is not used productively in present-day Dutch and, crucially, never in the three contexts under investigation here. It may be therefore be the case that Spanish heritage speakers whose dominant language is Dutch will show difficulties with mood distinctions, particularly with subjunctive mood. In the next section, we will discuss relevant previous research on the topic.

---

2.3 Previous research with mood in Spanish heritage speakers

A number of studies have investigated mood in Spanish heritage speakers in the US. Generally, these studies attest an increasing simplification of mood distinctions in every generation (e.g., Lantolf, 1978; Ocampo, 1990a; Lynch, 1999, Bookhammer, 2013). Some studies have looked particularly at the difference between mood in variable (interface-related) contexts, compared to obligatory (syntactic) contexts. Silva-Corvalán (1994), for instance, collected oral production data from both second and third generation heritage speakers in Los Angeles, as well as first generation immigrants. Distinguishing between several different contexts, she attested a gradual reduction in the use of the subjunctive with every generation, which was most pronounced in the more variable uses of the subjunctive, like in temporal clauses and sentences expressing some degree of uncertainty. But given that precisely in those cases the semantic or pragmatic characteristics of the contexts determine which mood is most acceptable, we cannot deduce anything about the accuracy with which the subjunctive is used. Moreover, these results do not tell us anything about appropriate or inappropriate use of the indicative in variable contexts.

In a series of studies, Montrul (2007, 2008b, 2009a; Montrul & Perpiñán, 2011) provided more experimental data on American heritage speakers’ knowledge of mood in Spanish. She compared the participants’ choice of mood in volitional (i.e., syntactic) contexts and in contexts where mood is constrained by semantic and discourse factors, such as relative clauses, sentences with cuando (‘when’) and sentences with de manera que (‘so that’). The results demonstrated better performance on obligatory (syntactic) contexts than on variable (interface) contexts. However, the tests used in these studies targeted only one mood per construction. For instance, all items with relative clauses contained a non-specific antecedent, thus targeting subjunctive. Hence, we do not know whether or not these speakers possess accurate knowledge about mood in relative clauses with specific antecedents. In the obligatory contexts on the other hand, both moods were tested and heritage speakers performed better on the indicative than on the subjunctive.

Pascual y Cabo et al. (2012) compared heritage speakers’ judgments of both the indicative and the subjunctive in volitional (syntax) contexts and in negated epistemic predicates (syntax–pragmatics), which is one of the contexts of interest in the present dissertation as well. The authors demonstrated that even advanced heritage speakers failed to make a distinction between the two moods in the external interface context, whereas they did show knowledge of the subjunctive in volitional (syntactic) contexts. In conclusion, although previous research has shed some light on heritage speakers’ knowledge about Spanish mood in obligatory and variable contexts, a systematic comparison between all three above described contexts (pure syntax, internal interface and external interface) and both the subjunctive and the indicative mood in these contexts has yet to be carried out.
20 Chapter 2

2.4 Research Questions

This study is guided by the following research questions:

(i) Do Spanish heritage speakers differ from monolinguals regarding their judgments of mood?

(ii) If so, are there differences with respect to interface location and/or target mood?

The IH would predict heritage speakers to be most monolingual-like in purely syntactic contexts, less so in the internal interface context and least in the external interface context. Based on previous literature, we expect heritage speakers to be more monolingual-like in conditions where the indicative is the target mood than in conditions where subjunctive is the target mood.

2.5 Method

This study is part of a broader project in which both heritage speakers and L2 speakers of Spanish were tested. The project included both a judgment and a production task. In this chapter, only the heritage speakers’ results on the acceptability judgment task will be discussed.

2.5.1 Participants

Two groups participated in this study: 27 heritage speakers (of which 10 were excluded based on criteria described below) and a control group of 18 monolingually raised native speakers. The participants were of comparable age (19 to 38) and had either finished or were enrolled in university or college.

The 18 monolingually raised native speakers (5 male, 13 female) were all born and raised in Spanish-speaking countries (9 from Spain, 4 from Mexico, 2 from Colombia, 1 from Argentina, 1 from Nicaragua and 1 from Venezuela). The fact that the participants came from different regions was not considered to be a problem, because, as mentioned in section 2.2, there is no evidence for dialectal variation with regards to mood in the contexts discussed here, except for Gallego & Alonso-Marks (2014), who reported lower use of the subjunctive in advice by young monolingual Spanish speakers from Rosario, Argentina, as compared to their counterparts from Toledo, Spain. The only Argentinian native speaker in the present study did not display a different pattern than the other participants. The control group was tested in the Netherlands, but all participants reported having lived in the Netherlands for no longer than 6 months.

---

3 Although we are well aware that heritage speakers are native speakers, too (Rothman & Treffers-Daller, 2014), the term ‘native speakers’ is sometimes used in this dissertation to refer to the control group of monolingually raised native speakers.

4 All but one of the heritage speakers majored in topics other than Spanish.
The heritage speakers (3 male, 14 female) were second-generation heritage speakers, born in the Netherlands in mixed families where one parent (usually the mother) spoke Spanish and the other parent spoke Dutch. Most participants heard and spoke mostly Spanish at home up until the age of 5, when a shift occurred towards more Dutch in both input and output. All heritage speakers reported visiting Spanish-speaking countries frequently from an early age, and many also reported having lived in a Spanish-speaking country for a few months during childhood or adulthood. Regarding their current language use, most people indicated hearing and speaking mostly Dutch at home, although some also reported slightly more Spanish or both languages equally. At work or study and in leisure time, the language use and input were predominantly in Dutch for most participants. 11 heritage speakers reported having received explicit instruction in Spanish at some point during primary school, secondary school or college. The heritage speakers’ parents originated from various different countries: 6 from Spain, 5 from Mexico, 3 from Colombia, 2 from Uruguay and 1 from Argentina. Their length of exposure to Dutch varied, but in the majority of cases the native Spanish-speaking parent had lived in the Netherlands between 0 and 5 years before the participant was born, with some exceptions like 13 or even 17 years. 7 heritage speakers had older siblings and 8 had younger siblings.

Proficiency was measured in three different ways. First of all, the participants were asked to judge their own reading, writing, comprehension and speaking skills; secondly, they were administered the cloze part and the vocabulary part of the DELE (Diploma Español de Lengua Extranjera), a standardized Spanish proficiency task; and finally, they performed a lexical decision task. All measures correlated significantly with one another, as illustrated in table 2.2.

<table>
<thead>
<tr>
<th>Tests</th>
<th>Pearson’s R</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DELE &amp; self-reported proficiency</td>
<td>0.52</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>DELE &amp; accuracy on lexical decision task</td>
<td>0.69</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Self-reported proficiency &amp; accuracy on lexical decision task</td>
<td>0.58</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

To reduce heterogeneity, only participants were included who scored 37 or higher on the DELE, corresponding to a proficiency level ranging from high-intermediate to advanced. Five participants were excluded based on this criterion. Furthermore, participants had to get more than 100 out of 149 answers correct on the lexical decision task (the lowest scoring monolingual native speaker scored 110 on this task). This criterion excluded three participants. Finally, participants were included only if their average self-reported proficiency (calculated over the four language skills) was

---

5 One participant reported having lived mostly in Uruguay until the age of three.
6 Except for one HS whose parents both spoke Spanish.
3.5 or higher, which corresponded to high-intermediate to advanced. One participant was excluded based on this criterion.

Apart from proficiency level, we also used scores on a mood recognition task (MRT) as a selection criterion. After all, in order to know whether heritage speakers have accurate knowledge of when to use which mood, it is imperative that we be certain that they actually know which form corresponds to which mood. The MRT applied by Borgonovo, Bruhn de Garavito, and Prévost (2008, 2015) was used,\(^7\) which consists of a list of sentences that obligatorily require present tense subjunctive. Only people who scored higher than 80% correct on this task were included (following Iverson et al., 2008). Eight participants were excluded based on this criterion. In total, 10 heritage speakers were excluded due to one or several of the above-mentioned criteria. 17 heritage speakers remained (mean age: 25.6, SD: 5). All monolingual native speakers (mean age: 26.4, SD: 4.5) met all the inclusion criteria.

The most important information of the included participants is summarized in Table 2.3:

Table 2.3. Participants’ MRT and proficiency scores.

<table>
<thead>
<tr>
<th>Group</th>
<th>DELE score</th>
<th>Accuracy lexical decision task</th>
<th>Self-reported proficiency</th>
<th>Mood Recognition task</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Heritage speakers (N=17)</strong></td>
<td>Mean: 42.4 R: 37–47 SD: 2.8</td>
<td>Mean: 110.4 R: 101–122 SD: 6.4</td>
<td>Mean: 5.13 R: 3.5–6 SD: 0.74</td>
<td>Mean: 94% R: 86.1%–100% SD: 5.36</td>
</tr>
<tr>
<td><strong>Mono-lingual speakers (N=18)</strong></td>
<td>Mean: 46.3 R: 42–49 SD: 2.4</td>
<td>Mean: 130.72 R: 110–140 SD: 8.7</td>
<td>Mean: 5.94 R: 5–6 SD: 0.24</td>
<td>Mean: 99.35% R: 90.7%–100% SD: 2.23</td>
</tr>
</tbody>
</table>

2.5.2 Tasks and procedure
The participants started out by filling out an extensive paper-and-pencil in-depth questionnaire about the amount of input and activation of Spanish across the life span. The rest of the experiment was carried out on a laptop, except for the MRT and the cloze and vocabulary part of the DELE proficiency test, which were administered on paper at the very end of the session. For the online part of the experiment, the instructions and the items were presented both written (on the computer screen) and auditorily. The recordings were made by a native speaker of Colombian Spanish, who was instructed to speak slowly and to articulate clearly. All participants indicated being able to understand the aural input perfectly. The first computerized task was the lexical decision task. The participants were told that they would hear strings of letters that could either be a word in Spanish or not. They were asked to indicate as

---

\(^7\) Obtained through personal correspondence with the authors.
quickly as possible whether they thought it was a word or not, by pressing either a green or a red button. The second task was the elicited production task, which will not be the focus of this chapter. After the production task followed a short break before the acceptability judgment task started. In this task, participants were presented with short stories followed by two very similar sentences (the only difference being the mood of the embedded verb), each of which had to be rated on a scale ranging from −2 to 2. Minus two meant: “This sentence is very bad and I would never say this” and two meant: “This sentence is perfect and I would say this”. Zero indicated a neutral, in-between rating. Three practice items preceded the actual experiment. After the acceptability judgment task, the online part of the experiment was over and the participants were administered the MRT and the DELE proficiency task on paper.

2.5.3 Stimuli
The acceptability judgment task consisted of 54 experimental items and 24 filler items, presented in context, and in randomized order. The experimental items were divided into three contexts: syntax, internal interface and external interface items. Within each context, there were two conditions targeting different moods. For an overview of all the target items in this task see Appendix I.

In the 18 narrow syntax items, the correct mood in the embedded clause depended on the lexical features of the matrix verb. In half of the items, the main verb was an affirmative epistemic predicate requiring indicative, like for instance saber (‘to know’), pensar/creer (‘to think’) or darse cuenta de que (‘to realize’). In the other half of the items, the main verb was a volitional predicate like querer (‘to want’), esperar (‘to hope’), pedir (‘to ask’) etc., which syntactically selects subjunctive mood. As described above, participants saw both sentences and had to rate each sentence separately. An example of an item in this context is (7), in which subjunctive is the grammatical mood.

(7)  
Mi hija usa muchas palabras groseras cuando habla, lo que me molesta bastante. Lo hablo seriamente con mi esposa. Hablando con ella, le digo:

‘My daughter swears a lot when she talks, which bothers me quite a lot. I discuss it seriously with my wife. Talking to her, I say:’

An anonymous reviewer noted that presenting the participants with both moods increases the metalinguistic nature of the task. This was done to be able to make the comparison between explicit and implicit knowledge (as tested through an oral production task) in a later stage in the broader project.

The filler items tested subject position with unaccusative and unergative verbs in focused and non-focused contexts.
*No quiero que nuestra hija habla de manera tan grosera.
NEG want.1SG.PRES.IND that our daughter speak.3SG.PRES.IND in manner so rude
‘I don’t want our daughter to speak in such a rude way.’

*No quiero que nuestra hija hable de manera tan grosera.
NEG want.1SG.PRES.IND that our daughter speak.3SG.PRES.SUBJ in manner so rude
‘I don’t want our daughter to speak in such a rude way.’

For the internal interface context, most of the items (18 in total) were based on Borgonovo et al. (2015)\textsuperscript{10} with the contexts translated from English to Spanish.\textsuperscript{11} The items consisted of almost identical sentence pairs (the only difference being the mood) containing a relative clause. The preceding context made clear whether the antecedent was specific (half of the items) or non-specific (other half of the items). To rule out any bias towards a specific interpretation that might be caused by the definite determiner, all antecedents were indefinite. Also, to prevent additional properties like differential object marking (i.e., the marking of [+animate] and [+specific] direct objects with preposition a) to play a confounding role, all items were inanimate, except for one item in the [+specific] condition about a cat. Animals are claimed to be located halfway on the animacy scale between humans and inanimate objects and consequently, they can occur with or without differential object marking when they are [+specific] (Fábregas, 2013). In this particular item, no differential object marking was used.\textsuperscript{12} Example (8) below is an example from the [+specific] condition, in which indicative is the felicitous option.

(8) Gerardo ha estado mirando deportes por televisión todo el día. Cristina, su esposa, quiere mirar un programa político satírico que ha visto anunciado en el periódico. Le dice a Gerardo:

\textsuperscript{10} Obtained through personal communication with the author.
\textsuperscript{11} The contexts were translated to Spanish, and not Dutch to avoid any cross-linguistic priming effects during the task.
\textsuperscript{12} As an anonymous reviewer noted, pets are closer to humans on the animacy scale. One might therefore predict that leaving out differential object marking would render this sentence odd, given that the antecedents is [+specific] and [+animate]. However, it had the highest indicative rating of all items in this condition. This implies that, even though no differential object marking was used, participants liked this sentence and correctly interpreted the cat as a specific antecedent.
‘Gerardo has been watching sports on television all day. Cristina, his wife, wants to watch a political satiric show that she saw announced in the paper. She says to Gerardo:’

Me gustaría ver un programa que se ría del gobierno.
me please.3SG.PRES.COND see a program that laugh.3SG.PRES.IND at the government
‘I would like to see a show that makes fun of the government.’

The external interface context consisted of 18 negated sentences with embedded clauses. Many of the items in this context were based on the test used by Borgonovo and Prévost (2003). Three types of main verbs occurred: 6 epistemic verbs, like creer (‘to think’); 6 communication verbs, like decir (‘to say’); and 6 perception verbs like ver (‘to see’), oir (‘to hear’) and sentir (‘to feel’). The preceding context served to make clear whether the proposition expressed by the embedded clause was true or not. In half of the items the proposition was true, in the other half it was either not true or not known. Example (9) is an item in the [–commitment] condition, thus targeting subjunctive.

(9) Marisol es profesora en una escuela. Un día después del trabajo, la mamá de Elisa le pregunta si ha visto a su hija comer dulces en la clase. Marisol no está segura, porque no vio nada.
‘Marisol is a school teacher. One day after work, Elisa’s mom asks her if she has seen her daughter eat candy in the classroom. Marisol is not sure, because she has not seen anything.’

# Marisol no vio que Elisa comió dulces.
Marisol NEG see.3SG.PAST.IND that Elisa eat.3SG.PAST.IND candy
‘Marisol did not see that Elisa ate candy.’
For all items in all contexts, half of the verbs were regular and half were irregular, and the two types were neatly divided per context and within contexts per condition. The same equal division was applied to past and present tense verb forms, except in the internal interface context, where all items, which were taken from Borgonovo et al. (2015), were in present tense form. We will return to this point in the discussion.

2.6 Results

2.6.1 Group results

The group results, split out between the three contexts, are depicted in figures 2.1, 2.2, and 2.3.

![Bar graph](image.png)

Figure 2.1. Mean ratings on the syntax context. Errors bars represent standard errors.
Mood in syntax and interface contexts

2.6.2 Statistical analyses

In every statistical model described in this section, the dependent variable was categoricalness. This variable was calculated by subtracting the rating for the unexpected mood from the rating on the expected mood in each condition. The maximum value for categoricalness was thus 4 (the difference between 2 and −2) and the minimum was −4.

The [+commitment] condition within the external interface context was problematic for the statistical analyses for two reasons. First of all, whereas in all other conditions linguistic theory predicts preference for one mood over the other, only in this condition it was the absence of categoricalness that was predicted. Secondly, an
item analysis on the monolingual speakers’ ratings revealed a high degree of variability between different items in this category: different (sometimes even opposite) patterns were displayed for the three different verb types in this condition. This condition thus in fact constitutes three sub-conditions that should be treated separately. We will analyze these three different verb types in more detail in section 2.6.5.

For these reasons, it was decided to leave the [+commitment] condition out of the statistical analyses and run two analyses: one without the external interface context, but including target mood as a factor, and one including all three contexts but only the subjunctive targeting condition. The first model permits us to distinguish between the two target moods, at least within the syntax context and the internal interface context and the second model makes a comparison between the three different contexts possible, at least with respect to the subjunctive targeting conditions. We conducted generalized linear mixed effects models using the lme4 package (Bates, Maechler, & Bolker, 2012) from statistical tool R (R Development Core Team 2017). In all models, subject and item were included as random effects, and p-values were calculated based on estimated degrees of freedom using the Kenward–Rogers approximation from the pbkrtest package (Halekoh & Højsgaard, 2014).

2.6.3 Monolingual speakers’ variability

Looking at the graphs, it immediately becomes clear that the control group did not behave completely categorically in line with the patterns described in the theoretical literature. An individual analysis on the monolingual speakers’ data ruled out any variability caused by dialectal variation. The variability existed mostly within, not between speakers. Statistical analyses were run on these data to examine whether the amount of variability in monolinguals differed depending on the context or the target mood.

In the first model, which excluded the external interface, context (only syntax vs. internal interface) and target mood (indicative vs. subjunctive) were included as fixed effects as well as the interaction between the two. There were significant main effects of context (t=–8.80, p<.001), target mood (t=4.41, p<.001), as well as a significant two-way interaction between these two factors (t=2.72, p=.01). These effects indicate that monolingual speakers were more variable in the internal interface context than in syntax, and within the internal interface context, they were more variable in the [+specific] condition, which targets indicative.

In the second model, which only included the subjunctive targeting conditions, context was included as a fixed effect with three different values: syntax, internal interface and external interface. This was done using orthogonal sum-to-zero contrasts: one contrast between the syntax (coded as +2/3) vs. the two interface contexts (both coded as −1/3), and another contrast between the internal and the external interface contexts (the internal interface context coded as −0.5 and the external interface contexts as +0.5). The effect was significant, both for the contrast between the syntax and the internal interface context (t=–6.14, p<.001), and for the contrast between the internal and the external interface context (t=–4.67, p<.001).
This means that, only looking at the subjunctive targeting condition, monolingual native speakers were most variable on the external interface context, followed by the internal interface context, and least on syntax.

2.6.4 Heritage speakers’ results
To be able to test in which contexts and which conditions heritage speakers differed most from monolingually raised native speakers, mixed effects models were run on the data of the two groups combined, again excluding the problematic condition of [+commitment] within the external interface context.

In the first mixed effects model, which excluded the external interface, fixed effects were group (control vs. heritage), context (syntax vs. internal interface) and target mood (indicative vs. subjunctive). The model rendered main effects of group (t=−4.22, p<.001), context (t=−9.66, p<.001) and target mood (t=3.10, p=.003) as well as a two-way interaction between group and context (t=−4.37, p<.001) and a three-way interaction between group, context and target mood (t=−2.69, p=.009). These effects indicate that the heritage speakers were less categorical in their judgments than the monolingual speakers, and the difference between the groups is particularly pronounced in the internal interface context compared to the syntax context. Furthermore, within the internal interface context, the difference between the groups is bigger in the [−specific] than the [+specific] condition. This difference is due to the monolinguals being significantly more categorical in the [−specific] condition than in the [+specific] condition (t=3.55, p=.001), whereas heritage speakers are equally categorical across both these conditions (t=0.86, p=.40).

The second model tested only the subjunctive targeting condition and included all three contexts. Fixed effects were group and context. This model rendered significant main effects of group (t=−5.52, p<.001) and context (t=−10.74, p<.001 for the contrast between syntax on the one hand vs. the two interface contexts on the other hand and t=−5.5, p<.001 for the contrast between the internal and the external interface contexts) as well as a significant interaction between group and context (t=6.05, p<.001) but only for the contrast between syntax and the two interface contexts. These effects indicate that, with respect to the subjunctive targeting conditions, the heritage speakers differed more from the monolinguals in the two interface contexts compared to the syntax context, without any further significant difference between those two contexts.

2.6.5 Monolingual and heritage patterns
Furthermore, separate analyses were performed on each condition for each group to test whether they display the expected patterns, i.e., whether they categorically distinguished between the felicitous and the infelicitous mood in every condition. The relevant statistics are summarized in table 2.4.
Table 2.4. Significance values for t-tests between indicative and subjunctive ratings, per group, context and condition.

<table>
<thead>
<tr>
<th>Group</th>
<th>Context</th>
<th>Condition</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>Syntax</td>
<td>Epistemic (IND)</td>
<td>29.53</td>
<td>&lt;.001*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Volitional (SUBJ)</td>
<td>55.79</td>
<td>&lt;.001*</td>
</tr>
<tr>
<td></td>
<td>Internal interface</td>
<td>[+specific] (IND)</td>
<td>4.69</td>
<td>&lt;.001*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[-specific] (SUBJ)</td>
<td>14.32</td>
<td>&lt;.001*</td>
</tr>
<tr>
<td></td>
<td>External interface</td>
<td>[+commitment] (IND/SUBJ)</td>
<td>0.63</td>
<td>.55</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[-commitment] (SUBJ)</td>
<td>5.22</td>
<td>&lt;.001*</td>
</tr>
<tr>
<td>Heritage</td>
<td>Syntax</td>
<td>Epistemic (IND)</td>
<td>12.13</td>
<td>&lt;.001*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Volitional (SUBJ)</td>
<td>22.1</td>
<td>&lt;.001*</td>
</tr>
<tr>
<td></td>
<td>Internal interface</td>
<td>[+specific] (IND)</td>
<td>2.19</td>
<td>&lt;.05*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[-specific] (SUBJ)</td>
<td>5.75</td>
<td>&lt;.001*</td>
</tr>
<tr>
<td></td>
<td>External interface</td>
<td>[+commitment] (IND/SUBJ)</td>
<td>1.87</td>
<td>.09</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[-commitment] (SUBJ)</td>
<td>0.28</td>
<td>.78</td>
</tr>
</tbody>
</table>

This table shows that the control group behaved in accordance with the predictions based on linguistic theory in all conditions. Recall that the [+commitment] condition within the external interface is problematic. The lack of significance here is due to the fact that the opposite preferences for different verb types even each other out. We therefore leave this condition out of the analysis. The heritage speakers’ pattern mirrors that of the monolingual speakers in the syntax context and in the internal interface context, but not in the [-commitment] condition within the external interface context, where the monolingual speakers preferred subjunctive, but the heritage speakers did not distinguish between the two moods. They moreover tended to prefer indicative in the [+commitment] context, although the difference did not reach significance. These results thus show a further distinction between the internal and the external interface, since the latter context is the only one where heritage actually showed a qualitatively different pattern than the monolingual speakers. The results of the two analyses combined thus suggest a three-way distinction between the contexts: heritage speakers were most monolingual-like in the syntax context, less in the internal interface context and least in the external interface context.

### 2.6.6 Individual results

To test whether this three-way distinction between contexts also exists within participants, we looked at the individual data for both groups in the subjunctive targeting condition (i.e., the volitional condition within the syntax context, the [-specific] condition within the internal interface context, and the [-commitment] condition within the external interface context), because in these three conditions
the expected pattern is similar: subjunctive should be preferred over indicative. The results are summarized in Table 2.5. ‘Yes’ means that the participant appropriately rated the subjunctive significantly higher than the indicative in a given context. ‘No’ means that they either did not make a significant distinction or that they rated the indicative significantly higher. This table confirms the three-way pattern and shows that the pattern is moreover hierarchical: syntax > internal interface > external interface. If the expected pattern is displayed in a context, it is also displayed in the context to its left.

**Table 2.5. Heritage speakers’ individual patterns for the conditions targeting subjunctive in all three contexts.**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Syntax</th>
<th>Internal Interface</th>
<th>External Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>16</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>73</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>1</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>2</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>3</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>8</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>9</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>37</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>48</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>51</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>60</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>65</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>20</td>
<td>yes</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>41</td>
<td>yes</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>59</td>
<td>yes</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>69</td>
<td>yes</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

2.6.7 *Verb types within the external interface*

Figure 2.4 depicts the results for the three different verb types in the external interface context: perception predicates, like ver (‘to see’), oír (‘to hear’), or sentir (‘to feel’); communication predicates like decir (‘to say’) or contar (‘to tell’) and epistemic predicates like creer/pensar (‘to think’) or saber (‘to know’). Due to the low number of items per verb type (only three), no statistical analyses were performed on these results. Therefore, caution should be taken in drawing too strong conclusions.
Recall that in this context, according to linguistic theory, when the speaker is committed to the truth of the proposition, both moods are (equally) acceptable, and when the speaker is not committed, the subjunctive is more appropriate. With respect to the [–commitment] condition, the monolingual speakers’ judgments are in line with this pattern: they preferred subjunctive across verb types. In the [+commitment] condition on the other hand, the pattern differs considerably depending on the verb. For perception verbs, the pattern is as expected: there is not much difference in rating between the two moods. But there is a preference for the indicative with communication verbs (which was also found by Borgonovo and Prévost (2003)), and for the subjunctive with epistemic verbs. The latter result was also attested by Pascual y Cabo et al. (2012) for the control group in their study but not by Borgonovo and Prévost (2003) and Iverson et al. (2008). The heritage speakers behaved most similar to the monolingual speakers when it comes to the epistemic verbs: they preferred subjunctive across conditions, albeit somewhat less pronounced. This is different from the heritage speakers in Pascual y Cabo et al. (2012), who rated both moods equally in both conditions. With communication verbs, the heritage speakers resemble monolingual speakers in the [+commitment] condition, but not in the [–commitment] condition. With perception verbs, heritage speakers are most different from monolingual speakers: they show a stronger...
The purpose of this chapter was to investigate whether heritage speakers differ from monolinguals regarding their judgments of Spanish mood and whether there are differences with respect to interface location and/or target mood.

First of all, the results demonstrated that monolingually raised native speakers did not behave categorically in accordance with the patterns as described in linguistic theory, a finding in line with Child (2016). The within-speaker variation was greatest in the interface contexts, and especially in the external interface. There was also variation between items, but only in the [+commitment] condition within the external interface context. Splitting the results for the three different verb types revealed different patterns for different verb types. Even though no statistical analyses could be performed due to the small number of items for each verb type, the tendencies suggest that the distributional pattern of mood within this context is not as homogenous as has been assumed. These differences are worth exploring in more depth in future research.

Regarding the effect of interface location, the combined results from a mixed effects model analysis on the entire dataset and separate analyses per condition demonstrated that heritage speakers were most similar to monolingual speakers in the syntax context, followed by the internal interface context, and the difference was biggest in the external interface context. Thus, not only does the present study confirm the vulnerability of mood in interface (variable) contexts in general, it also provides evidence for a further distinction between internal and external interfaces within a single phenomenon, as predicted by the revised version of the Interface Hypothesis. As far as target mood is concerned, it was demonstrated that within the internal interface context, heritage speakers differed most from the control group in the subjunctive targeting [+specific] condition. This effect of condition suggests an increased preference for indicative on part of the heritage speakers, as reported in previous research (Montrul 2009a, 2011a). Yet, the heritage speakers were not more categorical in their preference for indicative in the [+specific] condition than in their preference for subjunctive in the [+specific] condition. Instead, the bigger difference between the groups in the [+specific] condition was caused by the monolinguals being more categorical in this condition: they accepted appropriate subjunctive and rejected inappropriate indicative more easily with non-specific antecedents, than the other way around with specific antecedents, a result that was also found in Borgonovo et al. (2008, 2015) and Giancaspro (2015). Child (2016) reports that native speakers of Spanish, when faced with relative clauses without an accompanying context, are more inclined to choose subjunctive (34%) than indicative (only 5%) as the preferred
mood (‘both’ was chosen 61% of the time). We suspect that the monolinguals’ preference for subjunctive in this context might be related to relative frequency of occurrence. A quick Google search suggests that relative clauses in sentences like “busco un/a x que...” (I’m looking for a x that...) or “conoces un/a x que...” (Do you know a x that...) occur more often with non-specific antecedents. If monolinguals are more accustomed to hearing these types of phrases with non-specific antecedents, thus with the subjunctive, they might find that subjunctive sounds better regardless of the context. Additional (corpus) research would be necessary to validate such a claim. Nevertheless, the same effect does not apply to heritage speakers, who do not reject the indicative as much in the same context.

In the external interface context, the heritage speakers also rated the indicative relatively high compared to monolingual speakers. This is true across conditions and across verb types. The increased preference for the indicative may in part be attributed to the absence of subjunctive mood in Dutch, the heritage speakers’ dominant language. In the three contexts under investigation here, Dutch has no linguistic resources at its disposal to express the described contrasts. It would be interesting for future research to control for cross-linguistic influence by looking at heritage speakers of Spanish with dominant languages that also have subjunctive mood, such as Italian or French. Another factor that might play a role here is the default status of the indicative in Spanish (Sánchez-Naranjo, 2014 and references therein). In Spanish, the indicative is more frequent than the subjunctive, especially in main clauses, where the subjunctive only appears in fixed expressions such as Ojalá + SUBJ (expression of hope). Also, the indicative arguably has a less marked interpretation, since it denotes factual information, unlike the subjunctive, which is used to express hopes, dreams, future events, etc. It is difficult to determine which is at play here: cross-linguistic influence from Dutch, a default mechanism, or possibly both.

Overall, our results are in line with the predictions made by the IH. Heritage speakers showed a three-way distinction between the three contexts tested in this study. Knowledge of mood in a syntactic context was relatively robust. In the internal interface between syntax and semantics, heritage still mirrored the monolingual pattern, although in a less pronounced manner. In the external interface, the difference was greatest: this is where heritage speakers actually failed to display the monolingual pattern and overgeneralized indicative mood. The IH claims that the increased vulnerability at the interfaces has to do with processing costs: integrating information from different linguistic and non-linguistic domains requires a higher processing load than purely syntactic operations. For bilinguals, who are constantly inhibiting one of their languages and as such already use more processing resources than monolingual speakers as it is, this load may be too heavy, thereby giving rise to residual optionality or cross-linguistic influence in the less dominant language. Phenomena located at the external interfaces are argued to be particularly vulnerable, because integrating information from cognitive domains outside of grammar is assumed to be even more demanding than coordinating information between two formal linguistic domains.
There are however other differences between the three contexts under investigation here that may support alternative accounts.

2.7.1 Alternative accounts
First of all, the order of acquisition in childhood may play a role, an idea first proposed by Jakobson (1941) as the Regression Hypothesis. According to this hypothesis, phenomena that are acquired late in L1 acquisition are more likely to be attrited. We know from L1 acquisition studies on Spanish mood that subjunctive morphology arises early on (around age two) in purpose expressions and volitional constructions of the type which we considered syntactic use in the present study. The entire array of possible uses and nuances in mood selection, including mood in constructions where syntax interfaces with semantics and pragmatics are acquired considerably later, some of these as late as 8 years of age. (e.g., Blake, 1983; Pérez-Leroux, 1998; López-Ornat, 1994). However, the relative order of acquisition for the two interface contexts discussed in this study could not be deduced from the existing literature. The possible role of order of acquisition of the three contexts of mood investigated in this study is worth exploring further in future research.

De Prada Pérez (2019) has suggested an alternative explanation for the difference in vulnerability between different linguistic phenomena. The Vulnerability Hypothesis argues that bilinguals’ divergent behavior with certain phenomena is related to how categorical the distribution is in the input: the more variable the distribution, the more vulnerable the phenomenon. Given that heritage speakers by definition are exposed to a reduced amount of input, there may not be sufficient evidence available in this input for the more variable elements of grammar to reach monolingual-like competence. On the other hand, if a grammatical rule is very categorical, there will be sufficient unambiguous evidence in the input for that rule to be acquired. De Prada Pérez & Pascual y Cabo (2012) have argued for subject–verb order in Spanish, that variability in native Spanish is a better predictor for heritage speakers’ linguistic performance than interface domain. Additional support for the theory is provided by Rinke & Flores (2014), who report that constructions located at the syntax–discourse interface were not particularly problematic for heritage speakers of Portuguese, but those structures in which native speakers showed variability were.

At first sight, our data appear to be in line with the Vulnerability Hypothesis, given that the monolingual native speakers in this study were most variable in their judgments in the external interface context, less in the internal interface context and least in the syntax context. This three-way distinction corresponds well to the three-way distinction in the degree of divergence in the heritage speakers. If the hypothesis can also be applied to the micro-level, within contexts, we should find that those conditions that are most variable in the control group give rise to more divergence in the heritage speakers. However, this is not what we find when we zoom in more closely. Within the internal interface context, the monolingual controls were most categorical in the [+specific] condition. The Vulnerability Hypothesis would thus predict heritage speakers to be more monolingual-like there, but the opposite result
was found: the heritage speakers diverged more from monolinguals in this condition. At the level of the verb type within the external interface context, the correspondence does not hold either. For instance, monolingual speakers were relatively categorical in the [−commitment] condition within perception verbs: it is the only condition where they actually rejected the indicative. Yet, heritage speakers behaved very differently in this condition; they did not distinguish between the two moods at all.

The Vulnerability Hypothesis is a promising theory, which seems to hold for the data presented here at the macro-level, between contexts. Unfortunately, the scope of the theory has not been specified sufficiently for us to know whether it can also be applied at the micro-level. This question needs to be addressed in order to determine exactly in which domains of grammar predictions can be formulated.

2.7.2 Limitations of the present study
Some potential weaknesses in the present study are worth mentioning. First of all, the heritage speakers were compared to monolingual native speakers. It has been suggested (e.g., Pires & Rothman, 2009) that this is not a fair comparison, given that heritage speakers may be exposed to qualitatively different input than monolinguals. Many researchers (e.g., Polinsky & Kagan, 2007) advocate to compare heritage speakers to first generation immigrants, given that this population provides the input that heritage speakers are actually exposed to. While we admit that using a monolingual group might not constitute the optimal baseline, we emphasize that the focus of the present study is on the linguistic facts that play a role in heritage speakers’ end-state knowledge, not on external factors that influence the developmental path toward that end state.

Another possible shortcoming of the present study relates to the experimental design. As mentioned in section 2.5.3, present and past tense verbs were evenly distributed in all conditions except for the internal interface context, where all items were in present tense for reason of comparability with Borgonovo et al. (2015) during a later stage in the project. To check whether this discrepancy may have affected the results, a mixed effects model including tense as a factor was conducted on the data. The model rendered a significant interaction between tense and group ($t=-2.16$, $p=0.034$), which indicated that the heritage speakers differed more from the controls on present tense items than on past tense items. Hence, the results for the internal interface context might have looked somewhat different, had this condition included past tense forms as well.

2.8 Conclusion
This study has investigated Spanish mood in three different contexts: a syntactic context, where mood is lexically selected; an internal interface context, in which choice of mood is semantically constrained; and an external interface context, where choice of mood depends on the pragmatic contexts.

Heritage speakers’ ratings were most similar to monolingual speakers in purely syntactic contexts, followed by the internal interface context, and least in the external
interface context. In the latter context, heritage speakers tended to overgeneralize indicative, implying either cross-linguistic influence from Dutch or a default mechanism. These results were taken to provide support for the revised version of the Interface Hypothesis.

However, differences at the micro level of conditions and verb types within contexts suggest that other factors may also play a role. Further research needs to be conducted to understand the manner in which interface interacts with variability in the input, order of acquisition and possibly other factors. Moreover, it was demonstrated that distributional patterns of mood in native Spanish are not completely in line with linguistic theory. Monolingual speakers are variable in their judgments in the interface contexts, especially in the external interface context.

Also, different patterns were attested for different predicate types in the external interface context. These issues should be taken into account and explored further in future investigations.
Abstract

Purpose: This study investigates heritage speakers of Spanish in the Netherlands regarding their knowledge of Spanish mood. Previous research has demonstrated that heritage speakers of Spanish in the US have problems with mood, especially with subjunctive mood, and particularly in contexts where choice of mood is variable and dependent on semantic and pragmatic factors. Moreover, heritage speakers are often reported to experience fewer problems with oral production tasks tapping into implicit knowledge than with judgment tasks targeting metalinguistic knowledge. This study aims to investigate whether these patterns can be confirmed for heritage speakers of Spanish in the Netherlands.

Methodology: 17 heritage speakers of Spanish from the Netherlands and 18 monolingual speakers of Spanish completed a contextualized elicited production task. Each item contained a context targeting either indicative or subjunctive mood. Below each context followed the beginning of a sentence which the participants were instructed to complete. Both obligatory and variable uses of mood were included. The results were compared to findings from the contextualized scalar acceptability judgment task reported in the previous chapter, which used the same conditions and the same participants.

Data and analysis: All responses were coded as felicitous or infelicitous given the accompanying context and were analyzed using mixed effects models. The results demonstrate that the heritage speakers were less accurate in their choice of mood than the monolingual speakers, particularly with the subjunctive and in variable contexts. Furthermore, the heritage speakers deviated more from the monolingual patterns in the production task than in the judgment task.

Findings/conclusion: These results confirm several patterns attested for heritage speakers of Spanish in the US, namely the increased vulnerability with the subjunctive and in contexts where mood is not obligatorily selected. However, in contrast to previous literature, this study reports better performance on a metalinguistic judgment task than on an oral production task. This deviant finding is attributed to differences in societal circumstances between heritage speaker populations in the Netherlands and in the US.

Implications of the research: This study confirms the heterogeneity of heritage speakers as a population and emphasizes the importance of taking societal circumstances into consideration.

3.1 Introduction

While it is clear from previous literature that heritage speakers often diverge from their monolingual counterparts, there is enormous variability between different speakers regarding their end-state proficiency in the heritage language. One of the great challenges heritage language researchers face today is to try to account for this variability. A possible factor of interest, explored in this chapter, is the specific (socio-)linguistic situation in the heritage language community and the host country. The literature reveals an interesting discrepancy between studies conducted in the US and studies conducted in Europe. In the US, heritage language acquisition has been on the research agenda for several decades and typically points towards a divergence from the monolingual norm (e.g., Au et al, 2002; O’Grady, Lee, & Choo, 2001; Montrul, 2009b; Polinsky, 2011). In Europe, heritage language research started more recently and has rendered mixed results.\footnote{Although Kupisch (2013) emphasizes the research on European bilingual child acquisition, which in many cases can be considered to be child heritage acquisition.} While some studies report diverging linguistic behavior (e.g., Doğruoz & Backus, 2007; Treffers-Daller, Daller, Furman, & Rothman, 2016, and several studies mentioned in Benmamoun et al., 2013), others demonstrate high levels of proficiency (Flores, 2015; Irizarri van Suchtelen, 2016; Kupisch, Akpınar, & Stöhr, 2013; Kupisch, Belikova, Özçelik, Stangen, & White, 2017; Kupisch et al., 2014), although most of these studies also note minor divergences in some constructions or for some participants. This disparity between heritage speakers (sometimes even of the same language) in different parts of the world raises the question about which way societal differences may affect their ultimate attainment.

A commonly reported finding in US-based studies is that heritage speakers perform better in tasks measuring implicit knowledge, like oral production and online processing tasks, than in more explicit, metalinguistic tasks such as grammaticality judgment tasks (GJT) (Montrul, 2012 and studies mentioned there). The explanation suggested for this discrepancy relates to the type of input received. Heritage speakers acquire their heritage language in a naturalistic setting and have relatively much experience hearing and speaking the language throughout the life span (although the amount of input and activation relatively decreases at school age). On the other hand, they do not receive much (if any) explicit instruction that might trigger them to deal with their heritage language in a metalinguistic way. Whether this pattern can be confirmed for European heritage languages cannot yet be clearly deduced from the existing literature. Kupisch, in a range of studies, compared different task types within the same group. In her 2014 study, performance is better on oral production tasks than on more explicit tasks, but elsewhere (Kupisch et al., 2014) the opposite pattern is attested. In Kupisch et al. (2013) ceiling effects are reported for both task types.

This chapter attempts to add a small piece to the puzzle of putative differences between Spanish heritage speakers in the US and Europe by investigating Spanish as
a heritage language in the Netherlands and comparing judgment data to production data within the same group on a single phenomenon, namely Spanish mood.

The chapter is organized as follows: in the following section, we explain the contexts in which Spanish mood is investigated in the present study. Next, a summary of the previous research is presented, followed by the research questions. Section 3.4 describes the methodology of the study and in section 3.5 the results will be reported. Finally, we offer a detailed discussion of the data and draw conclusions.

3.2 Spanish mood

Spanish has two moods: the indicative, which is generally used in main clauses and is associated with new information and certainty, and the subjunctive, which almost exclusively occurs in subordinate clauses and denotes presupposed or non-factive information such as emotions, doubts, opinions, wishes, or future events.

In many subordinate clauses, mood is syntactically selected by the lexico–semantic features of the main verb. Affirmative epistemic verbs, like saber (‘to know’), require the indicative, whereas volitional predicates like querer (‘to want’), select the subjunctive. In these contexts, mood selection is obligatory; violations of the rule lead to ungrammaticality, as displayed in Examples (1) and (2).

(1) Sé que tú **trabajas** / **trabajes** mucho
   *work.2SG.PRES/IND/SUBJ* much
   ‘I know that you work a lot.’

(2) Quiero que tú **trabajas** / **trabajes** mucho
   *work.2SG.PRES/IND/SUBJ* much
   ‘I want you to work a lot.’

Following Kempchinsky (2009), we assume that the mechanism with which the uninterpretable feature of mood in the embedded clause is selected is syntactic, although semantics of the matrix verb are also involved.

In variable contexts, both moods are grammatical, but one is usually more felicitous than the other. Two types of variable contexts are of interest to the present study. The first type consists of relative clauses. According to most analyses (Borgonovo et al., 2015 and references there), mood selection in these contexts is related to the specificity of the antecedent it refers back to. Indicative mood corresponds to a specific antecedent (i.e., the speaker knows its identity) and subjunctive mood to a non-specific antecedent, as illustrated in Examples (3) and (4).

(3) Buscamos un hotel que **tiene** un gimnasio.
   *look.1PL.PRES/IND* a hotel that **have.3SG.PRES/IND** a gym
   ‘We are looking for a hotel that has a gym.’ (and I know there is one)
Buscamos un hotel que tenga un gimnasio.
‘We are looking for a hotel that has a gym.’ (but I don’t know whether there is one).

The second variable context of interest consists of negated predicates with an embedded clause, also known as polarity subjunctive (Borgonovo & Prévost, 2003). According to Quer (2001), the subjunctive indicates a shift in the model of evaluation from the epistemic model of the speaker to the epistemic model of the matrix subject. The speaker’s commitment to the truth of the embedded proposition determines which mood is more felicitous. The subjunctive can be used with both a [+commitment] interpretation and a [−commitment] interpretation, as Example (5) illustrates. The indicative, on the other hand, is only felicitous in the [+commitment] reading, i.e., when the speaker thinks the proposition is true, as demonstrated in Example (6).

Juan no cree que Julio esté enfermo.
‘Juan does not believe that Julio is sick.’ (but I think he is / and neither do I)

The three contexts with both conditions and their respective expected moods are summarized in Table 3.1. Note that the [+commitment] condition within the context of negated sentences is the only condition where both moods are acceptable according to the theory.

<table>
<thead>
<tr>
<th>Context</th>
<th>Condition</th>
<th>Expected mood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obligatory</td>
<td>Epistemic verbs</td>
<td>Indicative</td>
</tr>
<tr>
<td></td>
<td>Volitional verbs</td>
<td>Subjunctive</td>
</tr>
<tr>
<td>Variable 1: Relative clauses</td>
<td>[+specific]</td>
<td>Indicative</td>
</tr>
<tr>
<td></td>
<td>[−specific]</td>
<td>Subjunctive</td>
</tr>
<tr>
<td>Variable 2: Negation</td>
<td>[+commitment]</td>
<td>Indicative/subjunctive</td>
</tr>
<tr>
<td></td>
<td>[−commitment]</td>
<td>Subjunctive</td>
</tr>
</tbody>
</table>

2 The [+commitment] reading is obtained through an external negation interpretation (i.e. ‘It is not the case that Luca believes that Julio is sick’).
Apart from a few archaic fossilized expressions, Dutch does not have a subjunctive mood, and is thus similar to English in this respect.3

3.3 Previous research

3.3.1 Spanish mood by heritage speakers
To our knowledge, the Spanish subjunctive has been investigated only for heritage speakers in the US, but not in Europe. Silva-Corvalán (1994), who looked at oral production data from both second and third generation heritage speakers, attested a gradual decline in the use of the subjunctive with every generation, which was especially pronounced in variable contexts, such as temporal clauses and sentences expressing some degree of uncertainty. Montrul (2009a), using an experimental design, compared obligatory contexts to variable contexts such as relative clauses, sentences with _cuando_ (‘when’) and sentences with _de manera que_ (‘so that’). Oral and written production tasks were used to test obligatory subjunctive and a sentence conjunction judgment task was used to test mood in variable contexts. Heritage speakers performed more similarly to monolingual controls on the tasks targeting obligatory subjunctive than on the task that tested mood in variable contexts, which the authors attribute to the more metalinguistic nature of the latter task. Pascual y Cabo et al. (2012) used a scalar felicitousness judgment task to compare advanced heritage speakers’ judgments of mood in obligatory contexts and in a pragmatically constrained context, namely: negated epistemic predicates such as _creer_ (‘to believe’) with an embedded clause. The heritage speakers were able to distinguish between moods in obligatory contexts, but unlike the monolingual controls, they failed to do so in the pragmatically constrained context.

Many of the studies investigating Spanish mood focus on the subjunctive and not the indicative, the underlying assumption being that the former poses more problems for heritage speakers whose majority language does not contain mood distinctions. Those studies that compared both moods demonstrate that heritage speakers are more accurate with the indicative than with the subjunctive, in both obligatory and variable contexts and in both written and oral tasks (e.g., Mira, 2009; Montrul, 2009a, 2011a; Montrul & Perpiñán, 2011).

Together, these studies indicate that heritage speakers of Spanish in the US have problems with mood, especially with the subjunctive and more so in variable contexts than in obligatory contexts.

3.3.2 Task type effects in heritage speakers
As mentioned in the introduction, a general observation in the US-based literature is that heritage speakers perform better on tasks measuring implicit knowledge, like oral production tasks, than on tasks measuring explicit and metalinguistic knowledge, like written production and GJTs. Several studies have compared heritage speakers to L2

---

3 Except for the fact that English has subjunctive in expression such as ‘I require that he come,’ as well as the _for-to_-construction with volitional predicates: ‘I want (for) you to work.’
speakers. Bowles (2011), for instance, examined both these groups using a battery of tests ranging from more to less metalinguistic. Topics of investigation were gender agreement, case marking, tense, aspect, and mood in Spanish. The L2 speakers performed better on the more explicit knowledge tasks, such as an untimed GJT and a metalinguistic knowledge task, whereas the heritage speakers scored highest on more implicit knowledge tasks, like a timed grammaticality judgment task, an oral imitation test, and an oral narration task. In a series of studies, Montrul and colleagues found similar patterns for these two populations on various linguistic phenomena in Spanish, such as gender agreement (Montrul, Davidson, de la Fuente, & Foote, 2014), clitics (Montrul, 2010) differential object marking, and tense, aspect and mood (Montrul, 2011a; Montrul & Perpiñán, 2011). While L2 learners had relatively more problems in a timed comprehension task and an oral production task, heritage speakers made more errors in the untimed written comprehension task. Mira (2009) also attested higher use of the subjunctive by heritage speakers in oral than in written production.

It is not clear whether European heritage speakers demonstrate a comparable pattern concerning task type. Most heritage speaker studies conducted in Europe applied only one task, either a production task or a judgment task. Both successful and less successful acquisition have been attested with each task type. Three studies by Kupisch and colleagues are worth mentioning here, since they employed multiple tasks with the same group of participants. Kupisch (2014) tested knowledge of adjective placement in Italian in two groups of German–Italian bilinguals: an Italian-dominant group living in Italy and a German-dominant group living in Germany, the latter of which were considered to be heritage speakers of Italian. More errors were made in an acceptability judgment task than in a spontaneous production task. However, as the authors themselves note, using completely spontaneous production data makes it difficult to rule out any effects of avoidance. Second, Kupisch et al. (2013) compared two groups of German–French bilinguals: a French-dominant and a German-dominant group (the heritage speakers). The phenomenon of interest was gender assignment and agreement in French. Both an acceptability judgment task and an elicited production task were administered, but the heritage speakers performed at ceiling on both tasks; therefore, not much can be deduced about a possible preference for one task over the other. Third, Kupisch et al. (2014) investigated several different phenomena with the same group of heritage speakers of French as in Kupisch (2013), and found that they differed more from the monolingual norm in oral production than in judgment. However, different constructions were tested in each task: the judgment task targeted morpho–syntactic phenomena like adjective placement, gender and article use, whereas the production data was analyzed for prepositions and phonological elements such as global foreign accent and voice onset time. These results thus cannot tell us much about task type effects within a single phenomenon.

In sum, US-based studies have attested increased divergence in tasks that require explicit, metalinguistic knowledge compared to tasks that require fast and
3.3.3 Mood in L1 and 2L1 acquisition

Given that heritage speakers represent the end-state of bilingual acquisition, it would be interesting to look at what knowledge of mood bilingual children possess. Studies conducted in the US typically attest incomplete knowledge of the subjunctive by Spanish–English bilingual children at school age and later on (e.g., Merino, 1983; Silva-Corvalán, 2003), but no clear distinction is made between the different contexts for mood discussed in the present study. To our best knowledge, no studies have been conducted that examine Spanish mood in bilingual acquisition in the context of the Netherlands or any other European country. However, we know that in monolingual acquisition, obligatory uses of the subjunctive are acquired early on (age two and three), whereas variable contexts, where mood is constrained by semantic and/or pragmatic constraints, are acquired at a later age, some as late as 8 or 9 years (e.g., Blake, 1983; Pérez-Leroux, 1998). It is therefore likely that the variable contexts of mood tested in this study are not fully acquired by the time heritage children go to school.

3.4 Research question and hypotheses

The present study examines heritage speakers of Spanish residing in the Netherlands. The specific phenomenon under investigation is mood. Our research question is:

*Do Dutch heritage speakers of Spanish resemble their US counterparts regarding the patterns in their knowledge of mood?*

To answer this question, we distinguish between:

(i) obligatory and variable contexts;
(ii) indicative and subjunctive mood;
(iii) an implicit task (elicited oral production) and an explicit task (acceptability judgment).

With respect to (i) and (ii), we expect heritage speakers to resemble their US peers, i.e., we predict that Dutch heritage speakers will perform better on the indicative than on the subjunctive and better in obligatory than variable contexts. Given that these effects are related to the nature of the phenomenon itself, there is no reason to expect differential patterns caused by socio-demographic differences (US vs. Europe) or different dominant languages (Dutch vs. English). Regarding (iii), we do not have specific predictions; even though studies in the US have attested a preference for more implicit task types, societal differences might play a role here.
3.5 Method

This study is part of a larger research project. The heritage speakers’ results on the judgment task were reported in chapter 2 of this dissertation and in van Osch et al. (2017). In the present chapter these results will be complemented with production data to compare the two task types.

3.5.1 Participants

27 adult heritage speakers and 18 monolingual speakers participated in the study. However, 10 heritage speakers were excluded based on criteria that will be discussed below. The participants were of comparable age (19 to 38) and were all university or college students or graduates (not enrolled in Spanish courses at the time of testing). All heritage speakers (3 male, 14 female) were second-generation speakers, born in the Netherlands to immigrant parents. Apart from one case, all participants grew up in a mixed family where one parent (usually the mother) spoke Spanish and the other spoke Dutch.

Most heritage speakers reported hearing and speaking both languages more or less equally often in the home up until the age of 5, when a shift occurred toward more Dutch and less Spanish in the input and output. All reported visiting Spanish-speaking countries frequently from an early age onwards, and 10 had lived in a Spanish-speaking country for a few months during childhood (4 participants) or adulthood (6 participants). Regarding their language use at the time of the data collection, 9 participants indicated hearing and speaking mostly Dutch at home, 4 reported slightly more Spanish and 4 both languages equally. At work or study and in leisure time, the language use and input were predominantly Dutch for most participants. A total of 11 heritage speakers received instruction in Spanish at some point during primary school, secondary school, or college. The heritage speakers’ parents originated from various different Spanish-speaking countries: 6 from Spain, 5 from Mexico, 3 from Colombia, 2 from Uruguay, and 1 from Argentina. The parents’ length of exposure to Dutch varied, but the majority had lived in the Netherlands between 0 and 5 years before the participant was born.

The 18 monolingual speakers (5 male, 13 female) were tested in the Netherlands, but had lived there for no more than six months and had not yet learned any Dutch. They were all born and raised in Spanish-speaking countries (9 from Spain, 4 from Mexico, 2 from Colombia, 1 from Argentina, 1 from Nicaragua, and 1 from Venezuela). To our knowledge there is little evidence for dialectal variation concerning mood in the contexts under investigation here. The only relevant reference we found is from Gallego and Alonso-Marks (2014), who report that monolingual Spanish speakers from Toledo, Spain, used obligatory subjunctive (when giving advice) in oral production more often than speakers in an age-matched group in Rosario, Argentina, who sometimes replaced the subjunctive with other

---

4 One person reported having lived mostly in Uruguay until the age of 3.
5 But see e.g., Molina (2008) and Serrano (1995) for regional variation with respect to mood in other contexts.
grammatical constructions (but never with the indicative). The only Argentinian speaker in the present study did not display a different pattern from the other participants.

General proficiency in Spanish was measured in three different ways. First of all, the participants judged their own reading, writing, comprehension, and speaking skills. Second, they were administered the cloze part and the vocabulary part of the DELE, a standardized Spanish proficiency task. Finally, they performed a lexical decision task. All measures correlated significantly with one another, as illustrated in table 3.2.

### Table 3.2: Significance values for the correlation between the proficiency tests.

<table>
<thead>
<tr>
<th>Tests</th>
<th>Pearson’s R</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DELE &amp; self-reported proficiency</td>
<td>0.52</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>DELE &amp; accuracy on lexical decision task</td>
<td>0.69</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Self-reported proficiency &amp; accuracy on lexical decision task</td>
<td>0.58</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Several inclusion criteria were set to keep the group as homogeneous as possible in terms of proficiency. Only participants who scored 37 or higher on the DELE were included, and this corresponded to a proficiency level ranging from high-intermediate to advanced. Furthermore, participants had to get more than 100 out of 149 answers correct on the lexical decision task. Finally, their average self-reported proficiency (calculated over the four language skills) had to be 3.5 or higher, also corresponding to a rating halfway between intermediate and advanced. Apart from proficiency measures, scores on a mood recognition task (MRT) (taken from Borgonovo et al., 2015) were used to check whether the participants were able to consistently recognize subjunctive morphology. Only those participants who scored higher than 80% correct on this task were included (conform Iverson et al., 2008).

A group of 17 out of 27 heritage speakers (mean age: 25.6, SD: 5), and all the monolingual speakers (mean age: 26.4, SD: 4.5), met all the inclusion criteria. The heritage speakers differed significantly from the monolinguals on all proficiency measures (DELE: t=−4.57, p<.001; lexical decision task: t=−7.87, p<.001; self-reported proficiency: t=−4.28, p<.001) and on the MRT (t=−3.59, p=.002). The most important information of the included participants is summarized in table 3.3.
Table 3.3. Participants’ MRT and proficiency scores.

<table>
<thead>
<tr>
<th>Group</th>
<th>DELE score</th>
<th>Accuracy lexical decision task</th>
<th>Self-reported proficiency</th>
<th>Mood Recognition task</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Heritage speakers (N=17)</strong></td>
<td>Mean: 42.4</td>
<td>Mean: 110.4</td>
<td>Mean: 5.13</td>
<td>Mean: 94%</td>
</tr>
<tr>
<td></td>
<td>R: 37–47</td>
<td>R: 101–122</td>
<td>R: 3.5–6</td>
<td>R: 86.1%–100%</td>
</tr>
<tr>
<td></td>
<td>SD: 2.8</td>
<td>SD: 6.4</td>
<td>SD: 0.74</td>
<td>SD: 5.36</td>
</tr>
<tr>
<td><strong>Mono-lingual speakers (N=18)</strong></td>
<td>Mean: 46.3</td>
<td>Mean: 130.72</td>
<td>Mean: 5.94</td>
<td>Mean: 99.35%</td>
</tr>
<tr>
<td></td>
<td>R: 42–49</td>
<td>R: 110–140</td>
<td>R: 5–6</td>
<td>R: 90.7%–100%</td>
</tr>
<tr>
<td></td>
<td>SD: 2.4</td>
<td>SD: 8.7</td>
<td>SD: 0.24</td>
<td>SD: 2.23</td>
</tr>
</tbody>
</table>

3.5.2 Tasks and procedure

The participants started by filling out an extensive paper-and-pencil questionnaire. After this, the lexical decision task, the elicited production task (EPT), and the acceptability judgment task (AJT) were carried out on a laptop, with a short break between the EPT and the AJT. The MRT and the DELE were administered on paper at the very end of the session.

For the computerized part of the experiment, all instructions and items were presented simultaneously written (on the screen) and auditorily. The recordings were made by a native speaker of Colombian Spanish and were understood perfectly by all participants, as indicated during debriefing. The focus of the present chapter is on the elicited production task, which contained 54 experimental items and 16 fillers, presented in randomized order and preceded by 3 practice items. Each item contained a short story, followed by an incomplete sentence, which the participants were instructed to read out loud and finish in a way that made sense in relation to the story.

The 54 experimental items were divided into three contexts containing 18 items each: one obligatory context, and two variable contexts. Within each context there were two conditions targeting different moods. In the obligatory context, the correct mood in the embedded clause depended on the lexical features of the matrix verb. In half of the items, the main verb was an affirmative epistemic predicate that obligatorily requires the indicative, like saber (‘to know’). In the other half, the main verb was a volitional predicate such as querer (‘to want’), which selects the subjunctive. An example of an item pertaining to this category is Example (7), in which the predicate querer obligatorily requires the subjunctive form:

(7) Estoy molesto porque mi esposa nunca limpia la casa. Esta noche de nuevo no me ayuda a lavar los platos. Me enojo y le digo:

‘I am annoyed because my wife never cleans the house. This evening, once again, she doesn’t help me with the dishes. I get angry and say:’
Quiero que...
‘I want that...’

Expected answer: “me ayudes”
me help.2SG.PRES.SUBJ
‘you help me.’

The first of the two variable contexts consisted of relative clauses. In half of the items, the antecedent was specific, targeting the indicative, and in the other half it was non-specific, targeting the subjunctive. To rule out any bias within the critical sentence, all antecedents were indefinite and inanimate.6 Example (8) is an example with a specific antecedent, making the indicative the more felicitous option.

(8) Mi jefe viaja muy frecuentemente a Quebec por el trabajo. Sé que allí existe un hotel de hielo, lo que me fascina, pero no sé si él lo conoce. Le pregunto:
‘My boss frequently travels to Quebec for work. I know that there exists a hotel made of ice there, which fascinates me, but I don’t know if he knows it. I ask him:’

¿Alguna vez has estado en un hotel que...
‘Have you ever been in a hotel that...’

Expected answer: “consiste en hielo?”
consists.3SG.PRES.IND of ice
‘consists of ice?’

The second variable context consisted of negated sentences with embedded clauses. Some of the items were based on the test used in Borgonovo and Prévost (2003).7 Three types of main verbs were included: epistemic verbs, like creer (‘to think’); communication verbs, like decir (‘to say’); and perception verbs like ver (‘to see’). The preceding story made clear whether the proposition in the embedded clause was considered to be true or not. In half of the items the embedded proposition was true, rendering both moods acceptable. In the other half, the embedded proposition was not true, making the subjunctive the only acceptable mood. In Example (9), the speaker considers the proposition not to be true; therefore, the subjunctive is expected.

---

6 Except for one item about a cat.
7 Obtained through personal communication with the authors.
Chapter 3

(9) *Selma camina por la calle y ve a su tía caminando a 20 metros de ella. La llama, pero hay mucho ruido de los coches así que es imposible oír algo.*

‘Selma is walking on the street and sees her aunt walking at 20 meters distance. She calls her name, but there is a lot of noise from the cars, so is it impossible to hear anything.’

*Selma no cree que su tía la…*

Selma NEG believe.3SG.PRES.that her aunt her
‘Selma does not believe that her aunt…’

Expected answer: 

“*oiga*”

hear.3SG.PRES.SUBJ
‘hears her.’

For a complete overview of all the items in the production task, see Appendix II. After a short break followed the AJT, which is described in detail in the previous chapter and in van Osch et al. (2017). This task contained similar stories, followed by two sentences that were identical except for the mood of the embedded verb. Both sentences had to be rated on a scale ranging from −2 to 2. The target items in this task are presented in Appendix I.

3.5.3 Coding

All responses were initially coded as indicative, subjunctive, or other. 100 responses were excluded from the analysis for one of the following reasons: (1) the participant did not answer at all; (2) the response did not contain a verb; (3) the response was unintelligible; or (4) the response was completely different from what was targeted content-wise. These cases could not tell us anything about the participants’ knowledge concerning mood. A total of 898 responses were coded as indicative and 847 as subjunctive. The ‘other’ category consisted of 45 responses, which contained verbs in future tense, conditional, or infinitive. For the statistical analyses, all indicative and subjunctive responses were recoded as expected or unexpected, depending on the condition. The ‘other’ responses were evaluated for felicitousness by two native speakers of Spanish. However, in a number of cases the judges did not agree, for instance on the use of a conditional in a [−commitment] context, as in Example (10):

(10) *El hombre no creyó que su propio hijo le robaría.*

the man NEG think.3SG.PAST.IND that his own son him rob.3SG.COND
‘The man did not think that his own son would rob him.’

Therefore, ‘other’ responses were excluded from the statistical analysis.\(^8\)

---

\(^8\) Due to space limitations, we could not include a qualitative analysis of the “other” category, as suggested by an anonymous reviewer.
Furthermore, the [+commitment] condition within the second variable context (negated predicates) could not be included in the analysis, because no ‘expected’ or ‘unexpected’ mood could be determined. Recall that, according to the theory, both moods are considered to be acceptable in this condition (see table 3.1). Moreover, as described in chapter 2 and in van Osch et al. (2017), monolingual speakers of Spanish showed differential preference patterns in judgment for the three predicate types tested in this condition: for perception and communication verbs, the indicative was preferred, whereas for epistemic verbs the subjunctive was more acceptable. This pattern is confirmed by the production data in the present study. These findings suggest that this condition is not as homogenous as it has been considered to be in linguistic theory and therefore should not be compared to the other conditions in the experiment.

3.6 Results

Generalized linear mixed effects models were conducted in R (R Development Core Team 2017), using the lme4 package (Bates et al., 2012). Due to the exclusion of the [+commitment] condition, two separate models were conducted on the data: (1) one comparing all three contexts, but only the subjunctive-targeting conditions within these contexts, and (2) one including both the indicative and the subjunctive targeting conditions, but excluding the context containing negated predicates. P-values were calculated based on estimated degrees of freedom using the Kenward–Roger approximation from the pbkrtest package (Halekoh & Højsgaard 2014).

In the first model, both subject and item were included as random effects. The dependent variable was mood (expected vs. unexpected). Fixed effects were group (heritage vs. control), context (obligatory, relative clauses, and negated sentences) and the interaction between these factors. The results indicate that heritage speakers used the subjunctive less often than monolingual speakers overall (t=6.40, p<.001), and that the difference between the two groups was larger in the two variable contexts than in the obligatory context (t=7.41, p<.001). These effects are illustrated in Figure 3.1.
Chapter 3

Figure 3.1. Production results on all subjunctive-targeting conditions, split out between groups and contexts.

In the second statistical model, only item was included as a random effect, because including subject did not significantly improve the model. Fixed effects were group (heritage vs. control), context (obligatory vs. relative clauses), and condition (indicative vs. subjunctive target) as well as all possible interactions between these factors. The results indicate that, within the obligatory and the relative clause context, heritage speakers used the unexpected mood more often than monolingual speakers overall (t=7.07, p<.001), but the difference between the groups was especially pronounced in the relative clause context (t=3.86, p<.001). A three-way interaction between group, context and condition (t=4.79, p<.001) indicates that heritage speakers differed most from monolingual speakers in the [+specific] condition within the relative clause context. This effect is due to the monolinguals having a stronger preference for the subjunctive in this condition than for the indicative in the [+specific] condition (z=–3.81, p<.001), whereas for the heritage speakers the difference in preference between the two conditions is not significant (z=1.28, p=.2). These effects are illustrated in Figure 3.2.
Comparison between production and judgment

For a full report of the AJT results please see chapter 2 and van Osch et al. (2017). Summarizing those results, we can say that (1) heritage speakers had weaker preferences than monolingual speakers; (2) within the subjunctive targeting conditions, the difference between the groups was larger in the two variable contexts than in the obligatory context; and (3) looking only at the obligatory context and the relative clause context, the heritage speakers differed more from the monolingual speakers in the relative clause context, especially in the [+specific] condition, where the monolinguals showed a stronger preference for the subjunctive in the [+specific] condition than for the indicative in the [+specific] condition, whereas heritage speakers’ preferences were equally strong in both conditions. In terms of the patterns exhibited in both tasks, the results for the production task described in the previous section thus exactly mirror the judgment results from the previous chapter, confirming the reliability of both tasks.

To be able to compare the two tasks more directly, separate analyses were performed to measure for each group individually whether they significantly distinguished between the two moods in each context in each task. Mixed effects analyses were run for each group in each condition, without including any fixed effects, and including only the random effects item and subject. The p-values for the intercepts of these models are displayed in table 3.4.

Figure 3.2. Production results on the obligatory context and the relative clause context, split out between groups, contexts and conditions.

3.6.1 Comparison between production and judgment
Table 3.4. Significant differences between moods, split out between groups, contexts, conditions and tasks.

<table>
<thead>
<tr>
<th>Task</th>
<th>Context</th>
<th>Condition</th>
<th>$p$-values controls</th>
<th>$p$-values HS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Judgment</td>
<td>Syntax</td>
<td>Epistemic (IND)</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Volitional (SUB)</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
</tr>
<tr>
<td></td>
<td>Internal interface</td>
<td>[+specific] (IND)</td>
<td>&lt;.001</td>
<td>&lt;.05</td>
</tr>
<tr>
<td></td>
<td></td>
<td>−specific] (SUB)</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
</tr>
<tr>
<td></td>
<td>External interface</td>
<td>[+commitment] (IND/SUB)</td>
<td>.55</td>
<td>.09</td>
</tr>
<tr>
<td></td>
<td></td>
<td>−commitment] (SUB)</td>
<td>&lt;.001</td>
<td>.78</td>
</tr>
<tr>
<td>Production</td>
<td>Syntax</td>
<td>Epistemic (IND)</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Volitional (SUB)</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
</tr>
<tr>
<td></td>
<td>Internal interface</td>
<td>[+specific] (IND)</td>
<td>.07</td>
<td>&lt;.05</td>
</tr>
<tr>
<td></td>
<td></td>
<td>−specific] (SUB)</td>
<td>&lt;.001</td>
<td>.38</td>
</tr>
<tr>
<td></td>
<td>External interface</td>
<td>[+commitment] (IND/SUB)</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>−commitment] (SUB)</td>
<td>&lt;.001</td>
<td>.07 (IND)</td>
</tr>
</tbody>
</table>

In table 3.4, grey cells indicate a deviation from the monolingual pattern. The table shows that in judgment, heritage speakers differed from the monolingual pattern only in the [−commitment] condition within the second variable context containing negated predicates: where monolingual speakers preferred the subjunctive to the indicative, as expected, heritage speakers did not significantly distinguish between the two moods.

In production, the image looks quite different. The heritage speakers followed the monolingual pattern only in the obligatory context. In the [+specific] condition within the relative clause context, the monolinguals did not significantly prefer the indicative to the subjunctive, although there was a strong tendency. For the heritage speakers, on the other hand, the preference is significant. In the [−specific] condition it is the other way around: the heritage speakers failed to distinguish between the two moods, whereas the monolinguals, as expected, significantly preferred the subjunctive. In the negated sentences context, the monolinguals behaved in line with predictions: a significant preference for the subjunctive in the [−commitment] condition. Heritage speakers, in contrast, tended to overuse the indicative here, although the difference is not significant. The overall picture that arises from this table is that heritage speakers differed more from the monolingual patterns in production than in judgment.³

³ This pattern was confirmed by the individual data. Individual patterns for each participant, in all conditions and in both tasks were examined. For many heritage speakers, the target pattern was demonstrated in judgment but not in production. For the monolingual speakers such a pattern was not attested.
3.7 Discussion

The aim of this study was to examine Spanish heritage speakers in the Netherlands concerning their knowledge of mood in oral production compared to judgment. We expected variable contexts to be more vulnerable than obligatory contexts, and the subjunctive to be more vulnerable than the indicative, mirroring the patterns attested for heritage speakers of Spanish in the US. Regarding task type effects, we did not have specific predictions for our heritage speakers. We discuss these three factors separately.

3.7.1 Obligatory vs. variable mood

In both judgment and production, the heritage speakers differed more from the monolinguals in contexts where the choice of mood depends on semantic and pragmatic factors. Similar patterns were found by Montrul (2007, 2008b, 2009a) and Montrul and Perpiñán (2011) in written and oral production tasks and in a mood recognition task. In this respect, the Dutch heritage speakers thus resembled their US counterparts. The increased vulnerability in variable contexts may be accounted for by the Interface Hypothesis (Sorace & Filiaci, 2006), given that the more vulnerable contexts can be argued to be located at the interface between syntax and semantics/pragmatics, whereas the obligatory cases represent a purely syntactic instantiation of mood selection. This line of thought is discussed more extensively in chapter 2 and in van Osch et al. (2017).

3.7.2 Indicative vs. subjunctive mood

In the relative clause context, the heritage speakers differed more from the monolingual speakers in the subjunctive targeting ([−specific]) condition, than in the indicative targeting ([+specific]) condition. The same effect was found in the judgment data. The larger difference with the control group in this condition is caused by the monolinguals showing a greater preference for the subjunctive in the [−specific] condition than for the indicative in the [+specific] condition, a finding also reported in Borgonovo et al. (2015) and Giancaspro (2015). In the [−commitment] condition in the negation context, heritage speakers fail to prefer the subjunctive over the indicative in both tasks. They even overuse the indicative in the production task, although the difference does not reach significance.

This increased divergence with the subjunctive compared to the indicative confirms patterns attested in previous research conducted in the US (Mira, 2009; Montrul, 2009a, 2011a). The effect may be attributed to the default status of the indicative in Spanish (Sánchez-Naranjo, 2014 and references there), given that the indicative is the more frequent mood, especially in main clauses, where the

10 We think the stronger preference for subjunctive in the [−specific] condition than for the indicative in the [+specific] condition is related to the fact that relative clauses of the type "I am looking for..." or "I want to buy..." simply occur more often with non-specific antecedents. It thus might be a frequency effect. For reasons of space, this line of argument has not been included in this chapter (but see chapter 2 and van Osch et al. (2017).
subjunctive only appears in fixed expressions, like after ojalá (expression of hope). Also, the indicative, denoting factual information, semantically has a less marked interpretation than the subjunctive, which is used to express hopes, dreams, future events, etc.

3.7.3 Judgment vs. production
Research in the US has demonstrated that heritage speakers of Spanish have more difficulties with tasks measuring explicit knowledge than implicit knowledge. This has been attested for various phenomena (Montrul, 2010; Montrul et al., 2014) including mood, both in obligatory (Montrul, 2011a) and variable contexts (Bowles, 2011; Mira 2009). In the present study however, the opposite result was found. The patterns attested for the production task compared to those attested in the judgment task described in chapter 2 and in van Osch et al. (2017) show that the differences with the monolingual speakers were larger in production than in judgment. Why would Spanish heritage speakers in the Netherlands demonstrate the inverse pattern from their peers in the US? We suggest that it may be related to differences between the two heritage speaker communities and the societies of the respective host countries.

First of all, Dutch heritage speakers may have an advantage over their US peers when it comes to metalinguistic awareness, because Dutch children have much experience learning foreign languages in school. English lessons start during primary school, and the vast majority of high school students also learn at least one (and often more) other foreign language (usually French or German, but Spanish and Mandarin are becoming popular electives) for a number of years. A relation between multilingualism and an increased level of metalinguistic awareness has been documented in literature on third language acquisition, as noted in Jessner (2015). If it is the case that Dutch heritage speakers have increased metalinguistic awareness, this may have helped them with the more explicit acceptability judgment task.

Secondly, there are important differences between the size and type of heritage speaker communities in both countries. The Spanish-speaking community in the US is large in number and often concentrated in Hispanic neighborhoods, where heritage speakers may interact frequently in Spanish with neighbors, friends, shopkeepers, etc. In contrast, the Spanish-speaking community in the Netherlands is small and dispersed, with little cohesion among its members. It is thus plausible that the Dutch heritage speakers have less opportunity to activate their heritage language in their day-to-day life than their US counterparts. Consequently, Dutch heritage speakers of Spanish, even though they have accurate knowledge of their heritage language, may have relatively more trouble accessing this knowledge in oral production than their US counterparts, due to reduced activation of the language in an oral setting.

However, to make compelling claims about a comparison between the two communities, we need more information about the participants in the cited US studies. We do not know exactly how much contact they had with other members of the Spanish-speaking community. Furthermore, as mentioned by an anonymous reviewer, we have to be aware of possible effects of level of education and socio-economic status (SES). Regarding the level of education, the participants in the US-
based studies are typically university students, similar to the participants in the present study. Regarding SES, we do not have information about the participants in the present study, but we have information that at least some immigrant communities from Spanish-speaking countries in the Netherlands tend to have a relatively high SES (see Irizarri van Suchtelen, 2016, regarding Chilean immigrants). In the US-based studies mentioned in this chapter no information is given about the participants’ SES. To properly investigate the effect of societal differences, studies need to be conducted which test a comparable population in Europe and in the United States using the same test battery and providing detailed information of all participants’ background and current situation. Nevertheless, this study adds a small piece to the heritage puzzle and once again underscores the heterogeneity of heritage speakers and the risk involved in generalizing across different types of heritage speaker communities.

Another possibly problematic issue concerns the baseline. It has been suggested that heritage speakers may receive not only less, but also qualitatively different input, due to the fact that their parents, often long-term immigrants themselves, have suffered from attrition (Paradis & Navarro, 2003; Pires & Rothman, 2009). Some researchers therefore advocate comparing heritage speakers to first-generation immigrants. In the present study, monolingual speakers constitute the baseline, for reasons of comparability with the US-based studies. Moreover, in this chapter we were purely interested in the linguistic patterns in the outcome of heritage language acquisition, rather than the underlying factors that may influence its development.

An anonymous reviewer wondered about the possible effects of regularity and tense of the produced verbs. As for regularity, both groups produced more regular than irregular verbs but this division was similar across contexts and conditions, and there was no significant effect of regularity on mood for either group (z=0.50, p=.62 for the heritage speakers and z=−0.86, p=.39 for the monolinguals). When it comes to tense, the story is somewhat more complicated. Present and past tense verbs forms were not equally divided across all contexts: in the relative clause context, both groups produced almost exclusively present tense verbs, because the verbs in the main clause were always in the present tense as well.11 In the other two contexts, both tenses occurred more or less equally frequently. Since this division of the tenses applies to both the judgment and the production task, this problem is irrelevant for the effect of task type. To exclude the possibility that the skewed division confounded the effect of context attested in this study (i.e., the increased vulnerability in the variable contexts), a separate analysis was performed on the present tense items only. The effects remained the same: heritage speakers differed more from monolinguals in the two variable contexts in the subjunctive targeting conditions (t=−5.84, p<.001), and in the relative clause condition, the difference was biggest for

---

11 For reasons of comparability with the judgment task and with previous studies (e.g., Borgonovo et al., 2015).
the [-specific] items (t=-3.73, p<.001). Therefore, it is safe to assume that the skewed division of the tenses did not considerably influence the results.

3.8 Conclusion

This chapter has demonstrated that heritage speakers of Spanish in the Netherlands have problems with Spanish mood, especially with the subjunctive, and particularly in variable contexts, where mood depends on semantic and/or pragmatics features. These patterns are in line with previous studies with Spanish heritage speakers from the US. But contrary to what has been attested in those studies, the Dutch heritage speakers in the present study did not show an advantage for production compared to judgment. In fact, it was the other way around: they behaved more similarly to monolingual speakers in an explicit acceptability judgment task than in an implicit oral production task. We suggest that this result may be accounted for by differential societal circumstances between the two heritage speaker communities and their respective host countries. Since the Hispanic community in the Netherlands is small in number and dispersed across the country, Dutch heritage speakers of Spanish may lack the experience with speaking their heritage language on a regular basis that would help them in an oral production task. Furthermore, the multilingual nature of the Dutch educational system may give rise to a higher metalinguistic awareness from which the Dutch heritage speakers would benefit in a more explicit judgment task. This finding confirms the heterogeneity of heritage speakers as a population and emphasizes the importance of taking societal circumstances into consideration.
Chapter 4

Mood – Comparing heritage and L2 speakers*

Abstract
This chapter compares heritage speakers and second language speakers of Spanish with Dutch as their dominant language, in order to explore the role of age of onset and manner of acquisition in the nature of the knowledge (implicit vs. explicit) of the subjunctive. Differently from previous studies, all items were presented simultaneously auditorily and in written form, so that language mode of presentation could be excluded as a confounding factor. Moreover, the groups were matched on their general proficiency in Spanish using both an explicit and an implicit proficiency task. The results showed that the L2 speakers outperformed the heritage speakers in the explicit knowledge task and vice versa in the implicit knowledge task, suggesting that differential task effects, which thus far have only been attested for morpho–syntactic phenomena, can be extended to interface phenomena as well. These findings imply that age of onset and manner of acquisition have an influence on the way knowledge is represented in these two populations, and moreover emphasize the importance of using different task types in bilingual research.

4.1 Introduction
This chapter compares adult L2 speakers and heritage speakers of Spanish with comparable proficiency levels regarding their knowledge of the subjunctive, with the aim to explore the roles of age of onset and manner of acquisition. Heritage speakers are bilinguals who speak both the dominant language of the society they live in, and a minority language, which is passed on to them by their parent(s). Generally, these speakers receive a considerable amount of input in the home language in their first years of life, but experience a so-called dominance shift when they start school and the input in the dominant language increases drastically. By the time they reach adulthood, they are typically dominant in the societal language; their heritage language has become their weaker language.

Linguistically speaking, heritage speakers resemble L2 speakers1 in many ways (Montrul, 2012), but there are differences as well, which can be traced back to their respective acquisitional pathways. For instance, phonology and core syntax have been


1 In this chapter we use the term L2 speakers to refer to people who have learned a second (foreign) language post-puberty and in an instructional setting.
found to be more robust in heritage speakers than in L2 speakers (e.g., Au et al., 2002; Montrul, 2006a), probably due to the fact that these modules are acquired early in childhood. Although morpho–syntax is prone to deviation in both populations, recent research in this area has attested differences between the two groups depending on the type of task: advantages for heritage speakers have been reported for oral tasks which target implicit knowledge, while L2 speakers do better when it comes to written and more explicit tasks (e.g., Montrul, Foote & Perpiñán, 2008a; Bowles, 2011).

In theory, these task effects can be attributed to at least three differences between heritage and L2 speakers: 1) differences in age of onset of acquisition, 2) differences in manner of acquisition (naturalistic exposure vs. classroom instruction), and 3) differences in mode of exposure (spoken vs. written language). As for age of onset, heritage speakers acquire their heritage language in childhood, whereas L2 speakers start learning an L2 in adulthood. On some critical period accounts, a fundamental difference between early and late language acquisition is that while early acquirers can rely on implicit acquisition and only need to be exposed to naturalistic input to acquire their language(s), late learners have lost this ability, and are forced to fall back on explicit learning mechanisms (Bley-Vroman, 1990; deKeyser, 2000). But besides age of onset, heritage and L2 learners also differ with respect to the manner in which the language is acquired: while heritage speakers acquire their heritage language through exposure to naturalistic input, most L2 speakers learn a great deal of the second language through explicit instruction. Finally, the two populations differ regarding the language mode they are more familiar with: heritage speakers are generally more exposed to spoken language than written language, while the opposite is true for L2 speakers. The last factor, language mode, has often been a confounding factor in studies: generally, the tasks used to target explicit knowledge are written tasks, whereas the implicit tasks are oral production tasks. In the present study, all stimuli are presented both in auditory and in written form, with the aim to rule out a confounding effect of language mode.

While task-based effects have only been reported for morpho–syntactic structures, there is no reason to assume similar effects should not apply in other linguistic domains. In the present chapter, we focus on a multiple interface phenomenon: the subjunctive in syntactically, semantically and pragmatically constrained contexts. The results for the heritage speakers have been reported in chapters 2 and 3 of this dissertation (and in van Osch et al., 2017, and van Osch & Sleeman, 2018a). In this chapter, these findings are compared to data from L2 speakers on the same tasks. We will demonstrate that differential task effects apply to this interface phenomenon as well. We moreover explore whether these task effects are more likely to be the result of differences in age of onset of acquisition or in manner of acquisition.

---

2 Other accounts mention different explanations for the critical period effect, such as affective-motivational factors (Krashen, 1982), L1 influence (e.g., Flege, 1999), socio-educational factors (e.g., Bialystok & Hakuta, 1999), and time on the task (e.g., Flynn & Manuel, 1991).
The following section introduces the linguistic background on the subjunctive in the three linguistic contexts that are relevant to the present chapter: volitional predicates, relative clauses and negated sentences. Section 4.3 discusses the distinction between explicit and implicit knowledge and the operationalization of these constructs. A summary of previous research in heritage and L2 Spanish is presented in section 4.4, followed by the formulation of the hypotheses in section 4.5. Section 4.6 describes the methods of the present study. Section 4.7 reports the results, which will be discussed in relation to previous findings and theories about age effects in (second) language acquisition in section 4.8. Section 4.9 contains a brief conclusion of the chapter.

4.2 The subjunctive

Mood in Spanish is a multiple interface phenomenon, because it is governed by syntactic, semantic and pragmatic constraints. Two moods can be distinguished: indicative and subjunctive, of which the latter is the focus of the present chapter. Dutch, the dominant language of the heritage speakers in this study, does not exhibit productive use of the subjunctive (Thieroff, 2004). Our study includes three different contexts in which subjunctive is required: first, there are those contexts where mood is syntactically selected by the verb. Verbs that are volitional in nature, like querer (‘to want’) or esperar (‘to hope’) obligatorily select subjunctive, as illustrated in example (1).

(1)  *Quiero que me ayudas / ayudes.*
    want.1SG.PRES.IND that me help.2SG.PRES.IND/help.2SG.PRES.SUBJ
    ‘I want you to help me.’

In this type of contexts, which is generally considered to be syntactic in nature, the wrong mood leads to ungrammaticality.

However, there are other contexts in which mood alternation is possible and the choice of mood depends on semantic and pragmatics factors. An example are sentences containing relative clauses, such as (2):

(2)  *Busco una blusa que tiene/tenga botones grandes.*
    look.1SG.PRES.IND a shirt that have.3SG.PRES.IND/ have.3SG.PRES.SUBJ
    buttons big.
    ‘I’m looking for a shirt that has big buttons.’

Whenever the sentence starts with a verb like buscar (‘to look for’), a volitional construction such as querer comprar (‘to want to buy’), or a future reference like compraré (‘I will buy’), the choice of mood depends on the specificity of the antecedent. In example (2), if the speaker refers to a specific shirt, indicative is more appropriate, but if s/he is looking for any shirt (as long as it has big buttons), subjunctive is more felicitous. Given that the specificity (a semantic feature) of the
antecedent is involved, this use of the subjunctive pertains to the interface between syntax and semantics (following Borgonovo et al., 2015).

Another type of sentences in which choice of mood depends on the context are sentences with negated epistemic, communication or perception verbs, such as (3):

(3) *Juan no cree que Maria esté / esté embarazada.*

Juan NEG believe.3SG.PRES.IND that María is.3SG.PRES.SUBJ/ is.3SG.PRES.IND pregnant.

‘Juan does not believe that María is pregnant.’

In this type of sentences, the subordinate verb can be in either the indicative or the subjunctive mood, depending on whether the speaker wishes to approach the event expressed in the embedded clause from his own perspective or from the perspective of the matrix subject (Quer, 2001). If the speaker disagrees with the statement in the embedded clause (that is, if the speaker thinks that Mary is in fact pregnant), he can use the indicative to emphasize that he views the event from his own epistemic model. Subjunctive on the other hand would indicate a shift from the epistemic model of the speaker to that of the matrix subject. Thus, in the case that the speaker agrees with the matrix subject (i.e., neither the speaker nor the matrix subject believe that Mary is pregnant), subjunctive is unambiguously the most felicitous option. If, on the other hand, the speaker believes the proposition in the embedded clause to be true, both moods are possible, depending on the model of evaluation. However, the results from chapter 2 (also reported in van Osch et al., 2017) demonstrated that in this situation the specific matrix verb plays a role as well: with perception and communication verbs monolingual speakers of Spanish prefer indicative to express commitment to the truth of the proposition, whereas with epistemic verbs subjunctive is the preferred option. This use of the subjunctive is generally considered to pertain to the interface between syntax and pragmatics.

As for instruction of the subjunctive in L2 acquisition, Mikulski (2006) reports that the subjunctive is generally introduced early in Spanish L2 curricula. Most textbooks start with an explanation of the formal characteristics of the present subjunctive. The use of the subjunctive is typically formulated in terms of doubt, uncertainty, non-assertion, non-specificity and presupposedness. Generally, the obligatory contexts for the subjunctive are explained first, for instance the subjunctive in volitional constructions (one of the contexts discussed in this study), with affective predicates (*me alegro de que* – ‘I’m happy that’) or following certain propositions (e.g., *para que* – ‘so that’). Variable uses of the subjunctive are introduced later, but the exact order varies by textbook: some textbooks introduce relative clause contexts before negation contexts, while others treat them in the opposite order. However, all three contexts for the subjunctive tested in this study are typically introduced within the first year of the curriculum. Interestingly, the negation construction is generally only explained with epistemic verbs in the first person (e.g., *No creo que* – ‘I don’t think that’), not with communication and perception verbs and not in the third person, which was the context tested in the present study. This means that any
knowledge L2 speakers acquire of the subjunctive in contexts broader than *No creo que* is likely to come from either exposure in the input or from their ability to recognize the pattern (namely, that in these contexts subjunctive refers to non-assertion from the perspective of the speaker) and extend this pattern to constructions with other verbs.

Despite the extensive instruction L2 speakers receive on the subjunctive, it remains a vulnerable area for this population, especially in those contexts where mood is variable and determined by semantic and pragmatic features (Iverson et al., 2008, Borgonovo et al., 2015). Similar problems have been reported for heritage speakers of Spanish (e.g., Silva-Corvalán, 1994; Montrul, 2009a). In this chapter we ask the question whether one of these groups has an advantage over the other, and whether this advantage might differ depending on the type of knowledge we are looking at: implicit or explicit. The following section discusses these notions in more detail.

### 4.3 Explicit vs. implicit knowledge

What is meant exactly by the terms explicit and implicit? This is not an easy question, since different studies adopt different definitions. However, the key component seems to be awareness/consciousness. Explicit knowledge is knowledge someone is aware/conscious of, whereas implicit knowledge lies outside awareness (e.g., deKeyser, 2003; Ellis, 2009a, 2009b). Ellis (2009a) adds that access to implicit knowledge is automatic, and therefore fast and effortless, whereas explicit knowledge requires attentional control and is thus more time-consuming. He furthermore mentions that implicit knowledge can only become evident in linguistic behavior, whereas explicit knowledge can be expressed in words. Not all scholars agree that a distinction between explicit and implicit knowledge is psychologically and neurally real (e.g., Shanks, 2003). However, as Ellis (2009b) argues, the mere fact that speakers are capable of correctly applying linguistic rules without being able to verbally explain those rules, as well as the opposite situation, namely that speakers know the rule but are unable to apply it correctly, implies that two different types of knowledge are involved. Moreover, there exists neurological evidence that both types of knowledge are stored in different parts of the brain (Paradis, 1994).

An important question is how to operationalize the concepts explicit and implicit knowledge. Ellis (2005, 2009b) attempted to provide a valid and reliable test battery that could be consistently used by all researchers. The test battery contained: 1) an elicited oral imitation test, 2) an oral narrative test, 3) a timed grammaticality judgment test, 4) an untimed grammaticality judgment test and 5) a metalinguistic awareness test. These tests were designed so that they would differ maximally on the following 4 criteria:

(i) **Degree of awareness.** Explicit knowledge is considered to be conscious; implicit knowledge is not.
(ii) **Time availability.** Implicit knowledge is assumed to be accessed automatically and fast, whereas explicit knowledge requires controlled processing and thus is more time-consuming.

(iii) **Focus of attention.** Tasks that focus on fluency (focus on meaning) are considered to test implicit knowledge, whereas tests that prioritize accuracy (focus on form), tap into explicit knowledge.

(iv) **Metalanguage,** used to verbalize linguistic rules, is related to explicit, but not implicit knowledge.

Results from both native and L2 speakers of English showed that the 5 tasks could be grouped into two clusters: the elicited oral imitation test, the oral narrative test and the timed grammaticality judgment task on the one hand and the untimed grammaticality judgment task and the metalinguistic knowledge test on the other hand. This division into two clusters provided evidence that they load on different factors. Ellis (2005, 2009b) concluded that the first three tasks are more likely to test implicit knowledge and the last two tap into explicit knowledge. The results furthermore showed no evidence for a distinction between production vs. judgment, given that the timed grammaticality judgment task clustered together with the two oral production tasks. The same pattern of clustering of these tasks was replicated for Spanish by Bowles (2011).

The design of the present study is based on three of the four criteria described above, namely: degree of awareness, time availability and focus of attention, as will be discussed in the section 4.6. In the next section, we look at previous studies comparing heritage speakers and L2 speakers, highlighting those that have used different task types, and focusing on the subjunctive in particular.

### 4.4 Previous Research

#### 4.4.1 Heritage speakers and L2 speakers compared

Montrul (2012) offers an overview of scientific research exploring the similarities and differences between heritage speakers and L2 speakers. She concludes that, although both populations often diverge from the monolingual baseline and make similar types of errors, heritage speakers have an advantage over proficiency-matched L2 learners, but only in certain linguistic modules. For instance, when it comes to the perception and production of phonological features, quite a lot of evidence shows that heritage speakers are closer to monolinguals than L2 speakers. This has been found for Spanish as a heritage language (Au et al., 2002; Knightly, Jun, Oh, & Au, 2003) but also for other languages like Korean (Oh, Jun, Knightly & Au, 2003), Mandarin (Chang, Haynes, Rhodes, & Yao, 2008) and Russian (Lukyanchenko & Gor, 2011).

Another domain where early acquisition seems to present an advantage is core syntax. An interesting pilot study by Håkansson (1995) showed that heritage speakers of Swedish were more target-like than L2 speakers with V2 (syntax), while they were less accurate with gender agreement (morpho–syntax). Montrul has carried out several studies showing that heritage speakers of Spanish outperform L2 speakers
when it comes to purely syntactic phenomena, such as the syntax of subjects and objects (Montrul, 2006a), wh-movement in questions with (embedded) subject and object extraction (Montrul, Foote, and Perpiñán, 2008b) and the syntax of clitics (Montrul, 2010; Montrul, Foote, Perpiñán, Thornhill, & Vidal, 2006). To our knowledge, morpho–syntax is the only domain in which differential task effects have been reported for heritage and L2 speakers. Bowles (2011) for instance, used the same test battery as Ellis (2005, 2009b) for a whole range of (morpho–)syntactic structures in Spanish, among which the subjunctive (but results are not reported for the separate structures), and found that heritage speakers performed better on the implicit tasks and L2 speakers on the explicit tasks. Montrul, Foote and Perpiñán (2008b) and Montrul et al. (2014) report a similar pattern for gender assignment and agreement in Spanish.

Interface phenomena are generally found to be notoriously vulnerable in both heritage and L2 speakers (e.g., Montrul, 2008b; Iverson et al., 2008). In her overview, Montrul (2012) does not mention advantages for one group over the other. Nevertheless, some of her studies find that Spanish heritage speakers are more similar to monolinguals than L2 speakers with certain interface phenomena, such as felicitous use of overt subjects (syntax–discourse interface – Montrul, 2006a) and unaccusativity (syntax–semantics interface – Montrul, 2005). Not all research confirms this pattern, though. Montrul (2004) reports no difference between the two groups with aspectual distinctions (syntax–semantics). Similarly, Montrul & Ionin (2012) fail to attest differences between the two groups with the generic interpretation of definite articles (syntax–semantics interface). Keating, VanPatten and Jegerski (2011) report mixed results for anaphoric resolution (syntax–discourse interface): the heritage speakers were less target-like with overt pronouns, which they interpreted as referring to the subject more than L2 speakers did, whereas L2 speakers deviated more with null pronouns, in that they interpreted them less often as referring to the matrix subject.

To sum up, when it comes to phonology and syntax, the evidence for an advantage for heritage speakers over L2 speakers is quite convincing. For morpho–syntax, there are differential task effects. Phenomena lying at the interface between syntax and other domains seem to be vulnerable in both bilingual populations.

4.4.2 The subjunctive
The specific phenomenon of interest for the present study is the subjunctive in Spanish. As described in section 4.2, this phenomenon can be considered to pertain to syntax, the syntax–semantics interface or the syntax–pragmatics interface, depending on the context in which it is used. The subjunctive has been investigated extensively, predominantly in Spanish–English bilingual populations in the US. The literature generally shows the subjunctive to be a vulnerable area, particularly in those contexts where mood is variable and depends on semantic and pragmatic

---

3 But see Bruhn de Garavito (2002) for a study showing no difference between heritage and L2 speakers with verb movement in Spanish.
factors, and this applies to both heritage speakers (e.g., Silva-Corvalán, 1994; Montrul, 2009b) and L2 speakers of Spanish (Iverson et al, 2008; Borgonovo et al., 2015).

Some studies have compared heritage to L2 speakers on their knowledge of the subjunctive. Montrul & Perpiñán (2011) found that L2 speakers outperformed heritage speakers on a mood recognition task targeting obligatory subjunctive and on a sentence conjunction task (which was considered to be more implicit by the authors) containing sentences with cuando ('when'), de manera que ('so that'), and relative clauses, in which mood selection depends on the context. Mikulski (2010), on the other hand, demonstrated that heritage speakers outperformed L2 speakers in a grammaticality judgment task and an editing task targeting the volitional subjunctive. In an elicited production task, Mikulski & Elola (2013) also found an advantage for heritage speakers compared to L2 speakers with the subjunctive in advice (e.g., aconsejar/recomendar — 'to advise/recommend'), but no such difference was attested by Lynch (2008) in a spontaneous production task. These different findings may be due to differences in experimental design or possibly to differences with respect to the specific subjunctive-targeting contexts, which were not specified in Lynch (2008).

Two studies have used both explicit and implicit knowledge measures of heritage and L2 speakers’ knowledge of the subjunctive. Montrul (2011a) tested heritage and proficiency-matched L2 speakers using an explicit forced choice task and an implicit oral narrative task. The study included several phenomena, among which (obligatory) choice of mood. The L2 speakers outperformed the heritage speakers on the explicit task, and the reversed pattern was attested in the implicit task. However, this pattern was not confirmed by Potowski, Jegerski, and Morgan-Short (2009), who tested heritage and L2 speakers on the past subjunctive in sentences with indefinite or non-existent antecedents using a written interpretation task, a written grammaticality judgment task and a written production task. On all three tasks, the heritage speakers outperformed the L2 speakers.

No clear conclusion can thus be drawn from these studies, in part because different studies include different contexts for mood and we do not always know which aspects of mood (syntax, syntax–semantics, or syntax–pragmatics) are targeted.

4.4.3 Problems with previous studies
At this point we need to point out certain problematic issues in previous studies. First of all, in most studies reporting differential task effects (i.e., heritage speakers performing better on implicit tasks, and vice versa on explicit tasks), the explicit tasks contain only written language whereas the implicit tasks are generally oral production tasks (e.g., Montrul et al., 2008b; Montrul, 2011a; Bowles, 2011). This means that there is a second, possibly confounding factor, namely language mode (spoken vs. written). Given that L2 speakers are relatively more familiar with written language, and heritage speakers with spoken language, we cannot unequivocally conclude that the respective advantages for each group are due to the explicitness of the task, and not to the language mode (spoken vs. written) in which the items were presented.
Montrul et al. (2014) tried to get around this problem by presenting all items only auditorily. However, using only auditory stimuli may still give the heritage speakers an advantage over L2 speakers across tasks, given that the former have more experience with spoken language. For this reason, the present study includes a simultaneous bimodal presentation of the items.

Another debatable matter in previous research relates to the way in which heritage speakers and L2 speakers’ general proficiency is matched. In order to draw strong conclusions about specific task-based differences between heritage speakers and L2 speakers, it is imperative that the groups do not significantly differ from each other on a general measure of proficiency. Unfortunately, some studies do not match the groups at all (e.g., Lynch, 2008; Mikulski, 2010; Mikulski & Elola, 2013), and those that do often determine proficiency based on rather unreliable measures such as self-evaluations (e.g., Keating et al., 2011) or course level (e.g., Potowski et al., 2009; Bowles, 2011).

Now, the question is: what is an appropriate measure of proficiency? Montrul and colleagues typically apply parts of the DELE, a standardized proficiency task used by the Spanish Ministry of Education, Culture and Sport to grant official diplomas of competence in the Spanish language (http://www.dele.org). A problem with this task is that it is 1) written and 2) rather explicit in nature (untimed, and focused on form). As pointed out by Valdés (1995), while the DELE may give an accurate indication of L2 proficiency, it may not be the most reliable measure to compare L2 speakers to heritage speakers. After all, if our assumptions about the differences between heritage and L2 speakers are accurate, using exclusively the DELE increases the risk of an underestimation of the relative proficiency of heritage speakers. To avoid this issue, in the present study we include both the DELE and an aural lexical decision task as matching criteria, the latter of which contains spoken language and taps into more implicit knowledge due to the time pressure involved. If this task constitutes an advantage for one of the groups, we assume the advantage will be for the heritage speakers, who are more familiar with spoken language, and presumably do better on implicit tasks.

4.5 Research questions and hypotheses

This chapter compares L2 and heritage speakers of Spanish with Dutch as their dominant language, regarding their knowledge of the subjunctive. Our research question is:

Will L2 speakers and heritage speakers of Spanish with comparable general proficiency levels have differential advantages depending on whether explicit or implicit knowledge of the subjunctive is tested?

Based on previous findings in the domain of morpho–syntax, we hypothesize that the L2 speakers will outperform the heritage speakers on an explicit task and vice versa on a task measuring implicit knowledge.
4.6 Method

This study was part of a bigger project in which both the subjunctive and the indicative were tested. We focus only on the subjunctive-targeting items in this chapter, both because of space limitations, and because of the ambiguous predictions for the [+commitment] condition in sentences with negation, as discussed in section 4.2. For the heritage speakers’ results in this condition see chapters 2 and 3 of this dissertation.

4.6.1 Participants

In total, 27 heritage speakers, 28 L2 speakers and 18 monolingual speakers participated in the study. However, several participants were excluded in order to maximize homogeneity. First of all, a selection was made based on the participants’ scores on a mood recognition task (MRT), which served to check whether the participants knew the correct form of the subjunctive (cf. Montrul, 2009b, 2011a; Iverson et al., 2008). Only those participants who scored higher than 80% on this task were included (following Iverson et al., 2008). Furthermore, both the DELE and an aural lexical decision task served as selection criteria. Participants were included if they scored higher than 36 on the DELE, corresponding to a proficiency level of high-intermediate to advanced, and if they had more than 100 (out of 149) items correct on the lexical decision task. One L2 speaker was excluded because she was considerably older than the other participants.

After these exclusions, 17 heritage speakers, 21 L2 speakers and 18 monolinguals remained. The L2 and heritage speakers did not differ significantly regarding their scores on the DELE ($t=-0.66$, $p=.51$), or the lexical decision task ($t=0.24$, $p=.81$). However, there was a difference in terms of their self-reported proficiency: heritage speakers rated themselves significantly higher than L2 speakers ($t=-4.07$, $p<.001$). This difference should be taken with a grain of salt, since self-assessments, especially by heritage speakers, are not very reliable (Benmamoun, Montrul, & Polinsky, 2010). The L2 speakers performed significantly better on the MRT than the heritage speakers ($t=2.12$, $p=.04$), which is not surprising, considering this task is written and explicit in nature. Both heritage speaker groups differed significantly from the monolingual speakers on all proficiency measures (DELE – HS vs. monolinguals: $t=5.59$, $p<.001$, L2 vs. monolinguals: $t=6.64$, $p<.001$; lexical decision task – HS vs. monolinguals: $t=7.87$, $p<.001$, L2 vs. monolinguals: $t=7.54$, $p<.001$; self-reports – HS vs. monolinguals: $t=4.32$, $p<.001$, L2 vs. monolinguals: $t=15.79$, $p<.001$) as well as on the MRT (HS vs. monolinguals: $t=3.59$, $p=.002$, L2 vs. monolinguals: $t=2.11$, $p=.04$). The three groups did not differ significantly in age. Table 4.1 gives an overview of the participants’ most important characteristics.

---

*For reference, consider that the lowest score in the monolingual control group was 110.*
Table 4.1. Mean age, proficiency and MRT scores per group.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Age</th>
<th>DELE</th>
<th>Lexical decision</th>
<th>Self-reported proficiency</th>
<th>MRT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monolinguals</td>
<td>18</td>
<td>26.4</td>
<td>45.22</td>
<td>130.72</td>
<td>5.94</td>
<td>98.97</td>
</tr>
<tr>
<td>Heritage speakers</td>
<td>17</td>
<td>25.9</td>
<td>40.94</td>
<td>110.41</td>
<td>5.13</td>
<td>92.16</td>
</tr>
<tr>
<td>L2 speakers</td>
<td>21</td>
<td>28.1</td>
<td>40.43</td>
<td>110.95</td>
<td>4.32</td>
<td>96.30</td>
</tr>
</tbody>
</table>

An extensive questionnaire gave insight into the participants' linguistic backgrounds. The heritage speakers (3 male, 14 female) were all university graduates or students at the time of testing. Different varieties of Spanish were included in the sample: mostly peninsular and Mexican Spanish, but also Colombian, Uruguayan and Argentinian Spanish. To our knowledge, no dialectal variation has been reported for the uses of the subjunctive in the contexts discussed in this chapter. The majority (16) were second-generation heritage speakers, who had been exposed to both languages from birth as they had one Dutch-speaking parent and one Spanish-speaking parent. While the Spanish-speaking parents spoke mostly Spanish, many of them had also learned Dutch at some point, and spoke some Dutch at home as well. As tends to be the case with heritage speakers, many of the participants experienced a relative decrease in input and output in Spanish at home throughout their lives, but for others it remained more or less stable, and in a few cases it even increased. Most heritage speakers reported frequent visits to the home country throughout their lives and a strong emotional bond with both their parents’ home country and their heritage language. The majority had received some formal instruction in Spanish, either as a subject in primary school, high school or college, or at a Saturday school. Three heritage speakers were enrolled in a bachelor’s program of Spanish at the time of testing. There was thus some variability regarding the amount of exposure to explicit instruction in Spanish within the heritage group. As for their language use at the time of testing, Dutch was clearly the dominant language, especially at work and in contact with friends. At home, about half of the participants reported using both Spanish and Dutch. English was also a commonly used language at university or in the workplace, as well as with friends, and in some cases at home as well. When asked about their knowledge of languages, most participants considered themselves to be dominant in Dutch, but some of them identified as balanced bilinguals in Dutch and Spanish.

The L2 speakers (5 male, 16 female), like the heritage speakers, were all university students or graduates who were first exposed to Spanish after the age of 15. Unlike in most L2 studies, they were not all students in the same course. In fact, there was quite some variation regarding the amount and the type of instruction they had received: from only 2.5 months to 10 years in total (on average, the total months of instruction was 2 years and 8 months). Unfortunately, we do not have information about the exact contexts of the subjunctive in which the L2 speakers had received explicit instruction. However, since most of them (15 out of 21 participants) reported having received instruction for at least one year, at least these speakers are expected to have been introduced to all three contexts for the subjunctive tested in this study.
The L2 speakers furthermore varied considerably regarding their amount of exposure to naturalistic input in Spanish. Some of them had spent only 5 months abroad, whereas others had lived in a Spanish-speaking country for almost 4 years. Some participants had been in a relation with a native speaker of Spanish or were so at the time of testing, and used considerably more Spanish than Dutch at home than others. Some people also reported Spanish as (one of the) dominant languages at work/school and/or a common language used with friends. All L2 participants considered themselves native speakers of Dutch. Regarding their self-reported proficiency in Spanish, the majority rated themselves as either advanced or near-native. Given the Netherlands’ internationally oriented society, it is no surprise that all participants (heritage and L2 speakers alike) reported knowledge of English (advanced to near-native), as well as of other languages (in varying proficiency levels), such as German, French (obligatory subjects in high school), Frisian or Limburgish (minority languages in the Netherlands), and/or in some cases Italian or Portuguese.

The control group, consisting of 18 monolingually raised native speakers of Spanish (5 male, 13 female), was tested in the Netherlands. All of them were recent immigrants, who had arrived less than six months before the time of testing. Their countries of origin were Spain (9), Mexico (4), Colombia (2), Argentina (1), Nicaragua (1) and Venezuela (1). All speakers were raised monolingually in Spanish, but had learned English as a second language later in life. Their self-reported proficiency in English ranged from intermediate to highly advanced. They had no knowledge of Dutch whatsoever.

4.6.2 Tasks & procedure
First of all, an extensive background questionnaire was administered to obtain detailed information about the participants’ family situation, their language dominance, their exposure and use of different languages in various environments and their attitudes towards Spanish. Hereafter followed three tasks that were carried out on a laptop: a lexical decision task, an elicited production task and an acceptability judgment task.

The lexical decision task served to measure the participants’ general proficiency in Spanish. This task was included in addition to the DELE, which is explicit in nature and contains only written language. As discussed in section 4.3, using only the DELE to match the participants’ general proficiency could lead to a relative overestimation of the L2 speakers’ proficiency, due to their increased familiarity with written language and their putative advantage with explicit tasks. In the lexical decision task, participants were auditorily presented with Spanish words and non-words, and had to decide as quickly as possible whether the word they heard was a real Spanish word or not, by pressing either a green or a red button. While we do not know of research attesting an advantage for early bilinguals compared to late bilinguals on word recognition tasks, considering that this task is aural and less explicit (given the time pressure) this test was assumed to provide an advantage for the heritage speakers rather than the L2 speakers and thus minimize the risk of a relative underestimation of the heritage speakers’ general proficiency. There was a strong and significant
correlation between the two proficiency tasks ($r=0.72; p<.001$), and a moderate and significant correlation between both proficiency tasks and the participants’ self-reported proficiency (self-reports & DELE: $r=0.57, p<.001$; self-reports & lexical decision task: $r=0.62, p<.001$).

After the lexical decision task, the elicited production task and the acceptability judgment task followed, which are described in detail below.

At the end of the session, the participants were administered a mood recognition task (MRT) and the DELE, which were both paper-and-pencil tasks. The MRT contained sentences targeting the subjunctive in obligatory contexts, such as volitional predicates or the construction es [adjective] que... ('It is [adjective] that...') followed by both the indicative and the subjunctive form of the verb, between which the participant had to choose. Following previous research (i.e., Montrul, 2009b, 2011a; Iverson et al., 2008), this task was included to check whether the participants had accurate knowledge of the form of the subjunctive. After all, in order to deduce anything about participants’ accurate use of the subjunctive, it is crucial that we know whether they indeed recognize the subjunctive as such. Given that heritage speakers typically lack meta-linguistic knowledge of their heritage language, it is impossible to explicitly ask them in which mood a certain verb is conjugated. Therefore, the MRT introduces the subjunctive forms in obligatory contexts, assuming that heritage speakers are aware that these contexts require the subjunctive. Even though this design may have resulted in the exclusion of some participants based on their inaccurate knowledge of subjunctive use in these contexts, we can at least assume that all participants scoring higher than 80% in any case have highly accurate knowledge of form as well.

The DELE consisted of a vocabulary part containing 30 fill-in-the-gap sentences, and a cloze test targeting both vocabulary and grammatical knowledge of Spanish. In total, the experiment took about 2 to 2.5 hours to complete. All subjects were paid 10 euros for their participation and signed an informed consent form.

As mentioned earlier, all items in the two subjunctive tasks were presented both in written and in auditory form, to avoid any influence of the language mode of presentation. The recordings were made by a native speaker of Colombian Spanish, who was instructed to speak slowly and clearly. The two tasks were designed in such a way that they would differ maximally on three of the characteristics mentioned by Ellis (2009b): time availability, focus of attention and awareness.

In the elicited production task, participants were presented with short stories in Spanish. After each story, the participants would read aloud the beginning of a sentence, which they were asked to finish in a way that made sense considering the provided context. This task was assumed to mostly tap into implicit knowledge. Firstly, because there was no time for controlled processing; after 10 seconds the test automatically proceeded to the next item. Second, the focus of attention was on meaning, rather than form, since the instruction was simply to end the sentence in a way that made sense in relation to the preceding story. And finally, given the inclusion of fillers and the focus on meaning, it was unlikely that people would be conscious of
the topic of investigation. A debriefing session confirmed that none of the participants were aware of what they were tested on.

The task contained three conditions for the subjunctive. The first condition contained obligatory uses of mood, in which the subjunctive was syntactically selected by the main verb, which was always a volitional predicate such as querer (‘to want’), esperar (‘to hope’), or aconsejar (‘to advise’), for instance in example (4).

\[(4)\]
\[
\text{Estoy molesto porque mi esposa nunca limpia la casa. Esta noche de nuevo no me ayuda a lavar los platos. Me enojo y le digo:}
\]
‘I’m annoyed because my wife never cleans the house. This evening once again she does not help me with the dishes. I get angry and I say:’

\[
\text{Quiero que...}
\]
‘I want that...’

In this case, any answer containing a verb in the subjunctive would be correct, because the main verb querer (‘to want’) obligatorily requires a subjunctive verb in the subordinate clause.

In the relative clause condition, the target sentence would always start with either a verb like buscar (‘to look for’) or a reference to the future, like compraré (‘I will buy’), followed by an indefinite inanimate object with a relative clause. The context made clear that the antecedent was non-specific (thus targeting subjunctive). An example of an item of this type is (5):

\[(5)\]
\[
\text{Camilo está de vacaciones en Málaga. Le gustaría mucho comer tapas en un restaurante y ver un show de flamenco. Va al centro antiguo y pregunta a alguien en la calle:}
\]
‘Camilo is on vacation in Malaga. He would very much like to eat tapas in a restaurant and see a flamenco show. He goes to the old center and asks someone in the street:’

\[
\text{Busco un restaurante de tapas donde...}
\]
‘I’m looking for a tapas restaurant where...’

In this case, the participant could say something like “toquen flamenco” (play.3PL.SUBJ flamenco) or any other answer including a subjunctive verb form.

In the third condition, the main clause contained a negated epistemic (e.g., creer – ‘to think’), perception (e.g., ver – ‘to see’) or communication predicate (e.g., decir – ‘to say’). The context served to make clear that the speaker was not committed to the truth of the proposition in the embedded clause, targeting subjunctive mood. An example is shown in (6):
Selma is walking on the street and sees her aunt walking at a distance of 20 meters. She calls her, but there is a lot of noise from the cars, so that it is impossible to hear anything.

‘Selma doesn’t think that her aunt...’

Here, the target response would be oiga/escuche (hears.3SG.SUBJ), or any comparable answer containing a subjunctive verb form.

The task contained 81 items in total: 3 practice items, 9 items in each of the three conditions targeting the subjunctive, 3 x 9 items in which the indicative was the target answer (which are not discussed in this chapter, but see chapter 3), and 24 fillers items targeting a different construction, namely word order. All the target stimuli for this task can be found in Appendix II. The items appeared in randomized order.

After a short break, participants continued with the scalar acceptability judgment task, in which they were presented (again, both auditorily and written) with similar stories followed by two sentences that only differed from each other regarding the mood of the verb. Each of the sentences had to be rated on a scale from −2 to 2. The instruction stated that −2 indicated: “this sentence sounds very unnatural to me and I would never say this sentence”, and 2 indicated: “this sentence sounds completely natural to me and I could say this”. This task was assumed to tap into more explicit knowledge of the subjunctive. First of all, there was no time limit whatsoever; whenever the participants were sure about their answer, they could press the space bar to proceed to the next item. Second, since both options—indicative and subjunctive—were always presented simultaneously, the focus was on the form of the verb, and it was assumed that this would moreover automatically make the participants aware of the topic they were being tested on. Most participants confirmed this to be the case during debriefing.

The acceptability judgment task contained the same three conditions as the elicited production task, and the same types of stories to target the more felicitous mood. Some of the items for this task were based on items used by Borgonovo et al. (2015) and Borgonovo & Prévost (2003). An example for this task, from the relative clause condition, is illustrated in (7):

5 The items were obtained through personal communication with the authors.
74  Chapter 4

(7) María tiene que dar una presentación sobre Miró para su clase de historia del arte. Quiere dar muchos ejemplos de pinturas de Miró durante la presentación. Va a la biblioteca y le dice a la señora:

‘María has to give a presentation about Miró for her art history class. She wants to give many examples of paintings by Miró during the presentation. She goes to the library and tells the woman:’

Busco un libro que tiene pinturas de Miró.
look.1SG.PRES.IND a book that have.3SG.PRES.IND paintings by Miró
‘I’m looking for a book that has paintings by Miró.’

Busco un libro que tenga pinturas de Miró.
look.1SG.PRES.IND a book that have.3SG.PRES.SUBJ paintings by Miró
‘I’m looking for a book that has paintings by Miró.’

Half of the target sentences contained regular verbs and the other half irregular verbs, evenly divided over the three conditions. The same goes for present and past tense, except for the relative clause condition, which were all in present tense. In total, the task contained 81 items, just as the elicited production task: 3 practice items, 27 subjunctive-targeting items, 27 indicative-targeting items (which are not discussed in the chapter, but see chapters 2 and 3), and 24 filler items targeting word order. The full task is presented in Appendix I. The order of the items, as well as the order of the two sentences, was randomized.

4.7 Results

4.7.1 Elicited Production Task
Of all 1512 responses, 57 were excluded, because 1) there was no (intelligible) response, 2) no verb was included in the response, or 3) the response did not relate to the story in any logical way. The remaining responses were coded as either subjunctive, indicative, or other. In total, there were 950 subjunctive (i.e., correct/felicitous) responses, 448 indicative (i.e., incorrect/infelicitous) responses, and 57 other responses, which contained future tenses, conditionals or infinitives. These were excluded from the statistical analysis. The results for the production task are depicted in figure 4.1.
To test for quantitative differences between the groups, generalized linear mixed effects models were run in each condition, using the lme4 package (Bates et al., 2012) from statistical tool R (R Development Core Team, 2017). In each analysis, group was the independent variable, with one contrast set between the monolingual group vs. the two bilingual groups and another contrast between the heritage speakers and the L2 speakers. In each model, the random structure included intercepts and slopes for item and subject if this improved the model significantly (following Baayen, Davidson, & Bates, 2008).

For the contrast between the monolingual group and the two bilingual groups, the effect of group was significant in all three conditions (volitional: $\beta=0.18$, SE=0.06, $z=3.27$, $p=.002$; relative clauses: $\beta=4.23$, SE=0.75 $z=5.65$, $p<.001$; and negated sentences: $\beta=3.83$, SE=0.83 $z=4.62$, $p<.001$). For the contrast between the heritage and the L2 speakers, the effect was significant in the volitional condition ($\beta=0.16$, SE=0.06, $z=2.53$, $p=.016$), but not in the relative clause condition ($\beta=0.62$, SE=0.58, $z=1.07$, $p=.29$) or the negation condition ($\beta=0.26$, SE=0.81, $z=0.32$, $p=.75$).

This means that in all three conditions, the monolinguals produced the subjunctive relatively more frequently than the two bilingual groups combined, and in the volitional condition, the heritage speakers produced the subjunctive significantly more often than the L2 speakers.

---

**Figure 4.1.** Percentages of indicative (infelicitous), subjunctive (felicitous) and other responses per condition per group.
Chapter 4

4.7.2 Acceptability Judgment Task

The mean ratings in the acceptability judgment task are depicted in figure 4.2.

![Figure 4.2. Mean ratings for the subjunctive (felicitous) and indicative (infelicitous) sentences per condition per group.](image)

Linear mixed effects analyses were run for the rating for the indicative sentence and the rating for the subjunctive sentence in each condition. Again, group was the independent variable with one contrast set between the monolingual group vs. the two bilingual groups and another contrast between the heritage speakers and the L2 speakers. Random intercepts and slopes were included for item and subject, if this improved the model significantly (following Baayen et al., 2008). $P$-values were calculated using the Kenward–Roger approximation, from the pbkrtest package (Halekoh & Højsgaard, 2014).

In the analyses of the ratings for the subjunctive (felicitous) sentence, an effect of group was found in all three conditions, which was marginal in the volitional condition ($\beta=-0.11$, $SE=0.06$, $t=-1.93$, $p=.058$), and significant in the relative clause ($\beta=-0.39$, $SE=0.14$, $t=-2.80$, $p=.007$) and the negation condition ($\beta=-0.75$, $SE=0.23$, $t=-3.26$, $p=.003$), but only for the contrast between monolingual and the bilingual speakers. This means that monolingual speakers rated the subjunctive higher than both bilingual groups, but the heritage and the L2 speakers did not rate the subjunctive significantly differently from each other.

In the analyses of the ratings for the indicative sentence, there were also significant effects of group, in all three conditions. For the contrast between the monolinguals and the two bilingual groups, the effect was significant in the volitional condition ($\beta=0.36$, $SE=0.17$, $t=2.10$, $p=.04$) and in the relative clause condition...
(β=0.91, SE=0.26, t=3.52, p<.001). This means that the monolingual controls rejected the indicative more than the two bilingual groups in the volitional and the relative clause condition. For the contrast between the two bilingual groups, the effect was significant in the negation condition (β=−0.86, SE=0.34, t=−2.57, p=.014), indicating that in this condition, the L2 speakers rejected the indicative more than the heritage speakers. In the relative clause condition, there was a similar tendency, which was not significant (β=−0.59, SE=0.33, t=−1.76, p=.08).

Summing up these results for the judgment task, monolingual speakers show a higher preference for subjunctive than the two bilingual groups, across conditions. L2 speakers are more inclined to reject infelicitous indicative than heritage speakers in the negation condition (and approaching significance in the relative clause condition). Combining the results for the two tasks, we can conclude that there is indeed a task effect: in production, heritage speakers outperform L2 speakers, while the opposite is true in the judgment task.

4.7.3. Individual results
Individual results were also explored. For the judgment task, this meant that for each participant in each condition, it was checked whether their average rating for the subjunctive sentences was at least 0.5 points higher than their average rating for the indicative sentences. This cut-off point of 0.5 was chosen because it was the smallest difference between ratings occurring in the monolingual group. For the production task, it was checked for each individual participant in each condition whether they used at least one more subjunctive than indicative verb. This cut-off point was not based on a monolingual norm; in fact, even in the monolingual group there were two participants who actually produced two more indicative than subjunctive verbs (only in the negation condition). The argument for choosing a difference of one (and not, say, two, or three) was that a difference of one in nine items corresponds roughly to a difference of 0.5 on a scale from −2 to 2, which was the cut-off point in the judgment task.

For the production task, the individual results showed that in the volitional condition, all monolinguals and heritage speakers used the subjunctive more than the indicative, but only 15 out of 21 L2 speakers did so. In the relative clause condition, all monolinguals, 8 out of 17 heritage speakers and 9 out of 21 L2 speakers used subjunctive more frequently than the indicative. In the negation condition, 16 out of 18 monolinguals, 5 out of 17 heritage speakers and 4 out of 21 L2 speakers showed a similar pattern.

As for judgment, all participants, except for one L2 speaker, rated the subjunctive higher than the indicative in the volitional condition. In the relative clause condition, all monolinguals, 14 out of 17 heritage speakers and 17 out of 21 L2 speakers showed a similar preference. In the negation condition, all monolinguals preferred the subjunctive, but 12 out of 21 L2 speakers and only 4 out of 17 heritage speakers did the same. These results are summarized in tables 4.2 and 4.3, with the relevant contrasts between the heritage speakers and L2 speakers marked in grey.
Table 4.2. Number of participants per group who produced the subjunctive more than the indicative.

<table>
<thead>
<tr>
<th></th>
<th>Volitional</th>
<th>Relative Clauses</th>
<th>Negation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monolinguals</td>
<td>18/18 (100%)</td>
<td>18/18 (100%)</td>
<td>16/18 (88.89%)</td>
</tr>
<tr>
<td>Heritage speakers</td>
<td>17/17 (100%)</td>
<td>8/17 (47.1%)</td>
<td>5/17 (29.41%)</td>
</tr>
<tr>
<td>L2 speakers</td>
<td>15/21 (71.4%)</td>
<td>9/21 (42.9%)</td>
<td>4/21 (19.05%)</td>
</tr>
</tbody>
</table>

Table 4.3. Number of participants per group who rated the subjunctive higher than the indicative.

<table>
<thead>
<tr>
<th></th>
<th>Volitional</th>
<th>Relative Clauses</th>
<th>Negation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monolinguals</td>
<td>18/18 (100%)</td>
<td>18/18 (100%)</td>
<td>18/18 (100%)</td>
</tr>
<tr>
<td>Heritage speakers</td>
<td>17/17 (100%)</td>
<td>14/17 (82.35%)</td>
<td>4/17 (23.53%)</td>
</tr>
<tr>
<td>L2 speakers</td>
<td>20/21 (95.24%)</td>
<td>17/21 (80.95%)</td>
<td>12/21 (57.14%)</td>
</tr>
</tbody>
</table>

The individual results confirm the group results: an advantage for the heritage speakers in the production task, which is most pronounced in the volitional condition, and a clear advantage for the L2 speakers in judgment in the negation condition.

4.7.4. The role of exposure and instruction

As mentioned in section 4.6.1, the amount of instruction and exposure to naturalistic input varied greatly within the L2 group. To explore the role of these two factors, additional analyses were run. For each participant, the number of months of instruction was calculated based on the information provided by the background questionnaire. Similarly, cumulative exposure was calculated by adding up the total amount of time spent in Spanish-speaking countries (including vacations, longer trips, and/or living abroad). With these two variables, another set of mixed effects models was run on the L2 group in all contexts in both judgment and production. In neither task, and in neither context did any of these effects turn out significant.

Another source of considerable variation within the L2 group was the amount of current exposure and use of Spanish, for instance because some of them had a Spanish-speaking partner, or used Spanish regularly in the workplace. The questions in the questionnaire regarding current use and exposure of Spanish and Dutch were formulated in terms of relative frequency. Therefore, this information could not be expressed in a numerical variable and thus could not be included in a statistical analysis. Instead, the individual results of seven participants who reported being exposed to Spanish equally or more often than Dutch at home or in the workplace were investigated with more scrutiny. However, no particular different behavior could be deduced for these seven participants: in fact, most of them performed quite poorly on the production task, which would not be expected based on their increased exposure and use of Spanish.
These additional analyses thus provided no evidence for any effect of amount of explicit instruction and/or exposure to naturalistic input on L2 speakers’ relative preference for the subjunctive in either task.

4.8 Discussion

This study tested heritage, L2, and monolingual speakers’ implicit and explicit knowledge of the subjunctive in various contexts. Based on previous research comparing heritage and L2 speakers, it was hypothesized that heritage speakers would outperform L2 speakers in the implicit task and vice versa in the explicit task.

The design of our study was innovative in two ways. First of all, we closely matched the two groups’ general proficiency levels in Spanish based on both a written explicit proficiency task (the DELE) and an aural implicit proficiency task (a lexical decision task). Including both these tasks as matching criteria reduced the risk of an overestimation of the proficiency of one of the groups due to the language mode they are more familiar with (written for L2 speakers and spoken for heritage speakers) or the type of knowledge they are assumed to possess (explicit for L2 speakers and implicit for heritage speakers). Moreover, unlike other studies, all stimuli were presented simultaneously auditorily and written. This design allowed us to reduce the possibility of a confounding effect of the language mode of presentation (spoken vs. written).  

The results showed first of all that the two groups of bilingual speakers diverged from the monolingual group in all three conditions: they showed a weaker preference for the subjunctive in both judgment and production. As for differences between the two bilingual groups, task-based differences were indeed attested in two out of three conditions. In the volitional condition, the heritage speakers outperformed the L2 speakers in production, but not in judgment. In the negation condition, L2 speakers outperformed heritage speakers in the judgment task, but not in the production task. These results were confirmed by individual analyses.

One might wonder about the interaction between task advantage and subjunctive context. Could it be that heritage speakers are better in production in volitional contexts, because these are more frequent in everyday use, and L2 speakers are better with negation contexts in judgment because these have been part of their instruction and are less frequent in everyday use? As for the second point, as discussed in section 4.2, the negation context is rarely extended to other verbs than

---

6 An anonymous reviewer pointed out that, to completely control for language mode, one would ideally present two separate versions of the tasks: one aural and one written version. However, this would have required doubling the number of participants. A bimodal presentation was therefore considered to be the best solution to the effect of language mode.

7 Interestingly, the mood recognition task, which was also explicit in nature, and which targeted partially similar contexts as the volitional condition, rendered a significantly higher accuracy on part of the L2 speakers compared to the heritage speakers. However, one of the differences between this task and the judgment task, was that the MRT was presented only in written form, not auditorily, which may have contributed to the L2 advantage.

8 Thanks to an anonymous reviewer for pointing this out to us.
epistemic verbs in textbooks. Any knowledge that L2 speakers have acquired about the subjunctive in the negation context thus cannot reflect mere repetition of what was offered during instruction. We think that L2 speakers’ higher metalinguistic awareness enables them to recognize the pattern that subjunctive is used to refer to non-assertion (from the perspective of the speaker) and extend it to other verbs. Moreover, even if there is an effect of frequency of occurrence of the specific subjunctive contexts in specific situations, we do not think that this invalidates the argument for differences between the two groups in terms of the type of knowledge they possess. Even if the heritage speakers’ advantage with volitional subjunctive in the production task were due to the fact that this construction is more frequent in spoken language (with which they are more familiar) than in explicit instruction, the fact that they are able to apply this knowledge better than L2 speakers in one task but not in the other, still implies that the nature of this knowledge is different for the two groups. Similarly, even if the L2 speakers were helped because there is more evidence for the negation construction in instructed input (with which L2 speakers are more familiar) than in everyday language use, the fact that they are able to use this advantage only in the judgment task, but not in production, still implies that they have relatively more explicit knowledge of the construction.

These findings thus confirm previously attested task-based differences between heritage and L2 speakers, which until now have been attested for morpho–syntactic phenomena (Montrul, 2012), but not for other linguistic domains. Our study suggests that the observation can be extended to the interface between syntax and pragmatics, although more studies targeting different kinds of interface phenomena are needed to be able to generalize our findings to the domain as a whole.

The fact that these task-based differences between the groups were attested even though language mode of presentation (oral vs. written) was controlled for provides even more solid evidence suggesting that these two populations indeed possess different types of knowledge of the subjunctive.

Nevertheless, it is important to point out that despite the equal presentation (written and auditory) of the items in the present study, our two tasks differed from one another in that only in the implicit task oral production was required. Even though Ellis (2005, 2009b) did not find evidence for a distinction between production vs. judgment in his task battery, it would be interesting to see whether the task effect remains if oral production is taken out of the equation. We would therefore like to suggest future researchers to include more online measures to tap into implicit knowledge, such as a self-paced reading/listening task, which does not include any oral production, but still meets the requirements of an implicit task as proposed by Ellis (2005, 2009b), namely: lack of awareness, time pressure and focus on meaning. We moreover agree with Montrul et al. (2008b) that including neuroimaging techniques could be a promising line of research to provide more insight in this matter.

So, what does it mean if heritage speakers’ knowledge is more implicit in nature and L2 speakers’ knowledge is more explicit? As suggested in the introduction, this can mean two things. It could be related to the age at which each group was first
exposed to the language. Certain theories assuming a critical period for language acquisition claim that the fundamental difference between early and late acquisition of a language is that while children are able to acquire language implicitly, based on exposure to naturalistic input only, this ability is lost in adults, who are therefore forced to resort to explicit learning mechanisms (Bley-Vroman, 1990; deKeyser, 2000).

But heritage and L2 learners also differ with respect to manner of acquisition: while heritage speakers have been predominantly exposed to naturalistic input, and do not receive much explicit instruction in the language, for most L2 speakers it is exactly the other way around. It seems obvious that explicit instruction will lead to more explicit knowledge and naturalistic exposure leads to implicit knowledge. This may be true regardless of age of acquisition. The problem is that with instructed L2 learners, these two possible explanations are generally impossible to tease apart, since they differ from heritage speakers regarding both age and manner of acquisition.

Nevertheless, the data from the present study may shed some new light on this question. As mentioned in section 4.6.2, the amount of instruction and exposure to naturalistic input varied greatly within the L2 group. If experience with the language is part of the explanation for the attested task-based effects, we would expect those L2 learners who received the most explicit instruction to do better on the explicit task, and those who were most exposed to naturalistic input to behave more monolingual-like on the implicit task. However, separate statistical and individual analyses did not reveal any effect of cumulative and current amount of exposure to naturalistic input on L2 speakers’ performance in production, or of the amount of explicit instruction on their performance on an explicit judgment task. We would therefore like to argue that the task-based differences observed in this chapter are more likely to be related to age of onset than to manner of acquisition. Nevertheless, to unambiguously disentangle these two effects, studies should compare heritage speakers to naturalistic L2 learners, who have not received any instruction and who moreover have received a similar amount of input as heritage speakers (and are still comparable in terms of general proficiency). This way, the factor manner of acquisition can be completely taken out of the equation. We leave this question for future research.

4.9 Conclusion
This chapter compared proficiency-matched heritage and L2 speakers of Spanish on their implicit and explicit knowledge of the subjunctive in Spanish: a multiple interface phenomenon. An acceptability judgment task measured the participants’ explicit knowledge of the topic, and an elicited oral production task tapped into implicit knowledge. The results revealed task-based differences between heritage and L2 speakers of Spanish for the subjunctive in the volitional subjunctive (morpho–syntactic) condition and the negation (syntax–pragmatics interface) condition: while heritage speakers did better on the implicit task, L2 speakers had the advantage in the explicit task. This suggests that differential task effects for these two bilingual
groups can be found not only in morpho–syntax (as reported in e.g., Montrul, 2012), but also in the syntax–pragmatics interface. We also demonstrated that these effects could not be attributed to a confounding effect of the mode in which the tests were administered (spoken vs. written), or to the way in which general proficiency in Spanish was measured.

The findings from this study underline the importance of using different task types in bilingual research: relying exclusively on one task may obscure underlying differences between different bilingual populations. Scholars should be aware that different types of tasks tap into fundamentally different types of knowledge, and depending on one’s research question and on the type of population, an explicit task or an implicit task (or both!) will be more suitable. These findings moreover have potential implications for theories about the relationship between age of onset of acquisition and nature of knowledge (implicit vs. explicit).
Chapter 5

Subject position in internal and external interface contexts*

Abstract

This chapter investigates heritage speakers of Spanish in the Netherlands concerning their knowledge of three factors influencing subject position in Spanish: verb type, focus and definiteness. The results of a scalar acceptability judgment task show that heritage speakers have monolingual-like knowledge of the effects of verb type and focus, but not of the effect of definiteness of the subject. We interpret the vulnerability of the definiteness factor as partial support for the revised version of the Interface Hypothesis, which predicts the syntax–discourse/pragmatics interface to be particularly vulnerable compared to the syntax–semantics interface. The heritage speakers moreover overgeneralize postverbal subjects, a finding that we tentatively attribute to cross-linguistic influence from Dutch.

5.1 Introduction

One of the main questions in research on bilingualism is why some phenomena are robust in situations of language contact, whereas others are more vulnerable and sensitive to cross-linguistic influence. About two decades ago, scholars started noting that phenomena located in the C-domain are particularly problematic in bilingual acquisition (Hulk & Müller, 2000) as well as in early L1 acquisition, children with specific language impairment, adult L2 speakers and aphasics (Platzack, 2001). This idea has been developed further in the Interface Hypothesis (Sorace & Filiaci, 2006; Tsimpli et al., 2004), which predicts linguistic interfaces, and especially the external interfaces between linguistic and non-linguistic domains of language to be more vulnerable in bilingual populations.

In the present chapter we test the Interface Hypothesis with a specific group of bilinguals, namely heritage speakers. Heritage speakers are adult speakers of a minority language, which was acquired in childhood through naturalistic exposure within a majority language environment, either simultaneously with, or, in the case of early sequential bilingualism, before the onset of the dominant language. This subtype of bilinguals typically experiences a dominance shift: from the moment children start going to school the relative input in their heritage language decreases, often leading to an end-state of acquisition that diverges in several ways from monolingual speakers of the same language.

The phenomenon under investigation in the present chapter is the position of the subject relative to the intransitive verb in Spanish, which is conditioned by several factors, among which verb type (located at the syntax–semantics interface) and focus (located at the syntax–discourse interface), two determinants that have been previously investigated for heritage speakers and L2 speakers of Spanish with English as their dominant language (Montrul, 2005, 2006b; Hinch Nava, 2007; Zapata, Sánchez, & Toribio, 2005; de Prada Pérez & Pascual y Cabo, 2012). Our contribution to the existing literature consists of the inclusion of a third factor determining word order, namely the definiteness of the subject, which thus far has not received much attention in generative studies on word order patterns in bilinguals. Moreover, this study includes a relatively understudied dominant language, Dutch, which will offer new insights into the role of cross-linguistic influence.

The chapter is organized as follows. In the following section, we briefly present the Interface Hypothesis and its general predictions. In section 5.3, the theoretical literature regarding the constraints on subject position is discussed. Section 5.4 offers a summary of the previous literature on the knowledge of subject position in monolingual and heritage speakers of Spanish, leading to the formulation of our research questions and hypotheses in section 5.5. The methodology is described in section 5.6, followed by the results (section 5.7), a discussion (section 5.8) and some concluding remarks (section 5.9).

5.2 The Interface Hypothesis

The Interface Hypothesis was proposed by Sorace and colleagues to account for differential vulnerability between different kinds of phenomena in bilingual populations (Sorace & Filiaci, 2006; Tsimpli et al., 2004). The original version of the hypothesis predicted increased vulnerability in phenomena where syntax interacts with other modules of language, i.e., the interfaces. Purely syntactic phenomena on the other hand were considered to be problem-free. A revised version of the hypothesis (e.g., Sorace & Serratrice, 2009) made a further distinction between internal and external interfaces. While internal interfaces integrate modules pertaining to formal grammar, like syntax, semantics and morphology, external interfaces combine linguistic modules with elements of language outside of formal grammar that are more related to general cognition and/or world knowledge, such as discourse and pragmatics. According to this version of the Interface Hypothesis, the external interfaces are predicted to be particularly vulnerable, given that they integrate domains at different levels of language (i.e., inside and outside formal grammar), thus provoking a higher processing load. Phenomena located at these interfaces are expected to be problematic in bilingual populations, either because of bilingual speakers’ less detailed knowledge or less automatic access to computational constraints within the language module, or because they have fewer cognitive resources available than monolingual speakers (Sorace, 2011).

The Interface Hypothesis has been widely tested in various types of bilingual populations—bilingual children (e.g., Serratrice, Sorace, & Paoli, 2004), L2 speakers
Subject position in internal and external interface contexts (e.g., Sorace & Filiaci, 2006), L1 attriters (e.g., Tsimpli et al., 2004) and heritage speakers (van Osch et al., 2017)—with several different language combinations—and looking at various linguistic phenomena. While some studies indeed find evidence for increased vulnerability of discourse/pragmatics-related constructions (Hulk & Müller, 2000; Montrul, 2008b; Iverson et al., 2008), other studies contradict it, either by showing robust knowledge of phenomena located at an external interface (e.g., Rothman, 2008; Hopp, 2009; Slabakova et al., 2012) or conversely, by attesting vulnerability in purely syntactic phenomena (Cuza, 2012).

In the following section, we present a theoretical description of the factors that play a role in subject position in Spanish and the predictions for each of these factors based on the Interface Hypothesis.

5.3 Subject position in Spanish

Within the generative framework, the theoretical literature on subject position with intransitive predicates focuses on two factors constraining word order: verb type and focus. Verb type refers to the distinction between unergative and unaccusative predicates, also commonly termed unaccusativity. Whereas unaccusative verbs, like llegar (‘to arrive’), tend to precede the subject, unergative verbs, like gritar (‘to shout’), are more likely to follow it, as illustrated in examples (1) and (2):

(1) Llegó Juan. (Unaccusative)
   arrive.3SG.PRET Juan
   ‘John arrived.’

(2) Juan gritó. (Unergative)
   Juan shout.3SG.PRET
   ‘Juan shouted.’

Most scholars agree that the two verb types have different syntactic configurations: with unergative verbs, the subject is base-generated in [Spec,vP] (Chomsky, 1995) and then usually moves to [Spec,IP], whereas for unaccusative predicates, the subject is base-generated in complement position within VP (e.g., Perlmutter, 1978; Rosen, 1984) and generally remains in situ in Spanish.

Unaccusativity is assumed to be universal; where languages differ is the way in which it is reflected syntactically. In Spanish, word order is just one of several diagnostics of unaccusativity. Another example in Spanish is the participial absolutive

---


2 Examples of phenomena are anaphora resolution (e.g., Sorace & Filiaci, 2006); subject position (e.g., Parafita Couto, Müller Gathercole, & Stadthagen-González, 2015); mood (e.g., van Osch et al., 2017); clitic left dislocation (e.g., Slabakova et al., 2012).
construction, which is possible with unaccusative, but not unergative predicates, as examples (3) and (4) (taken from Montrul, 2005:1156) illustrate.

(3) *Nadado Juan, se sintió mejor.* (unergative)
swim.PART Juan, feel.3SG.PRET better
‘With John swam, he felt better.’

(4) Muerto el perro, se acabó la rabia. (unaccusative)
die.PART the dog, finish.3SG.PRET the rabies
‘With the dog dead, the rabies were finished.’

In English, unaccusativity surfaces, among other structures, in the (un)grammaticality of the resultative construction, a small clause which describes an effect of the event expressed by the verb (Montrul, 2006b), as can be seen in examples (5) and (6).

(5) The book broke apart. (unaccusative)

(6) *At his wedding, Peter sang sore.* (unergative)

In Dutch, the most notable difference between the verb types is reflected in the choice of the auxiliary: zijn (‘to be’) with unaccusative predicates (example 7), and hebben (‘to have’) with unergative predicates (example 8):

(7) Ik *ben* aangekomen. (unaccusative)
I be.1SG.PRES. arrive.PERF
‘I have arrived.’

(8) Ik heb *geschreeuwd.* (unergative)
I have.1SG.PRES shout.PERF
‘I have shouted.’

The second factor that is extensively discussed in the generative theoretical literature is focus. In broad focus, as in the answer to the question ¿Qué pasó? (‘What happened?’), the pattern is as described above: unergative predicates follow the subject and unaccusative predicates precede it. But in narrow presentational focus, i.e., focus with the purpose of highlighting information, for instance as an answer to the question ¿Quién gritó/llegó? (‘Who shouted/arrived?’), the distinction between verb types is overridden and both predicate types have a postverbal subject (Ordóñez, 1997, Zubizarreta, 1998), as shown in examples (9) and (10).

---

3 Presentational focus should be distinguished from contrastive focus, which indicates a contrast with respect to another antecedent and can receive stress in situ (Domínguez, 2007), e.g., ¿Gritó Juan? – No, MARÍA gritó (‘Did Juan shout? – No, María shouted’).
Subject position in internal and external interface contexts

(9) ¿Quién llegó? Llegó Juan. (unaccusative)
who arrive.3SG.PRET? arrive.3SG.PRET Juan
‘Who arrived? John arrived.’

(10) ¿Quién gritó? Gritó Juan. (unergative)
who shout.3SG.PRET? shout.3SG.PRET Juan
‘Who shouted? John shouted.’

Following Belletti (2001) and Lozano (2006), we assume that in this case, regardless of verb type, the subject moves to the specifier of a Focus position, located in between IP and vP, and the verb moves to I.

These two factors combined—predicate type and focus—thus yield four conditions. In all conditions, postverbal subjects are expected to be preferred, except for subjects with unergative predicates in broad focus contexts. This pattern is depicted in Table 5.1:

Table 5.1. Expected pattern based on the theoretical literature (SV = subject–verb, VS = verb–subject).

<table>
<thead>
<tr>
<th></th>
<th>Broad focus</th>
<th>Narrow focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unergative predicates</td>
<td>SV</td>
<td>VS</td>
</tr>
<tr>
<td>Unaccusative predicates</td>
<td>VS</td>
<td>VS</td>
</tr>
</tbody>
</table>

Now, what does the Interface Hypothesis predict for these two factors? As mentioned earlier, the revised version of the Interface Hypothesis makes a distinction between internal and external interfaces and predicts the latter type to be particularly problematic for bilingual populations.

The first factor we look at, verb type, has both a syntactic and a semantic component. As described above, there is a syntactic difference regarding the position and movement of the subject with each verb type. But the two verb types also have different semantic properties. Unergative verbs are generally non-telic and agentive, whereas unaccusative verbs are telic and non-agentive. The difference between these verb classes is not categorical; we find differences within verb classes, too (Sorace, 2000a, 2004). Some unaccusative verbs behave more consistently unaccusative-like than others, and the same goes for the unergative predicates. This has led Sorace (2000a, 2004) to propose the Split Intransitivity Hierarchy, a universal continuum of semantic categories, with core unaccusatives and core unergative categories on the two extremes of the continuum and peripheral categories in the middle, as illustrated in (11). The verbs pertaining to the two extreme categories are those that behave most prototypically according to their predicate type. The peripheral verbs are less consistent in their behavior. Since both syntactic and semantic features are involved, we assume, following previous studies (i.a. Hertel, 2003; Roggia, 2011; de Prada Pérez & Pascual y Cabo, 2012; Parafita Couto et al., 2015), that the difference between...
unaccusative and unergative predicates is located at the internal interface between syntax and (lexico–)semantics.

(11)  

| **Split Intransitivity Hierarchy** (Sorace 2000a, 2004) |
|-----------------|-----------------|
| Change of location (e.g., to arrive) | Core unaccusatives |
| Change of state (e.g., to become)    |                  |
| Continuing of a pre-existing state (e.g., to stay) |                  |
| Existence of state (e.g., to exist)  |                  |
| Uncontrolled processes (e.g., to sneeze) |                  |
| Controlled processes (motional) (e.g., to swim) |                  |
| Controlled processes (non-motional) (e.g., to play) | Core unergatives |

The second factor, focus, is by most accounts considered to pertain to the external interface between syntax and discourse, given that it is related to the information structure of the sentence and the preceding discourse context. Therefore, the Interface Hypothesis predicts focus to be more vulnerable for bilingual populations than verb type, which is located at the internal interface between syntax and (lexico–)semantics.

Some previous studies have tested this prediction, for various bilingual populations (Hertel, 2003; Zapata et al., 2005; Lozano, 2006; de Prada Pérez & Pascual y Cabo, 2012; Domínguez & Arche, 2014; Parafita Couto et al., 2015). The following section offers an overview of those studies that have looked at heritage speakers of Spanish.

### 5.4 Previous research on word order patterns in monolingual and heritage Spanish

To our knowledge, all previous studies investigating heritage speakers of Spanish regarding their knowledge of the effects of verb type and focus concern English-dominant heritage speakers of Spanish. A recurring finding arising from these studies is a general overgeneralization of preverbal subjects compared to monolingual speakers (Montrul, 2005; Zapata et al., 2005; Hinch Nava, 2007; de Prada Pérez & Pascual y Cabo, 2012). This overgeneralization tends to be stronger in lower proficiency speakers (Montrul, 2006b) and increases with each succeeding generation of heritage speakers (Silva-Corvalán, 2001). The explanation offered by most scholars is cross-linguistic influence from English, which almost exclusively has preverbal subjects.

As for the question whether heritage speakers have knowledge about verb type and/or focus, the findings from previous studies are less consistent. Montrul (2005, 2006b) compared heritage speakers and L2 speakers of Spanish regarding their

---

4 The overgeneralization of preverbal subjects is however not attested in simultaneous Spanish–English bilingual acquisition, as discussed in Villa-García and Suárez-Palma (2016) and references there.
knowledge of the difference between unergative and unaccusative predicates with regards to subject position. The heritage speakers showed robust knowledge of the distinction: they rated postverbal subjects higher when the verb was unaccusative than when the verb was unergative. Moreover, they were sensitive to other reflexes of unaccusativity, such as word order with bare plurals and the (im)possibility of the absolutive construction.

Some studies with heritage speakers also included focus as a factor. Zapata et al. (2005) found that heritage speakers in the US did not behave according to the expected pattern (as shown in table 5.1) with respect to both factors. Whereas they preferred SV with unergative predicates in broad focus contexts and VS with unaccusative predicates in narrow presentational focus contexts, as predicted, they did not show a significant preference for either order in the other two contexts, where a preference for VS was expected. This pattern is summarized in table 5.2:

<table>
<thead>
<tr>
<th></th>
<th>Broad focus</th>
<th>Narrow focus</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unergative</strong></td>
<td>SV</td>
<td>No preference</td>
</tr>
<tr>
<td><strong>Unaccusative</strong></td>
<td>No preference</td>
<td>VS</td>
</tr>
</tbody>
</table>

The authors take these findings as evidence for lack of knowledge of either factor. However, these data could be interpreted in a different way: the fact that heritage speakers prefer preverbal subjects more for unergative verbs than for unaccusative verbs in broad focus may be taken as evidence that they do distinguish between the two verb types. Similarly, the fact that, for both verb types, they have a relatively higher preference for postverbal subjects in narrow focus than in broad focus could be interpreted as evidence of sensitivity to the effect of focus. We would also like to note that no control group was included in this study. Since different studies have reported quite different preference patterns for monolingual speakers of Spanish as well (as will be discussed below), it is difficult to draw strong conclusions from a study that does not include a monolingual control group.

A more recent study by de Prada Pérez and Pascual y Cabo (2012) also looked at verb type and focus as factors determining word order in heritage speakers with different proficiency levels as well as a monolingual control group. This study showed that only the monolingual controls and the low proficiency group distinguished between unergative and unaccusative verbs in broad focus. As for focus, the data demonstrated that all heritage speaker groups preferred postverbal subjects more in narrow focus than in broad focus. The authors concluded based on these results that predicate type was more vulnerable than focus, contradicting the Interface Hypothesis. Interestingly, however, the control group in this study did not show the expected pattern: they failed to prefer VS in the conditions where it was expected. This could be due to the fact that the control group was a group of Spanish-speaking immigrants who spoke English as an L2 and may have suffered from attrition, as suggested by the authors. In any case, the fact that the control group shows a non-
target-like pattern, makes it more difficult to draw strong conclusions about the results for the heritage speakers.

In fact, when we look at monolingual control groups in other (mostly L2) studies, even though they consistently show knowledge of the two factors, they often do not behave completely according to the expected pattern in table 5.1. The native speaker control groups in both Parafita Couto et al. (2015) and Sánchez-Alvarado (2016), for instance, fail to show a preference for postverbal subjects with unaccusative predicates in broad focus in an acceptability judgment task. Hertel (2003), who compared L2 speakers to native speakers of Spanish on a written production task, found that the native speaker control group preferred preverbal subjects in all four conditions.

Apart from methodological differences, a reason why such contradicting results with monolinguals are attested may be the overlooked influence of confounding factors. First of all, we do not always know whether these studies tested core or peripheral unaccusative and unergative verbs in Sorace’s Split Intransitivity Hierarchy. Moreover, additional factors that have been largely ignored in the generative literature on the topic may have confounded the results.

One of these factors is the animacy of the subject, which has been shown to affect subject position, at least in written Spanish: inanimate subjects follow the verb more often than animate subjects (Rivas, 2008; Roggia, 2011), as illustrated in examples (12) and (13), taken from López Meirama (1997: 118, cited in Rivas, 2008):

(12) Mis hijos han salido. (animate)
    my children have.3PL.PRES leave.PERF
    ‘My children have left.’

(13) Han salido setas en el jardín. (inanimate)
    have.3PL.PRES grow.PERF mushrooms in the garden
    ‘Mushrooms have grown in the garden.’

Another influential factor is the presence and location of adverbial phrases. With a preverbal adverbial phrase, the subject is more likely to be postverbal, and with a postverbal adverbial phrase, preverbal subjects become more felicitous (Kahane & Kahane, 1950; Roggia, 2011), which, as noted by an anonymous reviewer, may be evidence for the fact that these two types of constituents compete for the same structural position.

Third, the length (or heaviness) of the subject has an effect on word order. This is because longer constituents tend to occur last in the sentence in Spanish (Fernández Soriano, 1993; De Miguel Aparicio, 1993). Roggia (2011) confirmed this effect specifically for subjects of intransitive verbs in monolingual Mexican Spanish: longer/heavier subjects (i.e., longer than determiner + noun + adjective) were preferred in postverbal position and shorter subjects in preverbal position.

Finally, and most relevant to the present study, the definiteness of the subject also influences its position in the sentence: whereas definite subjects are more often
preverbal, indefinite subjects are preferred in postverbal position (Rivas, 2008; Roggia, 2011). The definiteness effect has been attested for Italian (Belletti et al., 2007; Tsimpi et al., 2004), but is not generally discussed in the generative literature on Spanish. Hertel (2003) does mention definiteness, but denies that the effect exists in Spanish:

Example [Llegó mi nieto ‘My grandson arrived’] also illustrates that in Spanish, unlike languages such as Italian, the appearance of postverbal subjects is not regulated by the Definiteness Effect (Belletti, 1988) (…) (Hertel, 2003: 274)

The definiteness effect on subject position in Spanish has, to our knowledge, not been tested for heritage speakers or other bilingual populations.

To sum up, most previous studies on word order in heritage speakers of Spanish have been carried out in the US, and have looked either at verb type only, or have compared verb type and focus. These studies do not provide a consistent answer to the question which of these two factors is more vulnerable. An additional problem is that many of these studies fail to mention whether any other factors were taken into consideration.

In the present chapter, we introduce Dutch as a new dominant language, and we control for possibly confounding factors by restricting ourselves to sentences with only core unaccusative and unergative verbs in preterite aspect, and by including only animate and short subjects. Moreover, we include definiteness of the subject as an additional explanatory variable. In the following section, we present our research questions and hypotheses.

5.5 Research questions and hypotheses

In this chapter, we investigate the effects of verb type, focus and definiteness on subject position in Spanish. Given the inconsistent results for monolinguals in previous studies, which may not have controlled for confounding factors, our first aim is to establish the monolingual pattern in order to have a solid basis for comparison for the heritage speakers. Therefore, our first research question is:

(i) Do monolingually raised native speakers of Spanish show sensitivity to the effects of verb type, focus and definiteness on word order?

We hypothesize that monolingual native speakers of Spanish will indeed show knowledge of these three factors. That is, we expect them to prefer postverbal subjects more with unaccusative verbs than unergative verbs. In narrow focus, we expect this distinction to be overridden and postverbal subject to be preferred for

---

5 An anonymous reviewer wondered whether the effect of definiteness occurs independently of verb type. In the literature reviewed here, nothing is mentioned about differential effects of definiteness in unergative and unaccusative predicates.
both verb types. Finally, we expect a higher preference for VS with indefinite subjects than with definite subjects.

Once we establish the monolingual pattern, we can use this as a basis for comparison with the heritage speakers. Our second research question is:

(ii) Do heritage speakers of Spanish show knowledge of the same factors as monolingual speakers? If not, which of the factors is/are more vulnerable?

Following the Interface Hypothesis, we predict the heritage speakers to deviate more from the monolingual speakers with focus than with verb type, given that the former pertains to the external interface between syntax and discourse, whereas the latter is located at the internal interface between syntax and semantics. This study also includes definiteness as an explanatory variable. We assume definiteness, just as focus, to be located at the external interface between syntax and discourse–pragmatics. After all, the definite determiner is usually used to refer to previously mentioned antecedents and/or to antecedents known to both interlocutors, whereas the indefinite determiner is used to introduce new referents into the discourse. We thus expect heritage speakers to show more difficulties with the effects of definiteness and focus than with the distinction between verb types.

5.6 Method

5.6.1 Participants

27 second generation heritage speakers participated in the study. To reduce heterogeneity within the group, a selection was made based on the participants’ general proficiency in Spanish, which was measured in two ways: the cloze part and the vocabulary part of the DELE (Diploma Español de Lengua Extranjera, a standardized proficiency task for Spanish) and a lexical decision task. Only those speakers were included who 1) scored 36 or higher on the DELE (corresponding to high-intermediate and advanced) and 2) had an accuracy score of 100 or more out of 149 on the lexical decision task (as a point of reference: the lowest score for the monolinguals was 110 out of 149).

After these selection criteria, 21 heritage speakers remained. Their mean age was 24.0 years old (Range: 19–36, SD: 4.8). All of them (17 female, 4 male) were university students or graduates. Two were raised in families where both parents spoke Spanish, the others were raised in bilingual households, usually the mother being the Spanish-speaking parent. The heritage speakers’ parents spoke a range of different varieties of Spanish: peninsular (8), Mexican (5), Colombian (3), Uruguayan (2), Chilean (1), Panamanian (1), and Ecuadorian (1). Crucially, none of the heritage speakers spoke a Caribbean variety of Spanish. Apart from one heritage speaker who arrived to the Netherlands at age two, all heritage speakers were born in the Netherlands. Given that most participants used Spanish almost exclusively at home to

---

6 Caribbean dialects have been shown to have different preferences with respect to subject position in questions (e.g., see Alba, 2004; Lipski, 1977; Ordóñez & Olarrea, 2006). We know of no other dialectal differences regarding subject position with intransitives predicates.
speak with their parent(s), we see a decrease in Spanish input and use from school age onward. Most participants reported a strong emotional connection with their home language and culture and had visited their home country multiple times in childhood; some had even lived there for a couple of months. Many participants indicated that they had received some type of instruction in Spanish, for instance at Saturday or Sunday schools, or as a subject in high school or university. Given the presence of English in the Dutch educational system as well as in Dutch media, all heritage speakers also reported knowledge of English, ranging from high-intermediate to near-native. As for their current language use, most heritage speakers indicated that they spoke predominantly Dutch at home, but some also spoke (some) Spanish. In five cases Spanish was even the dominant language at home. At work or school, as well as during free time spent outside of the house, the main language was generally Dutch.

The control group consisted of 18 monolingually raised native speakers of Spanish (5 male, 13 female) who had moved to the Netherlands less than 6 months before the moment of data collection. The group was similar in age to the heritage speaker group (mean 26.4, range: 21–38, SD: 4.5). All participants grew up acquiring only Spanish in childhood, however, they had learned English in adulthood (self-reported proficiency levels ranged from intermediate to highly advanced). However, they had no knowledge of Dutch whatsoever. The group included a mix of varieties of Spanish: peninsular, Mexican, Colombian, Argentinian, Nicaraguan and Venezuelan Spanish. Again, no Caribbean dialects were included in the sample. The descriptive statistics for the relevant variables are summarized for each group in table 5.3:

Table 5.3. Age and proficiency scores for all participants.

<table>
<thead>
<tr>
<th>Group</th>
<th>DELE score</th>
<th>lexical decision</th>
<th>Self-reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heritage speakers</td>
<td>N = 21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean: 40.9</td>
<td>Mean: 109.5</td>
<td>Mean: 5.1</td>
<td></td>
</tr>
<tr>
<td>Range: 37–45</td>
<td>Range: 101–122</td>
<td>Range: 3.5–6</td>
<td></td>
</tr>
<tr>
<td>SD: 2.2</td>
<td>SD: 6.2</td>
<td>SD: 0.7</td>
<td></td>
</tr>
<tr>
<td>Monolinguals</td>
<td>N = 18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean: 45.2</td>
<td>Mean: 130.7</td>
<td>Mean: 5.9</td>
<td></td>
</tr>
<tr>
<td>SD: 2.1</td>
<td>SD: 8.7</td>
<td>SD: 0.2</td>
<td></td>
</tr>
</tbody>
</table>

5.6.2 Task and procedure
A contextualized scalar acceptability judgment task was used, containing 24 items targeting word order. Since the task was part of a bigger project which also tested mood in Spanish, it also contained 54 items about mood. This way, each of the two phenomena served as fillers for the other. The study also included a production task,

---

7 The study on mood is presented in chapters 2, 3, and 4 of this dissertation and in van Osch et al. (2017); van Osch et al. (2018); and van Osch & Sleeman (2018a).
which will not be presented here.\textsuperscript{8} In the acceptability judgment task, participants were presented with short stories, followed by two sentences which they were asked to evaluate on a scale ranging from $-2$ to $2$. Minus two meant: “This sentence sounds very strange and I would not say it this way” and two meant: “This sentence is perfect and I would say it this way.” Zero was interpreted as a neutral rating, falling right in the middle between ‘completely acceptable’ and ‘completely unacceptable’.\textsuperscript{9} Three practice items preceded the actual experiment. As mentioned above, general proficiency in Spanish was measured using the DELE and a lexical decision task. The lexical decision task consisted of auditorily presented Spanish words and non-words for which the participants had to indicate as quickly as possible whether they thought it was a word or not, by pressing either a green or a red button.

The procedure was as follows: the participants would start by filling out an extensive background questionnaire about their previous and current amount of input and use of Spanish. All experimental tasks were carried out on a laptop. The first task was the lexical decision task, which lasted about 10 minutes, followed immediately by the production task (more or less 30 minutes), after which there was a short break. The first task after the break was the acceptability judgment task. The duration of this task varied greatly per person, but the average was around 45 minutes.

At the very end of the session followed two paper-and-pencil tasks: the DELE and a mood recognition task, which was part of the study on mood. In total, the whole test lasted around 2 hours. The reward for participation was 10 euros.

5.6.3 Stimuli

Each item consisted of a short introductory story that always ended in a question asked by one of the characters in the story. Below the story, two possible answers were given, one with a preverbal subject and one with a postverbal subject. In some of the items, a second short sentence followed the critical sentence, to make the answer more natural, as in example (14).

\textsuperscript{8} As the production task was not very successful in eliciting the targeted structures, the results are not reported in this dissertation.

\textsuperscript{9} It has been suggested that using a Likert scale including a zero value might be problematic given that participants might interpret the zero as meaning ‘I don’t know.’ We think our instructions made it sufficiently clear that the zero should not be taken to mean ‘I don’t know,’ but a value in between the two extremes of the scale.
‘My housemate Pepe never wants to host parties in our house. This weekend he went on a vacation. I took advantage and planned a party on Saturday, but Saturday morning I see that Pepe returned unexpectedly. I have to cancel the party. Talking to my mom, she notices that I’m a little cranky, so she asks me: “What happened?” I answer her:’

Mi compañero de casa, Pepe, nunca quiere que haya fiesta en nuestra casa. Este fin de semana se fue de vacaciones. Yo aproveché y planeé una fiesta para el sábado, pero el sábado en la mañana veo que Pepe ha regresado inesperadamente. Tengo que cancelar la fiesta. Hablando con mi mamá, me nota un poco malhumorado, así que me pregunta: “¿Qué pasó?” Le contesto:

My housemate return.3SG.PRET have.1SG.PRET cancel the party
‘My housemate came back. I had to cancel the party.’

Regresó mi compañero. Tuve que cancelar la fiesta.
return.3SG.PRET my housemate. have.1SG.PRET cancel the party
‘My housemate came back. I had to cancel the party.’

Given the fact that heritage speakers often experience difficulties with the written form of their heritage language, all stories and sentences were presented simultaneously written (on the screen) and auditorily. The recordings were made by a native speaker of Colombian Spanish, who was instructed to speak slowly and clearly. None of the participants reported having any problems understanding the recordings. The order of the two sentences as well as the order of the items was randomized for each participant. The items differed with respect to three factors: verb type, type of focus and definiteness of the subject. All other possible confounding factors we were aware of were largely controlled for: all verbs were in preterite, and all subjects were human and light (i.e., less than three words). Two items contained an adverbial phrase, such as en la calle (‘in the street’) or de repente (‘suddenly’). An analysis of these items showed no divergent patterns compared to other items in the same condition.

Half of the items contained unaccusative predicates and the other half contained unergative predicates. The specific verbs used in the task were selected

10 For one item, the subject was un fantasma (‘a ghost’), but this was not considered to be a problem, given that ghosts are usually depicted as having human-like properties.
11 Except for one item, for which the subject was una hermana de la novia (‘a sister of the bride’). However, this item did not deviate from the other items in the same condition.
based on their frequent use in previous literature, to facilitate comparisons across studies. The other criterion for the selection of the verbs was that they pertained to the two most extreme categories on the unaccusativity hierarchy (Sorace, 2000a, 2004). For the unaccusative verbs, this meant that only change of location–verbs and change of state–verbs were included, that is: venir (‘to come’), llegar (‘to arrive’), regresar (‘to come back’), entrar (‘to enter’),irse (‘to leave’), desaparecerse (‘to disappear’), morirse (‘to die’), and escaparse (‘to escape’). For the unergative verbs the included categories were controlled motional and non-motional processes: bailar (‘to dance’), correr (‘to run’), llamar (‘to call’), llorar (‘to cry’), reírse (‘to laugh’), cantar (‘to sing’), gritar (‘to shout’), limpiar (‘to clean’), tocar (‘to play (music)’). A possible issue with some of the unergative verbs, such as llamar (‘to call’), limpiar (‘to clean’), and tocar (‘to play (music)’), is that they can be transitive verbs as well, even though they are used as intransitive verbs in this study. However, no deviating pattern could be revealed for the items containing these particular verbs.

The type of focus was determined by means of the introductory story, which either ended in the question ¿Qué pasó? (‘What happened?’), prompting broad focus on the entire sentence, or ¿Quién + verb? (‘Who V-ed?’), targeting narrow focus on the subject. These two different conditions were evenly distributed across conditions.

Finally, half of the subjects were definite and half were indefinite. The definite category included subjects with possessive determiners (e.g., mi mamá – ‘my mom’, nuestro profesor – ‘our teacher’, given names (e.g., Susana) and, in one case, a definite determiner (el vecino – ‘the neighbor’). All indefinite subjects were accompanied by the indefinite determiner un/una or the plural form unos/unas. Both subject types were evenly distributed across the other conditions. An overview of all target items in this task can be found in Appendix III.

### 5.7 Results

#### 5.7.1 Monolingual controls

First, the results for the monolingual controls were analyzed, to check whether this group showed the expected pattern. A linear mixed-effects model was run, using the lme4 package (Bates et al., 2012) in the R environment (R Development Core Team, 2017). The dependent variable was the relative preference for postverbal subjects, which was calculated by subtracting the rating for the sentence with a preverbal subject from the rating for the sentence with the postverbal subject, for each item. The fixed factors were verb type (unergative vs. unaccusative verbs), focus (broad vs. narrow focus) and definiteness (definite vs. indefinite subjects), as well as all possible interactions between these factors. Subject and item were specified as random factors. P-values were obtained using the Kenward–Roger approximation, as implemented in the pbkrtest package (Halekoh & Højsgaard, 2014).

For the monolingual speakers there were significant main effects for all three factors, and no significant interactions between factors. The main effect of verb type ($\beta=0.52$, SE=0.20, t=2.56, p=.015) indicates that monolingual speakers had a stronger
relative preference for postverbal subjects on unaccusative verbs than on unergative verbs, as illustrated in figure 5.1.

**Figure 5.1. Main effect of verb type in monolingual speakers.**

The effect of focus (β=1.18, SE=0.20, t=5.81, p<.001) means that monolingual speakers rated postverbal subject relatively higher when there was narrow focus on the subject than when there was broad focus on the entire sentence. This effect is depicted in figure 5.2.

**Figure 5.2. Main effect of focus in monolingual speakers.**

The fact that there is no significant interaction between verb type and focus suggests that it is not the case that focus overrides verb type, as suggested in the theoretical literature, but that both factors have an effect at the same time. If focus did override verb type, we would expect no difference between broad and narrow focus for unaccusative verbs, and no difference between unergative and unaccusative verbs in narrow focus. Figure 5.3 illustrates that this is not what we find: the monolingual rated
VS higher with unaccusative predicates in narrow focus than in broad focus, and they rated VS higher with unaccusatives in narrow focus than unergatives in narrow focus.

![Figure 5.3. Effects of verb type and focus in monolingual speakers.](image)

Finally, the main effect of definiteness ($\beta=0.73$, $SE=0.20$, $t=3.61$, $p<.001$) indicates that monolingual speakers had a stronger relative preference for postverbal subjects when the subject was indefinite than when it was definite, as depicted in figure 5.4.

![Figure 5.4. Main effect of definiteness in monolingual speakers.](image)

### 5.7.2 Heritage speakers
The same analysis was performed on the heritage speakers’ ratings. Again, subject and item were included as random effects and verb type, focus and definiteness were fixed effects. For the heritage speakers, there were significant main effects of verb type and focus, but not of definiteness. Just as for the monolingual speakers, there
were no significant interactions between factors. The main effect of verb type ($\beta=0.84$, $SE=0.31$, $t=2.69$, $p=.002$) indicates that heritage speakers, like the monolinguals, rated postverbal subjects relatively higher with unaccusative predicates than with unergative predicates, as shown in figure 5.5.

![Figure 5.5. Main effect of verb type in heritage speakers.](image)

The significant main effect of focus ($\beta=0.95$, $SE=0.31$, $t=3.05$, $p=.004$) indicates that heritage speakers preferred postverbal subjects more in narrow focus than in broad focus, again in line with the monolingual results. This effect is illustrated in figure 5.6.

![Figure 5.6. Main effect of focus in heritage speakers.](image)

However, the effect for definiteness, which was significant in monolingual speakers, was not significant in the heritage speaker group ($\beta=0.34$, $SE=0.31$, $t=1.08$, $p=.29$), as shown in figure 5.7.
Two additional linear mixed effects models were run on the overall ratings for preverbal and postverbal subjects, to see whether the groups differed in terms of their general preferences across conditions. In these models, the only fixed effect was group, and subject was included as a random factor. While the model for the ratings on the sentences with a postverbal subject revealed no difference between the groups, the model for the ratings on preverbal subjects showed a significant effect of group ($\beta=0.45$, SE=0.20, $t=2.28$, $p=.03$). This indicates that heritage speakers rejected preverbal subjects significantly more than monolingual speakers did; in other words: they relatively overgeneralized postverbal subjects compared to the control group. This effect is illustrated in figure 5.8.

Figure 5.7. Main effect of definiteness in heritage speakers.

Figure 5.8. Word order preferences across conditions for both groups.

5.7.3 Individual differences
Individual differences between participants were quite large. In both groups, some participants preferred preverbal subjects across conditions, whereas other participants preferred postverbal subjects. There was no indication that this variation
Subject position in internal and external interface contexts

...could be attributed to dialectal variation. To illustrate: within the monolingual group, the participant who rated preverbal subjects highest and the one who rated postverbal subjects highest, were both speakers of peninsular Spanish.

We also investigated individual differences with respect to the size of the effect for each factor separately. Individual effect size scores per participant per factor were calculated by subtracting the average relative preference for postverbal subjects in one condition from the average relative preference for postverbal subjects in the other condition. For instance, to calculate the effect size for verb type, each participants’ average relative preference for postverbal subjects (= rating VS – rating SV) across all unergative items was subtracted from their average relative preference for postverbal subjects across all unaccusative items. This way, positive scores imply a higher preference for postverbal subjects for unaccusative predicates than unergative predicates; the higher the score, the bigger the effect. Similar calculations were performed on the other two factors: focus and definiteness. Again, individual differences with respect to effect size scores were large, for both heritage and monolingual speakers. For instance, some monolingual speakers had a negative effect size score for verb type; indicating a higher relative preference for VS with unergative verbs than with unaccusative verbs, which is the opposite of what is expected. Again, no relation with specific varieties of Spanish could be detected. To illustrate: the two speakers who showed the biggest and the smallest effect of verb type were both speakers of Mexican Spanish. Similarly, the two monolingual participants with the biggest and the smallest effect for focus both spoke peninsular Spanish. As for the heritage speakers, we checked whether there were any correlations between their individual effect size scores and their proficiency scores on the DELE and the lexical decision task. None of these correlations turned out to be significant.

5.7.4 Item effects

To check whether certain characteristics (other than the factors of interest) of the items had an effect on word order preference, an individual item analysis was carried out. There was some variation between items, especially in those conditions where the cues from different factors contradict each other, e.g., unaccusative predicates (targeting VS) with definite subjects (targeting SV) in broad focus (targeting SV). Some of the variation seems to be related to the type of verb used: within the unaccusative predicates, *entrar* (‘to enter’), *venir* (‘to come’), and *llegar* (‘to arrive’) prompted postverbal subjects more than *regresar* (‘to come back’), *irse* (‘to go away’), and *desaparecerse* (‘to disappear’). This may be related to a semantic difference between these types of verbs: even though all verbs denote a change of location, and thus fall into the core unaccusative category within Sorace’s (2000a, 2004) hierarchy, the former three indicate the appearance of something/someone, whereas the latter three indicate the disappearance of something/someone. There may thus exist two subcategories within the category of change of location predicates, where in one, the change results in the presence of something/someone, and in the other in the absence of something/someone. This makes sense given that the only verb in Spanish that is obligatorily used with a postverbal subject is the presentational verb *haber*, the
verb par excellence to denote the presence of something. Of course, this is merely a suggestion, which should be supported by further studies.

5.8 Discussion

The data for the monolingual speakers showed significant main effects for all three factors. This means that in monolingual Spanish, verb type, focus and definiteness all simultaneously exercise an effect on subject–verb word order. The fact that there was no interaction between verb type and focus means that our data does not completely correspond to the expected pattern as it is presented in the generative theoretical literature, which assumes that the distinction between verb types is overridden in narrow focus. Table 5.1 is repeated here for clarification.

<table>
<thead>
<tr>
<th></th>
<th>Broad focus</th>
<th>Narrow focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unergative predicates</td>
<td>SV</td>
<td>VS</td>
</tr>
<tr>
<td>Unaccusative predicates</td>
<td>VS</td>
<td>VS</td>
</tr>
</tbody>
</table>

Based on this pattern, we would expect no differences between unaccusative and unergative predicates in narrow focus, and no differences between unaccusative verbs in broad and in narrow focus. In statistical terms, this would imply an interaction effect between the factors predicate type and focus: a difference between verb types is expected in broad, but not narrow focus. Or phrased in a different way: a difference between broad and narrow focus should arise for unergative predicates, but not for unaccusative predicates. In our data, monolingual speakers do not completely behave in line with this pattern, because they do not prefer VS with unaccusative predicates in broad focus; they thus treat unaccusative predicates differently in broad and in narrow focus. Instead of a pattern in which focus overrides verb type, this pattern is more suggestive of two main effects, verb type and focus, simultaneously playing a role. If this is the case, we would expect the strongest preference for preverbal subject in the condition where both of the factors favor preverbal subjects (unergative verbs in broad focus), the strongest preference for postverbal subjects in the condition where both factors favor postverbal subjects (unaccusative verbs in narrow focus condition) and an in-between-pattern for the other two conditions, which corresponds to what we see in figure 5.3. Indeed, if we look closely at the results for monolinguals in previous studies, we often see a similar pattern. The monolingual groups in Lozano (2006), Domínguez and Arche (2008), de Prada Pérez (2010), Roggia (2011) and Parafita Couto et al. (2015) all show a pattern in which the preference for postverbal subjects is stronger for unaccusative verbs in narrow focus than in broad focus.

The present study furthermore attested an effect of definiteness on word order in monolingual Spanish: the preference for postverbal subjects was stronger when the subject was indefinite than when the subject was definite, confirming previous studies in the variationist literature. Based on our own as well as previous studies'
findings for monolingual speakers, we would like to argue that the representation of the factors influencing word order in Spanish as it is presented in the generative theoretical literature is too simple. It does not seem to be the case that focus overrides verb type, but both factors appear to simultaneously influence word order. Moreover, definiteness also plays a role and should be taken into account in future studies on the topic.

Having established the monolingual pattern, we can now turn to our second research question: Do heritage speakers of Spanish show knowledge of the same factors as monolingual speakers? If not, which of the factors is/are more vulnerable? The prediction, based on the Interface Hypothesis, was that focus and definiteness would be more vulnerable than verb type, given that both focus and definiteness are related to discourse-pragmatics and thus represent an external interface. This hypothesis was only partly borne out by our data. The heritage speakers showed knowledge of verb type and focus, but not of definiteness. This confirms our prediction for the factors verb type and definiteness. Verb type, which is related to syntax and semantics and thus represents an internal interface, was expected to be relatively robust in heritage speakers, and indeed: the results demonstrated solid knowledge of the distinction between unergative and unaccusative predicates. Definiteness, which is related to discourse-pragmatics and thus is located at an external interface, was expected to be vulnerable and indeed heritage speakers showed no significant sensitivity to the difference between definite and indefinite subjects. However, contrary to our prediction, heritage speakers did show knowledge of the distinction between broad and narrow focus. This is surprising in light of the Interface Hypothesis, given that focus, too, is an external interface factor and thus should be as vulnerable as definiteness. We suggest several possible explanations for this unexpected finding.

First of all, focus seems to be the strongest factor in monolingual Spanish in our data. This could mean that there was more evidence for this factor in the input to which the heritage speakers were exposed. Heritage speakers are at a disadvantage compared to monolingually raised children: they receive at best half, and oftentimes much less than the input a monolingual child receives throughout childhood. Thus, the more categorical a certain rule is in the input, the easier it will be for the child to acquire it. This possibility has also been suggested by de Prada Pérez and Pascual y Cabo (2012), who attested better performance by heritage speakers for focus than for verb type. In an earlier study, de Prada Pérez (2010) found that monolingual speakers of Spanish were more categorical in their preference for postverbal subjects in narrow focus, than in the distinction between the two verb types in broad focus. These authors conclude from their findings that an explanation based on categoricalness in the input heritage speakers receive (the Vulnerability Hypothesis) can account for their data better than the Interface Hypothesis.

A second possible explanation for the robustness of focus is that the heritage speakers are helped by their knowledge of Dutch, which exhibits effects of focus on word order, albeit for objects. In Dutch, focused objects can be preposed to the preverbal position, as in (15):
De appel heb ik gegeten.
The apple (foc) have I eaten
‘I have eaten the apple.’

Although the specific instantiations of focus differ between the two languages, it may be the case that the possibility to change word order in order to assign focus to a constituent in Dutch indirectly helps the heritage speakers become aware of the focus effect on word order in Spanish.\(^\text{12}\)

Another interesting finding of the present study is the fact that the heritage speakers overgeneralized postverbal subjects across conditions compared to monolingual speakers. This contradicts the well-attested overgeneralization of preverbal subjects by heritage speakers of Spanish in the US (Montrul, 2005; Zapata et al., 2005; Hinch Nava, 2007; de Prada Pérez & Pascual y Cabo, 2012). We suspect that this different behavior on part of the Dutch heritage speakers is due to influence from Dutch. Even though Dutch, like English, predominantly has preverbal subjects, postverbal subjects also occur frequently, due to the V2 rule, which states that in main clauses the verb is always in second position. This means that whenever a main clause starts with a non-subject constituent, the subject follows the verb, like in locative constructions (16), sentences with preposed objects (17) or sentences with existential there (there) (18).

(16) \[\text{Buiten loopt een man.}\]
outside walk.3SG.PRES a man
‘Outside, a man walks.’

(17) \[\text{Dat ziet een man.}\]
that (obj) see.3SG.PRES a man
‘That, a man sees.’

(18) \[\text{Er loopt een man.}\]
there walk.3SG.PRES a man
‘A man walks.’

In English, postverbal subjects are also possible with locative constructions (‘Out of the woods came an old lady’), as well as with existential there (‘There is a pen on the table’), but both these constructions are less frequent in English than in Dutch. Locative inversion is quite marked in English and there–inversion with any verb other than to be becomes odd as well (# ‘There walks a man’). In Dutch on the other hand,

\(^{12}\) A third possibility is that the auditory presentation of the items helped the participants become aware of the inappropriateness of SV in narrow focus. This line of thought is discussed further in chapter 8 of this dissertation.
clause-initial adverbials are completely acceptable and can occur with a wide range of verbs (e.g. Verheijen, Los & de Haan, 2013). The greater flexibility regarding word order in Dutch might explain why heritage speakers of Spanish in the Netherlands fail to show the SV overgeneralization that has been reported for their US counterparts. Of course, this is a mere suggestion which needs to be corroborated by comparative studies in both countries. Not much is known yet about heritage speakers of Spanish with dominant languages other than English. If it can be confirmed that the word order patterns in the heritage speakers investigated in this study are influenced by their different dominant language, this finding underlines the importance of adding new language combinations to heritage language research.

5.9 Conclusion

This chapter has investigated monolingual and heritage speakers of Spanish regarding their knowledge of three factors determining word order with intransitive predicates in Spanish: verb type, focus and definiteness. The results for the monolingual control group showed that the pattern as it is typically described in the theoretical literature does not completely cover all the relevant effects on word order. First of all, it appears to be the case that focus does not override the effect of verb type, but that both effects obtain simultaneously. Furthermore, the definiteness of the subject was demonstrated to exert an additional influence on word order: indefinite subjects were preferred in postverbal position more than definite subjects.

As for the heritage speakers, it was hypothesized, based on the Interface Hypothesis, that focus and definiteness, two factors that pertain to the external interface between syntax and discourse-pragmatics, would be more vulnerable than verb type, which is located at the internal interface between syntax and semantics. This prediction was only partly borne out. The heritage speakers showed knowledge of the distinction between verb types and the distinction between broad and narrow focus, but not of the distinction between definite and indefinite subjects. The fact that definiteness was found to be a vulnerable factor is in line with the Interface Hypothesis, but the fact that focus was not, contradicts it. We suggest that this unexpected result might be attributed to the more categorical nature of the distinction between broad and narrow focus in heritage speakers’ input, or to the awareness of the possibility of focus-related anteposition in Dutch.

An additional finding in this chapter was the relative preference for postverbal subjects on part of the heritage speakers, as compared to the monolingual control group, contradicting the overgeneralization for preverbal subjects typically attested for heritage speakers of Spanish in the US. We suggest that this difference may be attributed to cross-linguistic influence from Dutch as opposed to English. More research is necessary to corroborate the effects of cross-linguistic influence by directly comparing different dominant languages. Chapter 7 describes a study which has done exactly that.
Chapter 6

Subject position – Comparing age groups

Abstract

This exploratory study investigates the knowledge of word order in intransitive sentences by heritage speakers of Spanish of different age groups: 5-year-olds, 9-year-olds, 13-year-olds and adults. In doing so, we aim to fill the gap in the heritage language literature, which to date has mainly focused on adult heritage speakers and preschool bilingual children. The results from a judgment task reveal that child- and adolescent heritage speakers do not entirely resemble monolingual age-matched children in the acquisition of subjects in Spanish, nor do they assimilate adult heritage speakers. The data suggest that several different processes simultaneously affect the acquisition of word order in heritage speakers: delayed acquisition, attrition and cross-linguistic influence from the majority language. All these effects are likely to be the consequence of quantitatively reduced input in the heritage language and increased input in the majority language.

6.1 Introduction

In the past decades, an abundance of research has demonstrated that heritage grammars often diverge from the baseline for a large variety of linguistic phenomena (e.g., Benmamoun et al., 2013). What is less clear to date is exactly how these grammars come to be the way they are. Several explanations, or scenario’s (Polinsky, 2018), have been proposed in the literature, which are not mutually exclusive.

First of all, heritage speakers differ from monolinguals in terms of the amount of exposure and use of the heritage language, especially from school age onwards. This reduced exposure and use may either prevent certain structures from being developed completely in a monolingual-like manner (Montrul, 2002),¹ or lead to the attrition of structures that were already in place by age 3 or 4 (e.g., Polinsky, 2011). Second, it may also be the case that the input received by heritage speakers is not only quantitatively, but also qualitatively different from the input monolingual speakers are exposed to. For instance, heritage speakers’ parents, who are by far their most important source of input, are typically long-term immigrants and may themselves suffer from attrition due to reduced exposure and use of their first language and intensive contact with a second language (Montrul & Sánchez Walker, 2013). Also, as Rothman and colleagues have stressed (e.g., Rothman, 2007), certain

¹ This scenario has sometimes been labeled incomplete acquisition (e.g., Montrul, 2008) or acquisition without mastery (Montrul, 2016).
constructions are only acquired through formal education and/or exposure to formal registers, to which heritage speakers generally have very little to no access. Finally, apart from input-related issues, given that heritage speakers per definition are bilinguals, the role of transfer from the dominant language cannot be disregarded in heritage language acquisition (e.g., Benmamoun et al., 2013).

Given that most of the existing research has focused on adult heritage speakers, who are supposedly at the end point of their acquisition process, these studies alone cannot shed much light on the various factors that may come to shape heritage speakers’ grammars. This is why several scholars (e.g., Polinsky, 2011; Montrul, 2018) have emphasized the need to look at child heritage, in other words: children who are bilingual in the majority language of the community and a minority language that is spoken in the home.

As has been pointed out by others (e.g., Kupisch & Rothman, 2018; Montrul, 2018), there already exists a vast and important body of research on early bilingualism (especially in Europe and Canada). Even though these studies mostly focus on bilingual acquisition in situations where the input in both languages is more or less balanced, the children in these studies would be considered to be child heritage speakers under most definitions. Interestingly, the general consensus based on this literature is that there are no qualitative differences for preschool bilingual children regarding their competence in each of their languages, as compared to their respective monolingual peers (e.g., De Houwer, 1995; Meisel, 2004). If this is true, it begs the question as to what happens to the development of the heritage language after age 4. This is a crucial period, because it is the age at which these children start going to school and the input in the majority language increases drastically. Nevertheless, existing research in child heritage speakers past age 4 is surprisingly scarce.

The present study intends to fill this gap in the literature and to shed more light on the question of heritage language development by comparing heritage speakers of Spanish in the Netherlands in four different age groups: 5-year-olds, 9-year-olds, 13-year-olds and adults. The topic of investigation is subject position in intransitive sentences, a complex phenomenon which is determined by various linguistic factors.

The next section summarizes previous research on child heritage speakers, focusing in particular on those studies that have been performed with older children. Section 6.3 contains a theoretical description of the phenomenon under consideration, followed by a discussion of the previous research regarding this phenomenon in section 6.4 and the research questions in section 6.5. Three studies, with 5-, 9- and 13-year-old children and with adult heritage speakers, are presented in sections 6.6, 6.7 and 6.8 respectively, followed by a discussion of the combined findings from these studies in section 6.9. Section 6.10 concludes the chapter with an outline of the relevant findings and suggestions for future research.
6.2 Previous Research on Child Heritage Speakers

Interest in the linguistic competence and performance of child heritage speakers is not new, but the population has been labeled differently, namely as early/child bilinguals. Since the 1980s, a large number of (mainly corpus) studies have been carried out following the development of bilingual children younger than 4. The participants in these studies were typically simultaneous bilinguals in professional families in Europe (e.g., Meisel 2001; De Houwer, 1995; Müller & Hulk, 2001) and Canada (e.g., Genesee, 1989). We agree with Kupisch and Rothman (2018) that many of these children can and should be considered child heritage speakers. The majority of this body of research focuses on the similarities found between preschool bilingual children and monolingual children. Meisel (2004), for instance, in an overview, concludes that bilingual children keep their two languages separate from early on and go through the same developmental stages as monolingual children. On the other hand, scholars such as Yip and Matthews (2007) and Müller and Hulk (2001) have emphasized that there is also evidence for cross-linguistic influence in early bilinguals. While Meisel (2004) does not deny the existence of quantitative differences with monolingual children, such as accelerations, delays or an increase or decrease in frequency of certain constructions, he maintains that these differences still fall within normal ranges, and that "[...] the effects are, at best, temporary and do not affect the nature of the ultimately attained competence" (p. 30). But in the absence of data on bilingual children past early childhood, this does not rise above being an assumption. Indeed, there is evidence for divergence in older child heritage speakers as well (e.g., Argyri & Sorace, 2007; Sorace & Serratrice, 2009). Moreover, even if certain structures develop uniformly in bilingual children and monolingual children in early childhood, by no means does this guarantee that this monolingual-like development will persist into adulthood, especially considering that many heritage speakers experience an increase in input in the majority language from school age onwards. The many divergences reported for adult heritage speakers indicate that apparently a lot can still happen in the seemingly monolingual-like development of the heritage language after age 4. Whereas both younger and older heritage speakers are well researched, the age span in the middle is remarkably understudied. However, there are some studies with children past the preschool stage that deserve mention. These studies can be divided into longitudinal studies and cross-sectional studies.

6.2.1 Longitudinal studies

Longitudinal studies are the ideal way to gain insight into the linguistic development of child heritage speakers, but given the fact that these studies are very time-consuming, not many scholars have dared to undertake this task. Nevertheless, there are a few examples of studies that have followed children past the preschool period. Merino (1983) investigated the development in child heritage speakers of Spanish in California of different ages: from kindergarten to 5th grade. The children were tested on a range of morpho–syntactic structures, both in their majority language and in their heritage language. The study had a longitudinal component as
well: the same children were tested again two years later. The results showed that, while the children’s comprehension and production of English improved with time, most children’s accuracy in Spanish decreased, indicating attrition of the heritage language.

Anderson (1999) followed two Puerto Rican siblings who had immigrated to the US at ages 2 and 4 respectively. They were recorded two years after arrival, and again two years later. Their accuracy in gender, tense and mood was evaluated. The two siblings showed different patterns. The older sibling still performed within age-appropriate norms two years after arrival, but her error rates had increased after having spent two more years in the US. The youngest, who was exposed to English from as early as age 2, already deviated from age-appropriate norms at age 4, and her error rates were even higher after two more years of exposure to English.

Two more recent longitudinal studies are Austin, Blume, & Sánchez (2013) and Silva-Corvalán (2014). Austin et al. (2013) followed 13 child heritage speakers of Spanish in the US aged 5–6, for a period of 2.5 years. An elicited production task was carried out on three separate occasions to test the children’s knowledge of subjects of wh-questions, sentential negation and negative polarity items (NPI) in both their languages. While performance in English improved for all three phenomena over the course of the three sessions, accuracy in Spanish stagnated with wh-questions, and their performance with NPI declined between the second and the third session.

Silva-Corvalán (2014) analyzed the oral production in English and Spanish of her two grandchildren from ages 1 to 6. These children were simultaneous bilinguals, born in the US into a mixed family where the father spoke Spanish and the mother spoke English. Their oral production was examined regarding the use of subject expression and position, tense, aspect and mood (TAM), gender, and copulas (ser vs. estar). While English developed age-appropriately for both siblings, the findings show a clear role for the amount of input in the development of their Spanish. Deviance increased for both children after age 4, which is when input in the majority language increased. Moreover, more divergence was attested in the speech of the younger sibling, who was exposed to Spanish less than his older brother. While the older sibling acquired subject expression in a monolingual-like matter up until age 4, his younger brother already shows deviance in this domain at age 2;3. Not all constructions were affected equally: while TAM and subject expression were shown to be vulnerable, copulas developed in a monolingual-like manner for both siblings.

In sum, these longitudinal studies show that after age 4 (and in some cases already before that) the heritage language tends to undergo attrition and/or fail to develop similarly to monolinguals.

6.2.2 Cross-sectional studies

More research has examined the development of heritage speakers in apparent time, that is, by either comparing groups of children of different ages, or comparing children to adults. Some of these cross-sectional studies also point towards language attrition in child heritage speakers. Sánchez-Sadék, Kirathe, and Villareal (1975), for instance, tested heritage speakers of Spanish in the US from kindergarten to 3rd grade with
Subject position – Comparing age groups

respect to their knowledge of gender in an experiment with nonce words. The results showed that the younger children outperformed the older children, indicating a loss of knowledge over time. Polinsky (2011) compared English-dominant child heritage speakers of Russian of age 6 to adult heritage speakers with respect to their comprehension of relative clauses in Russian. She found that the child heritage speakers performed similarly to monolingual adults, whereas the adult heritage speakers performed differently, a finding that seems to support attrition or reanalysis. But not all studies demonstrate language loss. Cuza and Pérez-Tattam (2016) looked at gender and noun–adjective order in child heritage speakers of Spanish in the US between the ages of 5 and 10;8, divided into three age groups. While the child heritage speakers differed from the monolingual children, there was no difference between age groups, which suggests that, at least in this age range, the heritage grammar is stable.

Several studies with child heritage speakers of Spanish enrolled in immersion programs also show stability or even increased accuracy in child heritage speakers. Kupisch and Pierantozzi (2010) tested child heritage speakers of Italian in Germany in a dual immersion school between the ages of 6 and 11. This study, which tested the interpretation of definite plural subjects, reports no decline in the children’s performance as age increased. Gathercole tested that-trace effects (2002a) and gender (2002b) in 2nd- and 5th-grade child heritage speakers of Spanish and found that, while the children behaved differently from age-matched monolinguals, the older children outperformed the younger ones. Montrul and Potowski (2007) tested bilinguals (both heritage and child L2 speakers) between the ages of 6 and 11 on their knowledge of gender and demonstrated that older bilinguals performed better than their younger counterparts in one of the tasks. Thus, it seems that immersion programs can prevent the heritage language from being lost, though not resulting in completely monolingual-like development.

Recent studies have included a group of adult immigrants as a proxy for the input to which child heritage speakers are exposed, in order to investigate to what extent heritage speakers’ divergence may be explained by qualitatively different input. Montrul and Sánchez-Walker (2013) studied oral production of differential object marking (DOM) in child (10–12 years old) and adult heritage speakers of Spanish in the US. In this study, both the child and the adult heritage speakers differed from their respective monolingual baseline groups, but the adult heritage speakers outperformed the child heritage speakers. The acquisition of DOM thus continued after age 10, but nevertheless did not lead to a target-like grammar. The immigrants showed signs of attrition of DOM, implying that quality of the input may contribute to the divergence found in the heritage speakers. Montrul (2018) looked at the oral production of null and overt subjects in 10-year-old English-dominant child heritage speakers of Spanish and compared them to adult heritage speakers. While child bilinguals behaved similarly to their age-matched controls, the adult heritage speakers differed significantly from their monolingual peers. In this study too, the adult immigrants differed significantly from monolingual Spanish speakers. The findings from these two studies suggest that development is stunted or slowed down,
but they also point towards a possible role for qualitative differences in the input these children receive.

Few studies have looked at children beyond the age of 11. Two exceptions are Flores and Barbosa (2014) and Flores, Santos, Jesus and Marques (2017), both of which investigated child heritage speakers of European Portuguese (EP) in Germany. Flores and Barbosa tested children between the ages of 7 and 15 on clitic placement in EP. The results show that older speakers performed better than younger ones, although they were not completely target-like. Flores et al. (2017) found a similar pattern in a study on mood in EP in child heritage speakers between the ages of 6 and 16 and adult heritage speakers. In both studies, the authors interpret their findings as evidence for delayed acquisition, but assume that the structures are eventually acquired. However, Flores and Barbosa (2014) did not include adult heritage speakers, and the adult heritage speakers in Flores et al. (2017), although they showed the target pattern, were not monolingual-like.

Summing up, there is evidence, from both longitudinal and cross-sectional studies, that school-age child heritage speakers diverge from their age-matched peers. The literature contains reports of attrition, arrested development, delayed acquisition and qualitative input effects, suggesting that all may play a role in heritage language development, possibly depending on the specific phenomenon in question and the context of acquisition. The phenomenon of interest in the present study is described in detail in the next section.

6.3 Subject position in Intransitive Sentences

The default word order in Spanish is SVO (subject–verb–object), but postverbal subjects are also allowed, and are in fact quite frequent. Their felicity depends on the specific linguistic context. In this chapter, we discuss three linguistic factors that affect word order in Spanish. The first one is verb type. We distinguish between unergative predicates, like saltar (‘to jump’), and unaccusative predicates, such as llegar (‘to arrive’). With unergative verbs, the subject is base-generated in [Spec,VP/vP] and moves to [Spec,IP], resulting in SV (subject-verb) word order, as exemplified in (1).

With unaccusative predicates, on the other hand, the subject is base-generated in object position within VP/vP and stays there (e.g., Perlmutter, 1978; Chomsky, 1995), as illustrated in (2).

(1) El niño saltó. (unergative)
    the boy jump.PRET.3SG
‘The boy jumped.’

(2) Llegó el niño. (unaccusative)
    arrive.PRET.3SG the boy
‘The boy arrived.’
Unergative verbs and unaccusative verbs differ from each other regarding not only with respect to their syntactic properties, but also their semantic properties. Whereas unergative verbs are assumed to be non-telic, agentive and volitional, unaccusative verbs are telic and non-agentive and are associated with non-volitional roles. Sorace (2000a, 2004) has proposed the Split Intransitivity Hierarchy: a universal continuum of semantic categories, with core unergative and core unaccusative verbs on both ends and more peripheral predicates in between, as shown in (3).

(3) **Split Intransitivity Hierarchy (Sorace 2000a, 2004)**

<table>
<thead>
<tr>
<th>Core unergatives</th>
<th>Core unaccusatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change of location (e.g., to arrive)</td>
<td>Change of state (e.g., to become)</td>
</tr>
<tr>
<td>Change of state (e.g., to become)</td>
<td>Continuing of a pre-existing state (e.g., to stay)</td>
</tr>
<tr>
<td>Continuing of a pre-existing state (e.g., to stay)</td>
<td>Existence of state (e.g., to exist)</td>
</tr>
<tr>
<td>Existence of state (e.g., to exist)</td>
<td>Uncontrolled processes (e.g., to sneeze)</td>
</tr>
<tr>
<td>Uncontrolled processes (e.g., to sneeze)</td>
<td>Controlled processes (motion) (e.g., to swim)</td>
</tr>
<tr>
<td>Controlled processes (motion) (e.g., to swim)</td>
<td>Controlled processes (non-motion) (e.g., to play)</td>
</tr>
</tbody>
</table>

The second factor taken into consideration in this chapter is focus, which refers to the marking of what is to be the center of attention (Ocampo, 2003). In this chapter, we only discuss presentational focus, which introduces unpredictable or non-recoverable information to the discourse (Lambrecht, 1994). However, it is important to emphasize that the element that is in focus is not necessarily discourse-new information. What is considered new is the relation between the element in focus and the rest of the proposition (Ocampo, 1990b). We distinguish between broad focus and narrow focus. Broad focus introduces an entire sentence, whereas narrow focus (on the subject in this case) introduces the subject specifically. In the generative literature (Ordóñez, 1997; Zubizarreta, 1998), narrow focus on the subject is argued to override the distinction between verb types: regardless of the verb, if the subject is in focus, it moves to [Spec, FocP], located in between IP and vP, and the verb moves to I, as shown in examples (4) and (5).

(4) ¿Quién saltó? Saltó el niño.  
who jump.PRET.3SG? jump.PRET.3SG the boy  
‘Who jumped? The boy jumped.’  
(unergative)

(5) ¿Quién llegó? Llegó el niño.  
who arrive.PRET.3SG? arrive.PRET.3SG the boy  
‘Who arrived? The boy arrived.’  
(unaccusative)

A third, and relatively understudied factor influencing word order in Spanish is the definiteness of the subject. Indefinite subjects are more likely to follow the verb, while definite subjects tend to precede the verb (e.g., Rivas, 2008), as shown in examples (6) and (7).
There are many more factors that have been related to word order, such as the length of the subject (De Miguel Aparicio, 1993), the animacy of the subject (Rivas, 2008) and the location of any adverbial phrases, if present (e.g., Kahane & Kahane, 1950). These factors are not tested in the present study, but they are controlled for.

The next section discusses previous studies concerning word order and the linguistic factors explained above in monolingual and bilingual children and in adult heritage speakers.

6.4 Previous Research Concerning Subject Position

6.4.1 Subject Position in Monolingual Children

Studies on the acquisition of subjects in monolingual Spanish children show that 1) both null and overt subjects are used from a very early age, around age 2 (e.g., Grinstead, 1998; Bel, 2003), and 2) preverbal and postverbal subjects develop simultaneously (Grinstead, 1998; Bel, 2001, 2003; Ortega-Santos, 2006; Villa-García, 2011; Villa-García & Suárez-Palma, 2016).³

There is some evidence that suggests that preschool-aged monolingual children have a preference for postverbal subjects. Friedmann and Costa (2011) tested 22 Argentinian children between the ages of 1;11 and 4, using a story retelling task and a sentence repetition task, and found a clear preference for VS in both tasks. They also analyzed the oral production of one monolingual child from age 1;07 to 2;07 and found a much higher number of VS than SV, with both unergative and unaccusative verbs. Villa-García and Suárez-Palma’s (2016) study on child bilinguals also included spontaneous production data for one monolingual child in Spain between the ages of 1;05 and 2;01. The data showed a slightly higher percentage of VS than of SV, but it is not clear whether this difference was significant. A similar preference for VS has been attested for other pro-drop languages, such as Italian (Bates, 1976) and Catalan (Gavarró & Cabrè-Sans, 2009). However, Villa-García (as cited in Villa-García & Suárez-Palma, 2016) reports a higher percentage of SV for three monolingual children in Spain.

³ Grinstead (1998) argues that children go through a “no overt subject” stage, during which they exclusively produce null subjects, a claim supported by some studies (e.g., Villa-García 2013), but criticized by others (e.g., Aguado-Orea and Pine, 2002; Bel, 2001, 2003).

³ An exception being Casielles-Suárez et al. (2006), who argue that postverbal subjects are acquired before preverbal subjects.
As for children’s knowledge of the factors determining word order, a number of studies show that monolingual children acquiring Spanish are sensitive to the relation between word order and verb type distinctions well before the age of 4 (e.g., Grinstead, 1998; Bel, 2001, 2003; Ortega Santos, 2006; Casielles-Suárez, Andruski, Sahyang, Nathan, & Work, 2006; Friedmann & Costa, 2011; Villa-García & Suárez-Palma, 2016). Children’s sensitivity to focus has been studied less extensively, but some evidence suggests that monolingual Spanish children already distinguish between broad and narrow focus by the age of 5. Pladevall-Ballester (2010) carried out an experimental study on the development of sensitivity to verb type and focus in English child L2 learners of Spanish. This study included control groups of monolingual Spanish children aged 5, 10 and 17. The results show that, although by the age of 10 monolingual children are not yet adult-like when it comes to focus, they do seem to show some sensitivity to focus early on: the youngest group (5 years of age) preferred VS order more with unergatives in narrow focus (72.43%) than with unergatives in broad focus (42.86%). Moreover, the one monolingual child examined by Villa-García and Suárez-Palma (2016) uses exclusively postverbal subjects in contrastive/new information contexts (referred to as narrow focus in this study), which implies sensitivity to the effect of focus on word order.

As for the relation between definiteness and word order, we know of no studies that have investigated this in monolingual Spanish acquisition. For Italian, Vernice and Guasti (2015) found that, for children aged 4 and 5, definiteness of the subject affected word order choice, but only with unaccusative predicates. With these verbs, definite subjects prompted SV orders, which otherwise appear with VS. However, we cannot assume that Spanish monolingual children also make this distinction.

In sum, preschool monolingual children use both pre- and postverbal subjects from early on, but seem to prefer VS. They already distinguish between verb types, and perhaps between focus types as well, although more evidence is needed to support the latter claim.

6.4.2 Word order in child heritage speakers

Most of the studies on the development of subjects in bilingual children have been corpus studies on Spanish–English bilingual children (with generally very few subjects) and have been concerned with the proportion of overt subjects in bilingual children’s Spanish, which some studies have shown to be higher in bilingual children than in monolingual children (e.g., Paradis & Navarro, 2003; Villa-García & Suárez-Palma, 2016).

As for the division of labor between preverbal and postverbal subjects, two studies are worth mentioning. The study by Silva-Corvalán (2014) mentioned in

---

4 The results for the sentence repetition task in Friedmann & Costa (2011) showed that Argentinian children between age 2;08 and 4, although they overgeneralized VS, distinguished between unaccusative and unergative verbs. However, the same study reported spontaneous production data from one monolingual child from age 1;07 to 2;07, and this child showed no distinction between unergative and unaccusative verbs.
section 6.2.1 reports that both siblings use pre- and postverbal subjects from early on, but that there is a preference for the preverbal position, especially with pronominal subjects. For both children, the proportion of preverbal subjects increases even more after age 4, which is when exposure to English increases. Villa-Garcia and Suárez-Palma (2016) carried out a study on four Spanish–English bilingual children and one monolingual Spanish child, aged between 1;05 and 3;03. It must be noted that two of these children, Leo and Simon, were living in Spain at the time of testing and thus do not qualify as child heritage speakers according to most definitions (e.g., Benmamoun et al., 2013). The other two children, Manuela and Carla, can be considered to be true heritage speakers of Spanish since they grew up in the UK and the US, respectively, and were exposed to both Spanish and English from birth. For both these children, a higher number of preverbal subjects is attested, namely 69.6% and 69.7% respectively, compared to 46.6% for the monolingual child tested in the same study. Although at first sight this may appear to indicate influence from the dominant language, English, it must be noted that one of these children, Manuela, was exposed to Cuban Spanish, which exhibits a larger number of preverbal subjects (e.g., Ordóñez & Olarrea, 2006). This could therefore (in part) explain this child’s increased proportion of preverbal subjects.

With respect to knowledge of the constraints on word order in Spanish, Silva-Corvalán (2014) reports that the children show sensitivity to the distinction between verb types from early on, in that they use postverbal subjects more with unaccusative verbs than with unergative and transitive verbs (the latter two verb types are collapsed). However, the proportion of postverbal subjects with unaccusative verbs decreases steadily with age: it starts at 85% (the older sibling) and 64.7% (the younger sibling), but by the age range of 4;0–5;11 it has decreased to only 17.3% (data from both children combined). Nevertheless, during the same age range, the percentage of postverbal subjects with unergatives and transitives is considerably lower (6.2%), which suggests that the children still differentiate between verb types, although it is not clear whether this difference is statistically significant. As for focus, Silva-Corvalán (2014) did not include broad vs. narrow focus as a variable in her study, but based on a qualitative analysis considering the relative informative weight of the various constituents, she concludes that there are very few instances of pragmatically infelicitous subject placement in the children’s data. The two child heritage speakers in Villa-García & Suárez-Palma (2016), Manuela and Carla, used postverbal but not preverbal subjects with unaccusative verbs, which seems to indicate sensitivity to the distinction between verb types. Carla also showed sensitivity to focus, that is, she used postverbal subjects several times to express contrastive/new information focus.

---

5 Three of these children were also studied in previous studies, namely Paradis & Navarro (2003), Liceras, Fernández Fuertes, & Pérez-Tattam (2008) and Liceras, Fernández Fuertes, & Alba de la Fuente (2012).
To our knowledge, the effect of definiteness on word order has not been tested for bilingual children, and none of these factors have been looked at for child heritage speakers of Spanish in the Netherlands.

Summing up, the few existing studies with child heritage speakers of Spanish in the US suggest an increased preference for SV as compared to monolingual children, but despite this, the children seem to be sensitive to verb type, and possibly also to focus. However, the evidence is not sufficient to allow us to draw strong conclusions; more research is needed to confirm these claims.

6.4.3 Word order in adult heritage speakers

Word order has also been studied with adult heritage speakers of Spanish, again mainly with English as the majority language, in the context of the US. These studies generally show an increased preference for preverbal subjects (e.g., Silva-Corvalán 1993, 2001; Hinch Nava, 2007), especially in lower proficiency (Montrul, 2005) and third generation speakers (Silva-Corvalán, 2001). On the other hand, the Dutch-dominant heritage speakers reported in chapter 5 of this dissertation (and in van Osch & Sleeman, 2018b), showed the opposite pattern, preferring postverbal subjects more than monolinguals. We attributed this finding to influence from Dutch, which has a larger proportion of postverbal subjects than English, due to the V2 rule.

When it comes to knowledge of the linguistic factors of interest in this study, Montrul (2005), using a grammaticality judgment task, showed that heritage speakers of Spanish in the US have knowledge of the effect of verb type on word order. Zapata et al. (2005) and de Prada Pérez and Pascual y Cabo (2012) looked at the effects of both verb type and focus on word order for US-based heritage speakers. Although Zapata et al. (2005) conclude that the heritage speakers in their study did not show the expected pattern for either of these two factors, they did show different patterns for unergative and unaccusative verbs respectively, which could be taken to indicate sensitivity to verb type. Similarly, they showed different patterns for broad and narrow focus, which could imply knowledge of the effect of focus. De Prada Pérez and Pascual y Cabo (2012) found that heritage speakers of different proficiency levels showed knowledge of focus, but that only the low proficiency speakers showed sensitivity to verb type.

The effect of definiteness on subject position in Spanish has, to our knowledge, not been tested in Spanish heritage speakers in the US. The study reported on in chapter 5 (as well as in van Osch & Sleeman, 2018b) with heritage speakers of Spanish in the Netherlands did include definiteness as a factor in the acceptability judgment task. These speakers did not significantly distinguish between definite and indefinite subjects. Verb type and focus on the other hand were significant factors in that study.

In sum, adult heritage speakers’ word order preferences seem to be influenced by word order patterns in their majority language. As for the factors of interest in this study, some studies find that they do distinguish between different verb types and focus types. However, more research is necessary to corroborate these findings.
6.5 Research Questions

The present chapter explores the development of word order and the linguistic factors that influence it in heritage speakers of Spanish in the Netherlands. Given the scarcity of data on this phenomenon, our research question is rather exploratory:

*How does word order with intransitive verbs develop in child heritage speakers of Spanish in the Netherlands?*

To answer this question, we will look at two elements of knowledge concerning word order: 1) sensitivity to the three factors determining subject position discussed above, namely verb type, focus and definiteness; and 2) a general preference for either SV or VS. We present data from a series of three experiments investigating four different age groups: 5 years old, 9 years old, 13 years old and young adults. By comparing these groups with each other, as well as with monolingual age-matched peers, we hope to attain more insight in the possible origins of divergence in heritage grammars.

6.6 Experiment 1: 5-year-olds

6.6.1 Participants

The first experiment tested 12 child heritage speakers in the Netherlands of around 5 years of age. Since it is not an easy task to find child heritage speakers of Spanish in the Netherlands of exactly the same age, the label ‘5-year-old’ should be interpreted as an approximation. In reality, the ages ranged from 4 to 6. Unfortunately, the exact ages (including months) of the children were not known. All children were born in the Netherlands and had been exposed to both Dutch and Spanish from birth. In all cases, one parent, usually the mother, was a native speaker of Spanish, while the other parent was a native speaker of Dutch. Overall, all children received input in Spanish from one parent only, but some children received additional input in Spanish from the Dutch parent (who spoke Spanish as an L2), friends, or other members of the family. Seven of the children attended a Spanish Saturday school or a reading club in Spanish once a week, and some children had attended kindergarten in Dutch once a week when they were younger. All children were exposed to Spanish during vacations in Spanish-speaking countries. Argentinian Spanish was the variety most spoken by the children’s parents (7 cases); other varieties in the sample were Peruvian (2), peninsular (1), Chilean (1) Uruguayan (1) and Puerto Rican (1) Spanish.

6.6.2 Procedure

The children carried out an oral paired grammaticality judgment task on a computer screen using PowerPoint. First, two puppets (Ana and María) appeared on the screen. The children were told that these were two girls living in the Netherlands who were learning Spanish and were going to Spain on vacation. The child was asked to help the girls with their Spanish by telling them which answer sounded most natural to them, so that the puppets could practice and be understood in Spain. For each experimental item, the child would listen to a story about animals, accompanied by one or two
images. The stories were followed by the question ¿Qué pasó? ('What happened?') in the broad focus condition or ¿Quién? + a past tense verb ('Who V-ed?'), in the narrow focus condition. The two puppets appeared on the screen sequentially, and each one provided an answer to the question. One of the answers contained SV order, and the other VS order, and the child was instructed to choose which puppet said it best. The order of presentation of the puppets was randomized, as was the order of the target response. The experiment was carried out individually in a quiet room. Previous to the test, the experimenter talked to the child for at least fifteen minutes to ensure that he or she felt comfortable, and to activate the Spanish language. In most cases, the Spanish-speaking parent was present during the talk with the child.

6.6.3 Stimuli

The test included 12 items. Six items included prototypical unaccusative verbs expressing change of location or change of state, such as llegar ('to arrive'), regresar ('to return') (2x), irse ('to leave') (2x) and morirse ('to die'). The other six items included prototypical unergative verbs expressing controlled processes, such as bailar ('to dance'), correr ('to run'), llamar ('to call'), limpiar ('to clean'), gritar ('to shout) and reírse ('to laugh'). Moreover, half of the items targeted broad focus and the other half targeted narrow focus. As such, there were four conditions with three items each: broad focus–unaccusative, broad focus–unergative, narrow focus–unaccusative and narrow focus–unergative. An example of a test item from the narrow focus–unaccusative condition is given in (8):

(8) Todos los animales hacen una fiesta. Hay hasta un payaso, y a todos les encanta, pero al mono le da mucho miedo así que decide irse antes de que saquen el pastel. ¿Quién se fue?

‘All the animals are having a party. There is a clown, and everybody loves him, but the monkey is very afraid of him, so he decides to leave before they bring out the cake. Who left?’

Se fue el mono. El mono se fue.
leave.3SG.PRET the monkey. the monkey leave.3SG.PRET
‘Left the monkey. The monkey left.’

Definiteness was not included in this experiment, but it was controlled for; that is, only definite subjects were included. Three practice items preceded the actual task, but in order to keep the task short and manageable for the children, no fillers were used. For a complete overview of the target items, see Appendix IV.
6.6.4 Analysis and results
A generalized linear mixed effects model was run on the data. The dependent variable was response (SV or VS), and the fixed factors were verb type (unergative vs. unaccusative verbs) and focus (broad vs. narrow focus). The intercept of the model was not significant ($\beta=-.42$, SE=.27, $z=-1.53$, $p=.13$), which indicates that there was no significantly higher preference for one order than the other across conditions. The effects for verb type and focus were not significant either (verb type: $\beta=.19$, SE=.37, $z=.50$, $p=.61$ and focus: $\beta=.32$, SE=.37, $z=.86$, $p=.39$), nor was the interaction between these two ($\beta=.64$, SE=.74, $z=.86$, $p=.39$). This means that these 5-year-old heritage speakers did not show significant sensitivity to the effects of verb type and focus on word order in Spanish.

6.7 Experiment 2: 9- and 13-year-olds
6.7.1 Participants
Four groups participated in this experiment: two groups of child heritage speakers—one group of children around 9 years old (N=15) and one group of children around 13 years old (N=13)—and two monolingual control groups of the same ages (N=24 and N=22 respectively). Like for the 5-year-olds, the labels ‘9-year-olds’ and ‘13-year-olds’ should be interpreted as approximations. In reality, the ages in the ‘9-year-old’ group ranged from 7;8 to 10;4 (mean age: 9;4, SD: 10.5 months). For the ‘13-year-old’ group, the ages ranged from 11;6–14;3 (mean age: 12;7, SD: 11 months).

25 of the 28 child heritage speakers were born in the Netherlands, while the remaining 3 were born in Spain but had moved to the Netherlands before the age of 5. The majority had only one Spanish-speaking parent, and this was always the mother. In around 65% of the cases, the Spanish-speaking parent was originally from Spain. The background of the remaining 35% varied between Mexico, Colombia and (most of all) Argentina. Four children had two Spanish-speaking parents but were exposed to Dutch before the age of 5. The amount of exposure to Spanish differed among participants since about 60% of the children attended a Spanish Saturday school, a reading group, or language lessons organized by the Spanish consulate in the Netherlands. The network of speakers also varied across participants; some children went to a Spanish-speaking country two to three times a year to visit their relatives, whereas others had only done so a few times in their lives. Nonetheless, all children in this study were considered to be balanced bilinguals as they were exposed to and used both languages on a daily basis.

---

6 For all models presented in this chapter, the lme4 package (Bates et al. 2012) was used in the R environment (R Development Core Team, 2017). All factors were coded as $-0.5$ vs. $+0.5$ using orthogonal sum-to-zero contrasts. All fixed factors and interactions were included in every model, as were the random intercepts for subject and item. Random slopes were included if these significantly improved the model fit, following Baayen et al. (2008).
The monolingual control groups included 24 9-year-old children and 22 13-year-old children who were born and raised in Madrid and spoke Spanish exclusively. These children were tested in Madrid at their school.

6.7.2 Procedure
The procedure was similar to the experiment for the 5-year-olds: the children were presented with similar stories about animals and the same two puppets, who they were instructed to “help” learn Spanish. Again, the order of presentation of the puppets and the target responses were randomized. Participants of the monolingual groups performed the task during school hours. The experiment was carried out individually in a quiet room. Previous to the task, the child was briefly asked about his or her language background and knowledge of other languages. This was followed by a short chat with the experimenter about the motivation of the study. Children in the heritage groups were mostly tested in their homes and occasionally at the facilities within the University of Amsterdam or similar institutions such as the Instituto Cervantes in Utrecht. To ensure that the children felt comfortable and to activate their Spanish, the experimenter would talk to them for at least fifteen minutes prior to the experiment.

6.7.3 Stimuli
The stimuli were similar, but not identical to experiment 1. The stories were very comparable: they were always about animals and always ended with either the question ¿Qué pasó? (‘What happened?’) to target broad focus or ¿Quién + V? (‘Who V-ed?’) for narrow focus. As in experiment 1, half of the items contained unaccusative verbs, while the other half contained unergative verbs. For the unergative condition, the verbs used were saltar (‘to jump’), silbar (‘to whistle’), gritar (‘to shout’) and llorar (‘to cry’), while for the unaccusative condition, the verbs were caerse (‘to fall’), entrar (‘to enter’), salir (‘to leave’) and llegar (‘to arrive’). Given that the children in this experiment were older, the experiment could be longer. Therefore, definiteness was included as an extra factor: half of the items contained definite subjects, and the other half contained indefinite subjects. There were thus twice as many (=8) conditions in this experiment. Each condition contained four items, making a total of 32 items. Three practice items were included, but in order to limit the length of the experiment no fillers were used. An example of an item is given in (9). For the complete overview of all target items in this task, see Appendix V.

(9)  
Tres perritos están jugando en la playa y se están divirtiendo mucho. Mientras juegan, se ve llegar a su amigo el gato, muy triste porque no lo habían avisado. ¿Qué pasó?

‘Three doggies are playing on the beach, and they are having a great time. While they play, they see their friend, the cat, arrive, who is very sad because they hadn’t invited him. What happened?’
Chapter 6

The cat arrived. Arrived the cat.

6.7.4 Analysis and results
Four generalized linear mixed effects models were run on the four different groups: the 9-year-old monolinguals, the 9-year-old heritage speakers, the 13-year-old monolinguals and the 13-year-old heritage speakers. The dependent variable was always response (VS or VS). In addition to verb type (unergative vs. unaccusative verbs) and focus (broad vs. narrow focus), definiteness (definite vs. indefinite subjects) was included as an additional fixed factor.

9-year-old children
For the 9-year-old monolingual group, the intercept of the model was significant (β=.65, SE=.19, z=-3.27, p=.001). This means that monolingual 9-year-old children significantly preferred SV across all conditions in this task. Moreover, the effects for verb type, focus, and definiteness were all significant (verb type: β=.78, SE=.26, z=2.96, p=.003; focus: β=.70, SE=.25, z=2.84, p=.004; definiteness: β=.91, SE=.19, z=4.67, p<.001), indicating that they had a significantly greater preference for VS with unaccusative verbs than with unergative verbs, in narrow focus than in broad focus, and with indefinite subjects than with definite subjects. The interaction between verb type and focus was also significant (β=–1.20, SE=.43, z=–2.81, p=.005), indicating that the difference between unergative and unaccusative verbs was bigger in broad focus than in narrow focus, and that the difference between broad and narrow focus was bigger for unergative verbs than for unaccusative verbs.

A similar model was run on the data for the 9-year-old heritage speakers. Unlike the model for the monolingual children, this model’s intercept was not significant (β=–.12, SE=.16, z=–.80, p=.42). As for the linguistic factors of interest, there were significant main effect of verb type (β=.71, SE=.19, z=3.70, p<.001) and definiteness (β=.41, SE=.19, z=2.16, p=.03), but not of focus (β=–.03, SE=.19, z=–.14, p=.89).

13-year-old children
The results for 13-year-old monolinguals were similar to that of the monolingual 9-year-olds, in that they showed significant effects of the same linguistic factors: verb type (β=1.14, SE=.20, z=5.78, p<.001); focus (β=1.31, SE=.20, z=6.63, p<.001) and definiteness (β=.80, SE=.20, z=4.03, p<.001), as well as the interaction between verb type and focus (β=–1.07, SE=.39, z=–2.72, p=.006). However, the intercept of the model was not significant (β=–.22, SE=.19, z=–1.13, p=.26), which means that unlike the 9-year-old monolinguals, this group showed no evidence for a preference for SV (or VS) in this task.

The model for the 13-year-old heritage speakers showed an identical pattern to that of the 9-year-old heritage speakers: the effects of verb type and definiteness were significant (verb type: β=.89, SE=.26, z=3.44, p<.001; definiteness: β=.91, SE=.26, z=3.51, p<.001), but the effect of focus was not (β=.34, SE=.26, z=1.33, p=.18).
Moreover, the intercept of the model was not significant (β=.28, SE=.37, z=.76, p=.45), indicating no significant preference for either order.

**All groups combined**

To check for quantitative differences between the groups, a separate model was run on all four groups combined, that is, for both age groups (9-year-olds and 13-year-olds) and for both monolingual children and child heritage speakers. This model included the variables language (monolingual vs. heritage) and age (9-year-old vs. 13-year-old), in addition to verb type, focus and definiteness. The model rendered a significant effect for language (β=1.01, SE=.23, z=−2.07, p=.04), indicating that across conditions, the child heritage speakers of both age groups combined chose VS more often than their monolingual peers. The effect of age was not significant (β=−.40, SE=.23, z=−1.72, p=.09), but indicated a tendency for older speakers (in both age groups) to use VS more. The three linguistic factors were all significant (verb type: β=.91, SE=.14, z=6.64, p<.001; focus: β=.61, SE=.15, z=4.03, p<.001; definiteness: β=.76, SE=.13, z=5.85, p<.001), as was the interaction between verb type and focus (β=−.61, SE=.25, z=−2.45, p=.01). Furthermore, there were significant interactions between language and focus, confirming that the monolingual children were significantly more sensitive to focus than the child heritage speakers. There was another significant interaction, namely between age and focus (β=−.62, SE=.27, z=−2.34, p=.02), which indicated that older children (whether monolingual or bilingual) were more sensitive to focus than younger children. Finally, there was a three-way interaction between language, verb type and focus (β=−.84, SE=.41, z=−2.02, p=.04), which means that the interaction between verb type and focus, indicating a bigger difference between broad and narrow focus in the unergative condition than in the unaccusative condition, was stronger in monolingual children (of both ages) than in child heritage speakers (if at all present).

**6.8 Experiment 3: adults**

For the adult group, we analyzed the data for a subgroup of the participants in the study reported in chapter 5. The participants in this subgroup were selected based on comparability with the children in terms of socio-linguistic characteristics, such as the specific variety of Spanish spoken and the family situation while growing up. There is an overlap of approximately 65% between the participants in the two chapters.

**6.8.1 Participants**

The adult heritage speaker group included 20 participants between the ages of 19 and 36 (mean age 25), of which 18 were born in the Netherlands and two immigrated during childhood (one at 4 months of age and the other one at age 5). Two were raised in families where both parents spoke Spanish, while the others were raised in bilingual households, usually with the mother being the Spanish-speaking parent. The heritage speakers’ parents spoke a range of different varieties of Spanish similar to that of the 9- and 13-year-old participants, namely peninsular (9), Mexican (7),
Colombian (3) and Argentinian (1). None of the heritage speakers spoke a Caribbean variety of Spanish. All participants indicated being mostly exposed to Spanish in childhood at home and reported a decrease in input and use of Spanish input and use from school age onward. Most people reported numerous visits to their home country throughout their lives, sometimes even for several months. Many participants had received some type of instruction in Spanish, such as at Saturday or Sunday schools or as a subject in school/university. As for their current language use, most participants reported predominantly speaking Dutch at home, but some also spoke Spanish. For all participants, the main language outside the home was Dutch.

The monolingual group consisted of 16 Spanish-speaking immigrants, who had arrived in the Netherlands less than six months before the experiment took place. The group was similar in age to the heritage speaker group (mean 26.4, range: 21–38). Although all participants grew up monolingually, most of them had learned to speak English as adults. However, they had no knowledge of Dutch whatsoever. The varieties of Spanish spoken by these participants were very similar to the heritage speakers, namely: peninsular (9), Mexican (4), Colombian (2) and Argentinian (1).

6.8.2 Procedure
The procedure for the adult participants was as follows: they were first asked to fill out an extensive background questionnaire about their (previous and current) amount of input and use of Spanish. Their knowledge of word order was measured through a scalar acceptability judgment task, which was similar to the children’s task in that it was presented on a computer screen and consisted of auditorily presented stories followed by two sentences that had to be judged. However, given that this task was designed for adult participants, there were some differences. First of all, there were no pictures to accompany the stories; instead, the stories were written on the screen. Moreover, instead of evaluating the two puppets who were learning Spanish, the two sentences were presented in written form, underneath the story. Both the story and the two sentences were simultaneously presented auditorily as well. The participants were asked to rate both sentences on a Likert scale from –2 to 2.

After the judgment task followed an elicited production task, which also targeted word order, among other constructions. However, the production results will not be presented in this chapter.

The experiment also included two measures of general proficiency in Spanish: a lexical decision task, which preceded the acceptability judgment task, and part of the DELE (Diploma de Español como Lengua Extranjera), which was administered to the participants on paper at the end of the experiment.7

---

7 These proficiency measures were included as part of a different study; they are not relevant for the purposes of the present chapter.
6.8.3 Stimuli
The stimuli were similar to experiments 1 and 2, but instead of stories about animals, the stories in this experiment were about people. Like in experiments 1 and 2, they always ended with either the question ¿Qué pasó? (‘What happened?’) to target broad focus or ¿Quién + V? (‘Who V-ed?’) for narrow focus. Moreover, similar to the other two experiments, half of the items contained unaccusative verbs and the other half unergative verbs. The unaccusative verbs used were venir (‘to come’), llegar (‘to arrive’), regresar (‘to return’), entrar (‘to enter’), irse (‘to leave’), desaparecerse (‘to disappear’), morirse (‘to die’) and escaparse (‘to escape’). The unergative verbs were bailar (‘to dance’), correr (‘to run’), llamar (‘to call’), llorar (‘to cry’), reírse (‘to laugh’), cantar (‘to sing’), gritar (‘to shout’), limpiar (‘to clean’), and tocar (‘to play (music)’). Definiteness was also included as a variable: half of the subjects were definite, and half were indefinite. There were thus eight conditions, each with three items. An example of an item in broad–unaccusative–definite condition is given in (10). The complete set of target stimuli can be found in Appendix III.

(10) Mi compañero de casa, Pepe, nunca quiere que haya fiesta en nuestra casa. Este fin de semana se fue de vacaciones. Yo aproveché y planeé una fiesta para el sábado, pero el sábado en la mañana veo que Pepe ha regresado inesperadamente. Tengo que cancelar la fiesta. Hablando con mi mamá, me nota un poco malhumorado, así que me pregunta: “¿Qué pasó?” Le contesto: ‘My housemate Pepe never wants to have parties in our house. This weekend he went on vacation. I took advantage and planned a party on Saturday, but Saturday morning I see that Pepe has returned unexpectedly. I have to cancel the party. Talking to my mom, she notices that I’m a little cranky, so she asks me: “What happened?” I answer her:’

Mi compañero regresó. Tuve que cancelar la fiesta. my housemate return.3SG.PRET have.1SG.PRET to cancel the party ‘My housemate came back. I had to cancel the party.’

Regresó mi compañero. Tuve que cancelar la fiesta. return.3SG.PRET my housemate have.1SG.PRET to cancel the party ‘My housemate came back. I had to cancel the party.’

The experiment included three practice items as well as 54 items about mood, which are reported on in chapters 2, 3, and 4, and in van Osch et al. (2017), van Osch et al. (2018) and van Osch and Sleeman (2018a).
6.8.4 Analysis and results
Given that the adult version of the experiment included ratings instead of a forced choice between the two word orders, a measure of relative preference for VS was calculated by subtracting for each item the rating for the sentence with a preverbal subject from the rating for the sentence with the postverbal subject. Given that this measure of relative preference for VS was a numerical one, linear mixed effects models (lmer) were used instead of generalized mixed effects models (glmer). \( P \)-values were obtained using the Kenward-Roger approximation, as implemented in the pbkrtest package (Halekoh & Højsgaard, 2014).

For the monolingual speakers, the intercept of the model was not significant (\( \beta=.19, SE=.20, t=.97, p=.34 \)), which means that these speakers did not rate one order significantly higher than the other across conditions. As for the three factors of interest, significant main effects were found for all of them (verb type: \( \beta=.60, SE=.25, t=2.36, p=.02 \); focus: \( \beta=1.18, SE=.31, t=3.87, p<.001 \); definiteness: \( \beta=.70, SE=.22, t=3.13, p=.004 \)), without interactions between them.

The model for the adult heritage speakers included significant effects for verb type (\( \beta=.78, SE=.31, t=2.51, p=.02 \)) and focus (\( \beta=1.02, SE=.31, t=3.28, p=.002 \)), but not for definiteness (\( \beta=.32, SE=.31, t=1.02, p=.31 \)). Unlike the model for the adult monolinguals, this model had a significant intercept (\( \beta=.79, SE=.19, t=4.12, p<.001 \)), which means that the adult heritage speakers rated VS higher than SV across conditions.

Another model was run on the data for the monolinguals and the heritage speakers combined to check for quantitative differences between the groups. This model included the variable language in addition to verb type, focus and definiteness. There were significant effects for the intercept (\( \beta=.38, SE=.15, t=2.51, p=.02 \), and for all three linguistic factors (verb type: \( \beta=.66, SE=.23, t=2.85, p=.006 \); focus: \( \beta=1.0, SE=.25, t=4.03, p<.001 \); definiteness: \( \beta=.56, SE=.23, t=2.47, p=.02 \)). The model did not reveal any significant differences between the two groups: the main effect of group did not reach significance (\( \beta=.39, SE=.24, t=1.62, p=.11 \)), and neither did the interaction between language and definiteness (\( \beta=.33, SE=.28, t=1.99, p=.24 \)).

However, two separate models were run on the ratings for SV and VS separately, and in the model for the SV ratings, a significant main effect emerged for group (\( \beta=.38, SE=.17, t=2.36, p=.03 \)), indicating that the heritage speakers rated SV significantly lower than the monolinguals.

The next section will summarize these results and discuss them in light of the possible explanations for heritage speaker divergence presented in the introduction of this chapter.

6.9 Discussion
This exploratory study aimed at answering the question: How does word order with intransitive verbs develop in child heritage speakers? In order to do so, we looked at 1) heritage speakers’ sensitivity to three factors that play a role in determining word
order, namely verb type, focus and definiteness; and 2) their general preference for either preverbal or postverbal subjects.

Let us first look at the participants’ sensitivity to the linguistic factors. The results showed that all three monolingual groups tested in this study (9-year-olds, 13-year-olds and adults) showed significant sensitivity to all three factors of relevance: verb type, focus and definiteness. We can thus assume that, at least by age 9, monolingual speakers of Spanish know that VS is relatively more felicitous with unaccusative verbs than with unergative verbs, more felicitous in narrow focus than in broad focus and more felicitous with indefinite subjects than with definite subjects. Exactly when this knowledge is acquired by monolingual children cannot be deduced based on the data presented here, but, as discussed in section 6.4.1, the literature suggests that preschool children already show sensitivity to the effects of verb type, and possibly also focus, on word order.

The data for the heritage speaker groups show quite a different picture. The 5-year-olds were not sensitive to either verb type or focus (recall that definiteness was not tested in that study); the 9-year-olds and the 13-year-olds were sensitive to verb type and definiteness, but not to focus; and the adults were sensitive to verb type and focus, but not to definiteness.\(^8\) The significant and non-significant effects for each group are summarized in table 6.1 below, with the significant effects in grey for clarity.

### Table 6.1. Significance values for each factor per age group in heritage speakers.

<table>
<thead>
<tr>
<th>Factor</th>
<th>5-year-olds</th>
<th>9-year-olds</th>
<th>13-year-olds</th>
<th>Adults</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verb type</td>
<td>p=.61</td>
<td>p&lt;.001</td>
<td>p&lt;.001</td>
<td>p=.02</td>
</tr>
<tr>
<td>Focus</td>
<td>p=.39</td>
<td>p=.89</td>
<td>p=.18</td>
<td>p=.002</td>
</tr>
<tr>
<td>Definiteness</td>
<td>?</td>
<td>p=.03</td>
<td>p&lt;.001</td>
<td>p=.31</td>
</tr>
</tbody>
</table>

Interestingly, different patterns arise for the three different linguistic factors. The relation between verb type and word order, which in monolingual Spanish is already acquired by age 5 (see references in section 6.4.1), has not yet been acquired by child heritage speakers of the same age. However, by age 9 it has become part of their grammar, and it remains stable throughout adolescence and into adulthood. This is thus an example of delayed acquisition.

We see delayed acquisition for focus as well: it is mastered even later than verb type. In monolinguals, acquisition of focus seems to start early. The 9-year-old monolingual children in this study were sensitive to focus, and some previous studies suggest that monolingual children as young as 5 years old can already distinguish between broad and narrow focus (Pladevall-Ballester, 2010; Villa-García & Suárez-Palma, 2016). However, full mastery of focus appears to take time, even in monolingual acquisition, as indicated by the significant interaction between age and

\(^8\) The results for the adults were similar to the results reported in chapter 5 and in van Osch & Sleeman (2018b).
focus in the model for the 9- and 13-year-olds. This interaction means that older children, whether they are monolingual or bilingual, are more sensitive to focus than younger children. So, although young monolingual children may already distinguish between broad and narrow focus, this knowledge grows stronger with age. In heritage speakers, the acquisition of focus progresses even more slowly: by age 13 they still do not significantly distinguish between broad and narrow focus. Nevertheless, the grammars of these adolescent heritage speakers appear to be still developing, because by the time they reach adulthood, the effect of focus on word order has effectively become part of their grammar.

Delayed acquisition of linguistic features is not commonly reported in the heritage language literature (but see Flores & Barbosa, 2014, and Flores et al., 2017), precisely because it cannot be identified by looking at adult heritage speakers alone. After all, if a certain structure is eventually acquired, no divergence will show up in adult heritage speakers, which might tempt one to conclude that the structure was acquired in an identical way (and at an identical pace) as in monolingual acquisition. In these cases, data on younger heritage speakers are crucial to uncover the reality that the acquisition path of heritage speakers actually differs from that of monolingual peers.

For the effect of definiteness, the opposite pattern arises: while it is attested in the 9- and 13-year-old heritage speakers, it is no longer present in the adult heritage grammars. Thus, here we seem to be dealing with a loss of knowledge at a relatively late age, namely after age 13. This is later than what is generally reported for attrition in heritage language acquisition studies. The longitudinal studies reporting attrition by Merino (1983), Anderson (1999) and Silva-Corvalán (2014) all cover the first years after children start primary school, a moment that marks a sudden increase in input in the dominant language. However, this may not be the only moment in heritage speakers’ lives at which a change in input occurs. In the Netherlands, most teenagers leave their parental home around age 17 or 18 to attend college. Assuming that the heritage language is (almost) exclusively spoken in the home, as is typically the case in the Netherlands, then this moment marks a second drop in input in the heritage language. This could be one of the reasons why sensitivity to definiteness seems to be lost so late in life. Another reason might be the fact that Dutch teenagers are heavily exposed to English and sometimes other foreign languages in the educational system, as well as through the media. Perhaps the increased input in a third language in this age range somehow affects their heritage language.

Returning to the possible origins of divergence as discussed in the introduction, we mentioned the possibility of both quantitative and qualitative input differences. We would like to argue that our findings provide evidence for quantitative input effects. If the input were qualitatively different, this would mean that the effects of verb type, focus and/or definiteness would somehow not be instantiated in the input, such as because the heritage speakers’ parents suffer from attrition in their L1. This account does not fare well with our data. If the effects of verb type and focus were not part of the input heritage speakers are exposed to, we would not find that these factors are ultimately acquired; we would simply fail to find target-like acquisition.
Similarly, if definiteness were not instantiated in the input, we would not expect to find evidence for knowledge of this factor in the younger groups. On the other hand, if we consider a scenario in which the input is not qualitatively different, but drastically reduced, these findings make much more sense. Assuming that all linguistic constructions require a certain critical mass of input for children to acquire them, it is not surprising that full, target-like acquisition of the same structures takes even longer in cases where the input is reduced to half (or even less) of the input that monolingual children receive. This explains the delay in acquisition of verb type and focus. As mentioned above, the loss of sensitivity to definiteness could also be explained by reduced input, particularly from the moment heritage speakers leave their parental home.

But even if we can establish that reduced input can account for the divergences attested in this study, the question remains as to why each of the three factors determining word order shows a different developmental path: delayed acquisition in the case of verb type, even further delayed acquisition for focus and attirion for definiteness. How can we explain these differences? Of the three factors, verb type is the most robust: it is acquired relatively early, and remains stable throughout adulthood. This may be due to its linguistic properties. Given that verb type lies at an internal interface between syntax and semantics, it may be more resilient to effects of reduced input and use than focus and definiteness, which arguably pertain to the external interface between syntax and discourse (for a more extensive discussion on this, see chapter 5 of this dissertation and van Osch & Sleeman, 2018b). This may explain why focus and definiteness are more vulnerable than verb type, but what still remains to be resolved is the question as to why focus is eventually acquired (rather than lost), whereas definiteness is acquired earlier but is not maintained into adulthood. The finding that different linguistic structures can have different developmental pathways in heritage language acquisition is not unique to this study. As described in section 6.2, previous studies have provided evidence for language loss for some structures, arrested or delayed development for others, and qualitative input effects for yet others. The specific way in which a given structure is affected by input differences probably depends on several factors, such as the age and timing of acquisition of the structure in monolingual speakers (Tsimpii, 2014), evidence for the structure in the input (O’Grady, Kwak, Lee, & Lee, 2011), and possibilities for transfer from the dominant language, just to name a few. More studies focusing on child and adolescent heritage speakers are needed to map how these and other factors interplay in heritage language acquisition.

The second part of our research question related to word order preferences across the board. Here too, interesting differences between monolinguals and heritage speakers were observed. The monolingual data showed a general preference for SV in the 9-year-old group, which is similar to what has been reported for monolingual Spanish children by Villa-García (as cited in Villa-García & Suárez-Palma, 2016), but contra Villa-García & Suárez-Palma (2016) and Friedmann & Costa (2011). However, by age 13 this preference has diminished. Neither the 13-year-old nor the adult monolinguals significantly preferred one order to the other. If we assume that
the data from the different groups in this study can reflect actual development, this would mean that monolingual children acquiring Spanish increasingly use relatively more VS word order as they grow older. To illustrate this pattern, figure 6.1 depicts the overall preferences for monolinguals.

Figure 6.1. Order preferences across conditions for monolingual 9-year-olds, 13-year-olds and adults.

The heritage speakers’ data revealed a different development. The 5-year-old, 9-year-old, and 13-year-old heritage speakers did not show a significant preference,9 but the adult heritage speakers rated VS significantly higher than SV. This pattern, which is depicted in figure 6.2, suggests that heritage speakers, like monolinguals, increase their relative preference for VS with age.

Although both monolingual and heritage speakers increase their relative preference for VS with age, on the whole, heritage speakers like VS more than monolingual speakers do, as indicated by the significant effects of language in the model for the 9- and 13-year-olds, as well as in the model for the adults’ ratings on SV sentences.

---

9 It must be noted that the task for the 5-year-old heritage speakers only included definite subjects, which are associated with preverbal position. This may have skewed the overall preference pattern. If indefinite subjects had been included, the number of VS might have been higher.
This increased preference for postverbal subjects may seem puzzling at first glance, given the well-documented overuse of SV in heritage speakers of English-dominant heritage speakers of Spanish (e.g., Silva-Corvalán, 1993, 2001; Hinch Nava, 2007; Montrul, 2005). As suggested in chapter 5, this may be attributable to the relatively frequent occurrence of postverbal subjects in Dutch due to the V2 rule, which obligatorily places the verb in the second position of the sentence. This means that if a non-subject is in sentence-initial position, the subject automatically follows the verb, as illustrated in the VS sentences in examples (11) through (13), which are completely acceptable in Dutch, but require SV order in English.

(11) Op straat schreeuwde iemand.
    on street shout.PAST.3SG someone
    ‘Someone shouted in the street.’

(12) Dat wist ik niet.
    that knew.PAST.1SG I NEG
    ‘I didn’t know that.’

(13) Er viel een appel.
    there fell.PAST.3SG an apple
    ‘An apple fell.’

The present study provides additional support for an explanation based on cross-linguistic influence. Heritage speakers in all age groups exhibit a relative preference for VS when compared to monolinguals, and moreover, it increases with age. This makes sense, given that as heritage speakers grow older, their exposure to Dutch increases, both relatively (compared to Spanish) and cumulatively. The more input in

Figure 6.2. Order preferences across conditions for 5-year-old, 9-year-old, 13-year-old and adult heritage speakers.
the majority language heritage speakers are exposed to, the more it could be expected to affect the heritage language.

Like most exploratory studies, this study does not come without limitations. First of all, one might wonder whether the failure to find significant effects of verb type and focus in the youngest child heritage speakers really reflects a lack of knowledge, or whether perhaps the task was too difficult for them. A control group of monolingual Spanish children of the same age would have been desirable to rule out this possibility. Also, distractor items including clear ungrammatical sentences or false statements would have been useful to check whether the design of the task was effective, but as mentioned, no filler items were used so as to reduce the length of the experiment. Another shortcoming is that our study combined data from three different experiments. Even though the experiments were similar in design, they were not identical. Minor task effects thus cannot be ruled out. In future studies we would like to apply a single task for the different age groups to increase internal validity. A final consideration is that, even though the underlying assumption in cross-sectional designs is that different age groups represent different moments in the development of a certain population, in reality the groups contain different people, who may differ in several respects other than their age at the time of testing. Ideally, studies investigating the development of language should include a longitudinal element, following the same participants throughout their lives.

6.10 Conclusion

The study reported in this chapter was intended to explore the development of word order in heritage speakers of Spanish in the Netherlands. The data provide tentative evidence for various different processes, namely delayed acquisition, attrition and cross-linguistic influence, all occurring within a single phenomenon. We have argued that these processes can most likely be traced back to quantitative input effects: reduced input in the heritage language alongside an increase of input in the majority language. Crucially, these processes could not have been exposed without the inclusion of data from younger heritage speakers. The findings therefore underscore that in order to obtain a complete view of heritage language acquisition, data from this very much-understudied population of school-age heritage speakers are imperative. Especially longitudinal data in this age-range are very much needed. We will be pursuing this line of research further in future research and would like to encourage other researchers to do the same.
Chapter 7

Subject position – Comparing majority languages

Abstract

This chapter compares Dutch-dominant and English-dominant heritage speakers of Spanish regarding their sensitivity to the various factors that play a role in subject position. An acceptability judgment task and an elicited production task demonstrated that both groups were sensitive to the effect of verb type on word order, but not to the effect of focus. To account for the specific vulnerability of focus, several possible accounts are proposed. An interesting difference occurred between the two heritage speaker groups regarding their knowledge of the effect of definiteness on word order. The Dutch-dominant group outperformed the English-dominant group in this condition, arguably helped by the similarity between Dutch and Spanish regarding the definiteness effect on word order. I conclude from these findings that properties inherent to the heritage language and cross-linguistic influence from the majority language are both crucial elements in explaining vulnerability in heritage grammars.

7.1 Introduction

By now, decades of research have shown that heritage languages diverge in various ways from their baseline languages. At the same time, it has also become increasingly clear that not all elements of language are equally problematic: certain constructions are more prone to change than others. One of the challenges in the field today lies in describing which elements of language are most vulnerable, as well as explaining this differential vulnerability.

This chapter tries to face this challenge by focusing on subject position in intransitive sentences in heritage Spanish. Spanish word order is a very complex phenomenon; many variables play a role in determining whether SV (subject–verb) or VS (verb–subject) is the most felicitous order in a certain context. The factors investigated in the present study are 1) the type of verb, 2) whether or not the subject is in focus, and 3) whether or not the subject is definite. Previous research has already demonstrated that heritage speakers of Spanish diverge from monolinguals when it comes to word order (e.g., Zapata et al., 2005; de Prada Pérez & Pascual y Cabo 2012), but it is not yet clear whether all factors are equally problematic. One of the purposes of the present chapter is therefore to ascertain which of these three factors are most vulnerable in heritage Spanish, and to explain why.

* A slightly modified version of this chapter was submitted as van Osch, B. (2019). Vulnerability and cross-linguistic influence in heritage Spanish: Comparing different majority languages. Manuscript submitted for publication.
A second question asked in this chapter relates to the role of the majority language. If we find that heritage speakers deviate from the baseline, can we attribute this deviance to transfer\(^1\) from the specific majority language or to properties inherent to the heritage language itself? This is an important question, because for many characteristics of heritage languages both explanations can apply. For instance, with respect to word order, heritage speakers of Spanish in the US are known to use preverbal subjects more than monolingual speakers of Spanish (e.g., Silva-Corvalán 1993, 2001; Hinch Nava, 2007). This finding could be attributed to cross-linguistic influence from English, which almost exclusively has preverbal subjects. However, given that SVO is also the most common order in Spanish, the same result may just as well be explained by simplification towards a default word order within the heritage language itself. An obvious way to differentiate between these two possibilities is by comparing heritage languages in different language contact situations. Unfortunately, surprisingly little research has taken this perspective.\(^2\)

The present study directly compares heritage speakers of Spanish in the Netherlands and in the United States with similar linguistic profiles, using exactly the same task. Given the differences between Dutch and English when it comes to word order, this design allows us to distinguish between effects from properties inherent to the heritage language and transfer from the majority language onto the heritage language, and in this way contribute to our understanding of how different environments play a role in heritage language acquisition.

The chapter is organized as follows. The following two sections describe word order with intransitive predicates in Spanish, English and Dutch. Section 7.4 summarizes previous research on word order with heritage speakers of Spanish. In section 7.5, I will formulate the research questions and hypotheses, after which the methodology will be presented in section 7.6. Next, section 7.7 reports the results, which will be discussed in detail in section 7.8. Section 7.9 concludes the chapter.

### 7.2 Word order with intransitive verbs in Spanish

Spanish is an SVO language that allows for highly flexible word order. In this chapter, I refer only to word order with intransitive predicates, i.e., those that do not take a direct object. Both preverbal and postverbal subjects are grammatical with these predicates. However, several factors determine which order is more felicitous in a given linguistic context.

One factor that has been researched quite extensively is verb type, referring to the distinction between unergative and unaccusative predicates. With unergative predicates, like saltar (‘to jump’), the subject is more likely to precede the verb, as in example (1), whereas with unaccusative predicates, such as llegar (‘to arrive’), the subject generally follows the verb, as in example (2).

---

\(^1\) The terms “transfer” and “cross-linguistic influence” will be used interchangeably throughout this chapter.

\(^2\) Exceptions being, for example, Fenyvesi (2005) and Dubisz (2001).
Many scholars assume a syntactic difference between these two verbs: with unergative verbs, the subject is base-generated in [Spec,VP/vP], but moves to [Spec,IP]. The subject of unaccusative predicates, on the other hand, is base-generated in object position within VP/vP and generally remains in situ (e.g., Perlmutter, 1978; Chomsky 1995). But there is a semantic difference as well: unergative verbs are non-telic and agentive, while unaccusative verbs are telic and non-agentive. However, this distinction does not seem to be completely categorical. Sorace (2000a, 2004) proposes a universal continuum of semantic categories, called the Split Intransitivity Hierarchy, with so-called core unergative and core unaccusative verbs on both ends, and more peripheral predicates in between, as illustrated in (3).

Another frequently discussed factor is presentational focus, which is used to introduce new (or unpredictable or non-recoverable) information to the discourse. A distinction can be made between broad focus, often identified with the question ¿Qué pasó? ('What happened?'), which introduces an entire sentence, and narrow presentational focus on the subject, usually targeted with the question ¿Quién + verb? ('Who V-ed?'). According to the generative literature (Ordóñez, 1997; Zubizarreta, 1998), the above-described difference in word order between unergative and unaccusative verbs (examples (1) and (2)) only applies in broad focus. In narrow focus, on the other hand, the subject moves to [Spec, FocP], located in between IP and vP, and the verb moves to I, leading to postverbal subject position for both predicate types, as shown in examples (4) and (5).
While most generative studies on Spanish word order in bilinguals have only looked at verb type and focus (e.g., de Prada Pérez & Pascual y Cabo, 2012; Domínguez & Arche, 2014; Hertel, 2003; Zapata et al., 2005), variationist studies have shown several other factors to influence word order as well. De Miguel Aparicio (1993), for instance, mentions the length of the subject: longer subjects tend to be placed postverbally more often than shorter subjects. Rivas (2008) discusses the effect of animacy and definiteness of the subject: inanimate subjects are more likely to be placed postverbally than animate ones, and the same goes for indefinite subjects as compared to definite subjects. In the present study I control for animacy and subject length, and I include definiteness as a variable of interest. The definiteness effect in Spanish is exemplified in (6) and (7).

(6) El niño llegó. (definite)
the boy arrive.3SG.PRET
‘The boy arrived.’

(7) Llegó un niño. (indefinite)
arrive.3SG.PRET a boy
‘A boy arrived a boy.

In the next section, I will describe how each of the three variables of interest (verb type, focus and definiteness) interacts with word order in the two dominant languages under investigation: Dutch and English.

7.3 Word Order in Dutch and English

English and Dutch differ with respect to their word order parameter settings. English is considered to be a straightforward SVO language, although there are some residual uses of V2, which will be touched upon below. Dutch is an SOV language with V2 in main clauses (Koster, 1975), which means that whenever a non-subject constituent is in initial position, the subject automatically follows the verb, as in (8).

(8) Buiten fluiten de vogels.
outside sing.3PL.PRES the birds
‘Outside the birds are singing.’

Due to the V2 rule, postverbal subjects are relatively more frequent in Dutch than in English. If transfer from the majority language affects word order preferences in the heritage language, we may thus expect to find differences between Dutch-dominant and English-dominant heritage speakers in this respect: Dutch-dominant heritage
speakers may be expected to overuse SV word order to a lesser extent than their English-dominant peers.

I will now discuss how the three factors that constrain word order in Spanish (verb type, focus and definiteness) work in Dutch and English and especially whether there are any correlations with word order similar to Spanish.

As for verb type, the Split Intransitivity Hierarchy described in the previous section is claimed to be universal (e.g., Montrul, 2005). However, languages differ with respect to the ways in which the semantic difference between verb types is reflected syntactically. The crucial question is whether either English or Dutch contains constructions in which the distinction between verb type is expressed through word order, as in Spanish. If this is the case, transfer may be expected to occur. In Dutch, no such constructions have been reported in the literature to my knowledge. In English, some scholars (e.g., Burzio, 1986) have argued for a relation between verb type and word order in two inversion constructions, namely locative inversion and existential or presentational there-insertion. These are claimed to be more acceptable with unaccusative verbs than with unergative verbs (examples (9) and (10)).

(9) **Locative inversion**

a. *In the basement LAUGHED a woman. (unergative)
b. Out of the woods CAME an old lady. (unaccusative)

(10) **There-insertion**

a. *There LAUGHED a boy. (unergative)
b. There APPEARED a ship on the horizon. (unaccusative)

However, Levin (1993) and Levin and Rappaport Hovav (1995) argue that the many exceptions to this rule (both unaccusative verbs that do not allow for inversion, and unergative verbs that do) cast doubt on Burzio’s (1986) claim. Moreover, it must be noted that most of the examples given for these constructions, albeit grammatical, are mostly used in literary/poetic registers. The more common way to express the message in (10b) would be “A ship appeared on the horizon.”

Focus does not interact with word order in either Dutch or English. In both languages, narrow presentational focus is expressed through prosodic stress on the preverbal subject, rather than through inversion (Lozano, 2006):

(11) **Wat is er gebeurd? Jan is vertrokken.** (broad focus)

what is there happened? John is departed
‘What happened? John left.’

(12) **Wie is er vertrokken? JAN is vertrokken.** (narrow focus)

what is there happened? JOHN is departed.
‘Who has left? John has left.’
For definiteness, an interesting difference between Dutch and English is observed. At first glance, the two languages exhibit a similar definiteness effect on word order, namely that sentences with there-insertion are only felicitous with indefinite subjects and not with definite subjects, as illustrated in (13) and (14).

(13) \textit{Er verscheen een man.} (indefinite)
there appear.3SG.PRET a man.
‘There appeared a man.’

(14) \textit{*Er verscheen de man.} (definite)
there appear.3SG.PRET the man.
‘There appeared the man.’

However, the there-insertion construction is much more widespread in Dutch than it is in English. In English, it is used with the verb ‘to be’, and a limited set of unaccusative verbs, namely those that do not indicate a change of state (see example (10b)) (Deal, 2009). In Dutch on the other hand, the construction is possible with a much wider range of verbs, both unaccusative and unergative ones (Zwart, 1992):

(15) \textit{Er verscheen een man.} (unaccusative)
there appear.3SG.PRET a man.
‘There appeared a man.’

(16) \textit{Er lachte een man.} (unergative)
there laugh.3SG.PRET a man.
‘There laughed a man.’

Moreover, as mentioned earlier, this construction is marked in English; in colloquial speech the non-inverted option without there is generally preferred. In Dutch it is the other way around: although the non-inverted option without er is also grammatical in Dutch (example 17), it sounds rather poetic. In colloquial speech, people tend to prefer the inverted option (Bouma, 2008).

(17) \textit{Een man lachte/verscheen.}
a man laugh.3SG.PRET/appear.3SG.PRET
‘A man laughed/appeared.’

To summarize, Dutch and English differ in terms of basic word order: Due to the V2 rule, postverbal subjects are more frequent in Dutch than in English. As for the three linguistic factors of interest in this study, neither Dutch nor English exhibit clear effects for verb type or focus on word order, but when it comes to definiteness, the effect on word order is more pervasive in Dutch than in English because Dutch has a stronger tendency to avoid preverbal indefinite subjects. If transfer from the dominant language plays a role in word order in heritage Spanish, we may thus expect
differences between heritage speakers in the Netherlands vs. the US with regards to 1) their overall word order preferences, namely a higher preference for SV in English-dominant speakers and 2) their sensitivity to the effect of definiteness on word order in Spanish, which is expected to be higher in Dutch-dominant speakers.

7.4 Previous Research

A few studies have been devoted to word order in heritage Spanish. When it comes to knowledge of the linguistic factors discussed above, the results from previous studies do not allow for a clear conclusion.

Montrul (2005, 2006b) showed that heritage (and L2) speakers of Spanish in the US are sensitive to the distinction between verb types, not only with respect to how it is reflected in word order, but also in other constructions, such as bare plurals and in the absolutive construction. Other linguistic factors (such as focus or definiteness) were not taken into consideration in this study.

Zapata et al. (2005) used a contextualized forced choice task to test verb type and focus, which revealed the pattern depicted in table 7.1:

<table>
<thead>
<tr>
<th></th>
<th>Broad focus</th>
<th>Narrow focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unergative</td>
<td>SV</td>
<td>No preference</td>
</tr>
<tr>
<td>Unaccusative</td>
<td>No preference</td>
<td>VS</td>
</tr>
</tbody>
</table>

According to the authors, the fact that the speakers did not prefer one order to the other in either the broad unaccusative condition or the narrow unergative condition indicates a lack of knowledge of both factors. However, on a different interpretation, these results might also be taken to imply knowledge of both factors, given that heritage speakers treat unergative and unaccusative verbs differently and they also treat broad and narrow focus differently.

De Prada Pérez and Pascual y Cabo (2012) carried out a contextualized forced choice task with heritage speakers of various proficiency levels. The results showed focus to be more robust than verb type, contrary to their expectations. However, quite puzzlingly, the effect of focus was not significant in the Spanish-dominant bilingual control group, and the effect of verb type was significant only for the lowest proficiency heritage group, making the results difficult to interpret. What further complicates matters is that their conclusions are partly based on a comparison to a monolingual Spanish control group from a different study that used a different design.

The effect of definiteness on subject position in Spanish has, to my knowledge, not been tested in heritage Spanish in the US. The study presented in chapters 5 (and partially in chapter 6) of this dissertation\(^3\) tested adult heritage speakers of Spanish in the Netherlands and included definiteness as a factor of interest (in addition to verb type and focus). The results of a scalar acceptability judgment task demonstrated that

\(^3\) See also van Osch & Sleeman (2018b), and van Osch et al. (2019).
for Dutch-dominant heritage speakers of Spanish, verb type and focus were significant predictors for word order. The effect of definiteness was not significant, but the preference for indefinite subjects was higher in postverbal position.

When it comes to general word order preferences, one finding reported in studies using (semi-)spontaneous production (Silva-Corvalán 1993, 2001; Hinch Nava, 2007) is that heritage speakers in the US tend to use more preverbal subjects than monolingual speakers of Spanish, a finding that is usually taken to reflect transfer from English, which almost exclusively exhibits SVO word order. The overuse of SV is reportedly more pronounced in lower-proficiency speakers (Montrul, 2005) and increases with each succeeding generation of heritage speakers (Silva-Corvalán, 2001). This tendency towards preverbal subjects has also been noted in some experimental studies such as Zapata et al. (2005) and de Prada Perez & Pascual y Cabo (2012). However, these studies either did not use a control group at all (Zapata et al. 2005) or partly based their claims on a comparison with a control group from a different study (de Prada Pérez & Pascual y Cabo, 2012). In my view, in order to speak of overgeneralization or overuse, a direct comparison with a control group, be it of monolingual speakers or Spanish-dominant bilinguals, is paramount. The Dutch-dominant heritage speakers reported on in chapter 5 did not overgeneralize SV. In fact, they showed a stronger preference for VS than monolinguals. Since postverbal subjects are much more common in Dutch than in English, this finding strengthens the argument for transfer from the dominant language onto the heritage language. However, to confirm this conjecture definitively, we need studies directly comparing heritage Spanish word order in different language combinations, which to my knowledge have yet to be carried out.

The present study tests a new group of Dutch-dominant heritage speakers of Spanish in the Netherlands and directly compares these to English-dominant heritage speakers of Spanish in the US, in addition to a control group of monolingually raised Spanish speakers. Using both a judgment and a production task, the three groups are compared in terms of overall word order preferences as well as their sensitivity to the effects of verb type, focus and definiteness on subject position. In the following section, I outline the research questions and hypotheses.

7.5 Research Questions and Hypotheses

The objective of this study is twofold. First of all, I wish to examine whether the three different variables constraining word order in Spanish are equally vulnerable in heritage Spanish or whether some factors are more robust than others. The first research question is therefore:

(i) Which variables determining word order (verb type, focus and definiteness) in Spanish are most vulnerable in heritage Spanish?

Given the inconsistent findings of previous studies, this question is rather exploratory in nature, and thus no hypotheses are formulated.
Second, this study aims to discover to what extent heritage speakers’ divergence (if attested) is due to cross-linguistic influence from the dominant language. To this end, two groups of heritage speakers of Spanish are compared that have different majority languages: Dutch and English. The second research question is:

(ii) Do Dutch-dominant and English-dominant heritage speakers of Spanish differ with respect to their judgment and production of subject position with intransitive predicates in Spanish?

With respect to this question, two hypotheses are formulated, addressing different elements concerning word order. Regarding their overall preference patterns, I expect American heritage speakers to overgeneralize preverbal subjects more than Dutch heritage speakers. This hypothesis is based on the fact that English is a strict SVO language, whereas Dutch allows for postverbal subjects due to the V2 rule, as well as on the findings in chapters 5 and 6.

As for the three factors constraining word order, Dutch and English do not differ much in terms of the effects of verb type and focus on word order, but the relation between definiteness and word order is more pervasive in Dutch than in English, making Dutch more similar to Spanish. Therefore, I hypothesize the effect of definiteness to be more vulnerable in English-dominant heritage speakers than in Dutch-dominant heritage speakers.

7.6 Method

7.6.1 Participants
Three groups participated in the study: heritage speakers of Spanish in the United States, heritage speakers of Spanish in the Netherlands, and a control group of monolingual speakers of Spanish.4 The US participants were recruited at Rutgers University Newark (New Jersey, United States), while the Dutch participants were recruited in Amsterdam (the Netherlands). The monolingual group consisted of monolingually raised native speakers of Spanish who had moved to the Netherlands less than six months before the time of testing. In total, 22 Dutch-dominant heritage speakers, 51 English-dominant heritage speakers and 23 monolingually raised speakers of Spanish participated in the study, but several participants were excluded from the study, for various reasons.

First of all, given the dialectal variation in word order reported for Caribbean dialects (Ortiz López, 2009), speakers of these dialects were excluded. The included heritage speakers predominantly spoke Ecuadorian, Colombian, Peruvian and

---

4 Even though I agree with recent objections to using monolingual speakers as a baseline (e.g., Rothman & Trefers-Daller, 2014), I believe the specific phenomenon at hand justifies the decision to use a monolingual control group, given that word order, and all the constraints that affect it, has to date not been comprehensively documented for monolingual Spanish. In order to make claims about vulnerability in heritage speakers, we must first definitively confirm that the factors in question actually apply in monolingual Spanish.
Mexican Spanish. Less common varieties were Peninsular, Honduran, Nicaraguan, Chilean, Argentinean, Salvadoran and Guatemalan Spanish. Most monolingual participants were from Spain, Argentina, Mexico and Colombia, and to a lesser degree Ecuador and Peru. Other motives for exclusion were age at time of testing (older than 45) and age of arrival to the country of residence (older than 6). The remaining participants from the two heritage speaker groups were then matched with respect to their general proficiency in Spanish, as measured by a lexical decision task, which will be discussed in section 7.6.2.

After the exclusion criteria, 27 English-dominant heritage speakers, 19 Dutch-dominant heritage speakers and 20 monolingual native speakers remained. The Dutch-dominant heritage speakers made on average 40.9 errors out of 150 on the lexical decision task, and the English-dominant group 42.6, a difference that was not significant (t=0.31, p=.76). The monolinguals made 17.4 errors on average, which was significantly less than both heritage speaker groups (Dutch HS vs. monolinguals: t=9.75, p<.001; US HS vs. monolinguals: t=17.17, p<.001).

A background questionnaire provided information about the participants’ demographics and socio-linguistic backgrounds: their family situation, language dominance, input and output in both the majority and the heritage language in various environments throughout their lives, and their attitudes towards Spanish. Some differences between the two groups deserve mentioning. First of all, the Dutch group contained seven participants who were not born in their country of residence compared to three in the US group. However, as mentioned above, none of these participants immigrated after age 6.5 Another difference was that the majority of English-dominant participants had at some point lived in a predominantly Hispanic/Latino neighborhood. This does not apply to the Dutch group, because those types of neighborhoods do not exist in the Netherlands. Furthermore, the Dutch-dominant heritage speakers had spent more time in Spanish-speaking countries (vacations and short stays) than the US group. Finally, in the Dutch group, six people were raised in mixed marriages, as opposed to only one person in the US group. However, in most of these cases, the Dutch-speaking parent (usually the father) knew Spanish and spoke it at home as well.

Apart from these differences, which will be touched upon in the discussion section of this chapter, both groups exhibited a typical heritage speaker profile: they reported predominantly input and use of Spanish in childhood at home, which decreased with age, and considered themselves dominant in the majority language at the time of testing. Moreover, given that the groups were matched on their general proficiency levels, there was no significant difference in this respect. They also rated their own proficiency in Spanish almost equally: 4.75 on a scale of 1 to 6 for the Dutch-dominant group and 4.5 for the English-dominant group (t=0.86, p=.40). Furthermore, the groups were similar in terms of socio-economic status (as measured by the mother’s highest level of education), level of education (college/university students

---

5 The 7 participants in the Dutch group moved to the Netherlands at ages 2;6, 3;8, 4;0, 5, 5;5, 5;10 and 6. The 3 participants in the American group moved to the US at ages 2;11, 4;2 and 5.
or graduates) and age. In both groups, the majority of participants had received some kind of formal education in Spanish, in the form of home schooling, ESL (English as a Second Language) in primary school, Saturday school, after-school courses, or as a subject in high school or college. Several participants (in both heritage speaker groups) reported basic to intermediate knowledge of other languages, such as French, Portuguese, Italian, Norwegian or Korean. Finally, all heritage speakers in both groups expressed positive attitudes towards their heritage language. The most relevant participant characteristics are summarized in Table 7.2.

Table 7.2. Summary of participants’ demographics and proficiency measures.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Age</th>
<th>AoO majority language</th>
<th>Errors lexical decision</th>
<th>Self-reported proficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dutch HS</td>
<td>19</td>
<td>24.4</td>
<td>0.5</td>
<td>40.9</td>
<td>4.75</td>
</tr>
<tr>
<td>American HS</td>
<td>27</td>
<td>20.1</td>
<td>1.8</td>
<td>42.6</td>
<td>4.66</td>
</tr>
<tr>
<td>Monolinguals</td>
<td>20</td>
<td>26.9</td>
<td>-</td>
<td>17.4</td>
<td>6</td>
</tr>
</tbody>
</table>

7.6.2 Tasks and procedure

All participants were first administered the background questionnaire. This was followed by three computerized tasks. The first of these was an aural lexical decision task, intended to measure general proficiency in Spanish. Lexical decision tasks have been found to correlate with other measures of lexical proficiency (e.g., Harrington, 2006; Lemhöfer & Broersma, 2012, for second language acquisition) and lexical proficiency in turn has been argued to be a reliable indicator for heritage speakers’ overall proficiency, including grammatical phenomena (e.g., Polinsky & Kagan, 2007; Benmamoun et al., 2013 and references therein).

The second computerized task was an elicited production task (EPT), in which participants were presented (both auditorily and written on the screen) with short stories. Each story ended with a character asking a question. Immediately after, a verb appeared on the screen in infinitival form. The participants were instructed to answer the question using the verb on the screen, conjugated however they wanted. An example of a test item can be seen in example (18):

Moreover, the Dutch heritage speakers all reported high-intermediate to near-native proficiency in English, which is due to the important role of the English language in the Dutch educational system as well as in the media and culture.
Estás en una banca en un parque con tu mamá. De repente ves a un niño caerse lejos de tí. Paras para ver si está bien. Tu mamá que no alcanzó a ver, pregunta: “¿Qué pasó?”. Le contestas:

“You are sitting on a bench in a park with your mom. Suddenly, you see a child fall, far away from you. You stand up to see if he is all right. Your mom, who did not see, asks you: “What happened?” You answer:

CAERSE
‘to fall’

In this example, the participants were expected to say either “Un niño se cayó” (‘a child fell’ – SV) or “Se cayó un niño” (‘fell a child’ – VS). In total, there were 32 experimental items, half of which were in broad focus, ending with the question ¿Qué pasó? (‘what happened?’) and the other half in narrow focus, ending with the question ¿Quién + verb? (‘who + verb?’). In half of the items the targeted subject (the referent that appeared in the story) was definite, and in the other half it was indefinite. All targeted subjects were animate and short, consisting only of a definite determiner and a noun. Finally, half of the items contained unergative verbs, while the other half contained unaccusative verbs. For the unergative condition, the verbs used were saltar (‘to jump’), silbar (‘to whistle’), gritar (‘to shout’) and llorar (‘to cry’), and for the unaccusative condition, the verbs were caerse (‘to fall’), entrar (‘to enter’), salir (‘to leave’) and llegar (‘to arrive’). The same eight verbs were used in all conditions, i.e., in both broad and narrow focus and with both definite and indefinite subjects. The items were presented in a randomized order. See Appendix VI for a full overview of all the items in this task.

After a short break followed the acceptability judgment task (AJT). The AJT contained stories very similar to those in the EPT, including the exact same verbs and subjects. As in the EPT, the participants were presented with a story, simultaneously in written and auditory form. But in this task, the story was followed by two sentences: one with a preverbal subject and one with a postverbal subject. The two sentences were presented simultaneously, and each of them had to be rated on a Likert scale from –2 (completely unnatural) to 2 (completely natural). The target sentences were not presented auditorily so as to rule out any effect from prosody. An example of a test item is given in (19):

(19) Estás viendo una película triste con tu prima. La película conmueve mucho a tu prima. Tu hermano, que está leyendo en el sofá, escucha un sollozo. Pregunta: “¿Quién lloró?” Tú dices:

“You are watching a sad movie with your cousin. The movie moves her a lot. Your brother, who is reading on the sofa, hears someone sobbing. He asks: “Who was crying?” You say:’
The order of the items and sentences was randomized, and the task also contained 16 filler items targeting anaphora resolution. An overview of the target items is presented in Appendix VII.

Finally, participants were administered the paper-and-pencil version of the cloze part of the DELE (Diploma de Español como Lengua Extranjera), a standardized test of general proficiency in Spanish frequently used in L2 studies. This test served as a second measure of proficiency. However, since the applicability of this kind of test for heritage speakers has been questioned, given their explicit and written nature (Benmamoun, et al., 2010; Valdés, 1995), it was decided not to include these scores in this study. In total, the experiment lasted approximately 1.5 hours per participant. All participants were compensated with either cash ($10/€10) or course credits.

7.7 Results

7.7.1 Acceptability Judgment Task

First, the control group’s responses were analyzed to check whether monolingual Spanish indeed shows the expected effects of all three factors. A linear mixed effects model was run using the lme4 package (Bates et al., 2012) in R (R Development Core Team, 2017). The dependent variable was the difference in rating between the sentence with VS and the sentence with SV. The fixed factors were verb type (unergative vs. unaccusative), focus (broad vs. narrow) and definiteness (definite vs. indefinite subject), using orthogonal sum-to-zero contrasts (coded as -0.5 vs. +0.5). All possible interactions between these factors were also included. In all models reported in this chapter, random intercepts were included for subject and item, and random slopes were included if these significantly improved the model fit, following Baayen et al. (2008). P-values were calculated using the Kenward-Roger approximation, by means of the pbkrtest package (Halekoh & Højsgaard, 2014).

The model for the monolingual speakers rendered three significant main effects: of verb type ($\beta=0.83$, SE=0.11, $t=7.86$, p<.001), focus ($\beta=0.47$, SE=0.11, $t=4.43$, p<.001) and definiteness ($\beta=0.27$, SE=0.11, $t=2.54$, p=.015). These effects confirm that monolingual speakers rated postverbal subjects relatively higher with unaccusative verbs than with unergative verbs, higher in narrow focus than in broad focus, and
higher with indefinite subjects than with definite subjects. There were no significant interactions, and the intercept was not significant, indicating that, across the board, the monolinguals did not rate one order higher than the other.

Similar models were run on the two heritage speaker groups. For the Dutch heritage speakers, the model yielded two significant main effects: one of verb type ($\beta=1.53$, SE=0.29, t=5.19, p<.001) and one of definiteness ($\beta=0.73$, SE=0.21, t=3.52, p=.001). No significant interactions were found. This means that the Dutch heritage speakers preferred postverbal subjects more for unaccusative than for unergative verbs, and more for indefinite than for definite subjects. Unlike for the monolingual speakers, the effect of focus was not significant. The intercept of the model was not significant, which means that there was no overall preference for one SV or VS across conditions.

The model for the English-dominant heritage speakers showed only one significant effect, namely a main effect for verb type ($\beta=1.0$, SE=0.22, t=4.47, p<.001), indicating a higher preference for postverbal subjects with unaccusative than with unergative verbs. The effects of focus and definiteness were not significant. The intercept of the model was not significant, so this group, like their Dutch-dominant counterpart, did not prefer one order significantly to the other across conditions. These results are summarized in Table 7.3.

<table>
<thead>
<tr>
<th></th>
<th>Monolinguals</th>
<th>Dutch heritage speakers</th>
<th>American heritage speakers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verb type</td>
<td>Significant</td>
<td>Significant</td>
<td>Significant</td>
</tr>
<tr>
<td>Focus</td>
<td>Significant</td>
<td>Not significant</td>
<td>Not significant</td>
</tr>
<tr>
<td>Definiteness</td>
<td>Significant</td>
<td>Significant</td>
<td>Not significant</td>
</tr>
</tbody>
</table>

To test for any significant differences between the three groups, another model was run on the entire dataset. Apart from verb type, focus and definiteness, language was added as a fixed factor, using orthogonal sum-to-zero contrasts: one contrast between the monolingual group (coded as +2/3) vs. the mean of the two heritage speaker groups (both coded as -1/3), and another contrast between the two groups of heritage speakers (the Dutch group coded as -0.5 and the US group as +0.5). All other (binary) variables were coded as -0.5 vs. +0.5. This model rendered significant main effects of verb type ($\beta=1.12$, SE=0.15, t=7.36, p<.001) and definiteness ($\beta=0.43$, SE=0.12, t=3.52, p=.001), as well as two significant two-way interactions: one between group (contrast 1) and focus ($\beta=0.60$, SE=0.27, t=2.22, p=.033) and one between group (contrast 2) and definiteness ($\beta=0.45$, SE=0.20, t=–2.22, p=.032). There was no main effect of language, indicating that the three groups did not differ significantly from one another regarding their overall word order preferences, as can be seen in figure 7.1.
Figure 7.1. Preferences for SV and VS across conditions for each group (judgment).

The significant main effects of verb type and definiteness mean that all participants together had a stronger preference for VS with unaccusative verbs than with unergative verbs, and a stronger preference for VS with indefinite subjects than with definite subjects. The significant interaction between group (contrast 1) and focus indicates that the monolinguals showed a larger difference between narrow and broad focus than the two heritage groups combined. This result is illustrated in figure 7.2.

Figure 7.2. The effect of focus in monolinguals and heritage speakers (judgment).
Chapter 7

The interaction between group (contrast 2) and definiteness indicates that the effect of definiteness was stronger in the Dutch heritage speaker group than in the US heritage group, as depicted in figure 7.3.

![Diagram showing the effect of definiteness in Dutch-dominant and English-dominant heritage speakers (judgment).](image)

**Figure 7.3.** The effect of definiteness in Dutch-dominant and English-dominant heritage speakers (judgment).

7.7.2 Production task
7.7.2.1 Coding

In total, 2,112 responses were coded. 334 responses had to be excluded from the analysis for various reasons, such as if no verb, no subject or no response whatsoever was produced. Another reason for exclusion was the choice of verb. In most cases, participants produced the verb that was presented on the screen. However, in several cases they used a different verb or an additional verb (e.g., *Mi hijo aprendió a silbar* 'My son learned to whistle'). Those cases were excluded from the analysis, unless: (1) there was no change in the meaning of the verb, e.g., *salirse* instead of *salir* ('to leave') or *chiflar* instead of *silbar* (both mean 'to whistle'); or (2) a semantically similar verb was produced that belonged to the same verb class, such as *llegar* ('to arrive') instead of *entrar* ('to enter'). The choice of the verbal structure was another reason for exclusion. The most frequent constructions were the preterite (e.g., *gritó*), simple present (e.g., *grita*), imperfect (e.g., *gritaba*), the present or imperfect + gerund (e.g., *está/estaba gritando*), and the construction *acabar de* + infinitive (e.g., *acaba de gritar*), which indicates a recent action and is best translated as ‘just V-ed’. All these constructions were included because they are perfectly acceptable both preceding and following the subject in Spanish. However, certain other verb constructions that do not allow for inversion were excluded, such as a “*Fue mi hermano (el) que gritó*”
‘It was my brother who shouted’ or “Había una mujer silbando” ‘There was a woman whistling’. In most cases, participants responded using exactly the same subject as was presented in the story. But on several occasions, participants slightly changed the subject (e.g., un niño (‘a little boy’) instead of un niño (‘a boy’)). This change sometimes led to the subject becoming somewhat longer than intended (e.g., el bebé de los vecinos (‘the neighbors’ baby’)). Given that longer subjects are known to prompt VS order more than light subjects (De Miguel Aparicio, 1993), any subject consisting of more than three words was excluded from the analysis. Another common change in the subject was a switch from definite to indefinite, or the other way around. These responses were not excluded, but were instead recoded according to their new definiteness value and analyzed as such. These changes led to a higher number of definite subjects than of indefinite ones (1,053 and 725 responses, respectively). After these exclusion criteria 1,778 responses remained, of which 1,186 were coded as SV and 592 as VS.

7.7.2.2 Analysis
A generalized linear mixed effects model was first run on the monolingual data. The dependent variable was response (either SV or VS), and the fixed factors were verb type, focus and definiteness. For all these factors, orthogonal sum-to-zero contrasts were used, coded as -0.5 vs. +0.5. All possible interactions between the fixed factors were included as well. The model rendered significant main effects for verb type ($\beta=2.57$, SE=0.48, $z=5.41$, $p<.001$), focus ($\beta=1.34$, SE=0.46, $z=2.9$, $p=.004$) and definiteness ($\beta=1.25$, SE=0.41, $z=3.03$, $p=.002$), mirroring the judgment data. However, there were two other significant effects that did not come up in the judgment task. The intercept of the model was significant ($\beta=–1.13$, SE=0.51, $z=–2.20$, $p=.028$), indicating that these speakers used SV order more frequently than VS across all conditions. Moreover, the model yielded a significant two-way interaction between verb type and focus ($\beta=–2.57$, SE=0.92, $z=–2.79$, $p=.005$). Follow-up analyses with recoded contrasts demonstrated that this interaction was due to the effect of focus being stronger in the unergative condition than in the unaccusative condition. Even though the main effects were modified by an interaction, these results demonstrate that the monolingual group showed knowledge of all three relevant factors in production, as in judgment.

Similar models were run on the two heritage groups. The model for the Dutch-dominant heritage speakers rendered two significant main effects: one of verb type ($\beta=2.14$, SE=0.54, $z=3.95$, $p<.001$) and one of definiteness ($\beta=1.63$, SE=0.49, $z=3.35$, $p<.001$), just as in judgment. There were no significant interactions. Similar to the monolingual speakers, the model’s intercept was significant ($\beta=–1.50$, SE=0.61, $z=–2.44$, $p=.015$), indicating that these speakers also produced preverbal subjects more than postverbal subjects across conditions.

Finally, the model for the English-dominant speakers revealed only one significant main effect, namely of verb type ($\beta=1.41$, SE=0.30, $z=4.64$, $p<.001$), again similar to the judgment data. The model’s intercept was significant ($\beta=–1.62$, SE=0.51,
z = -3.20, p = .001), which means that, like the two other groups, these speakers produced preverbal subjects more often than postverbal subjects across the board. The word order patterns for the three groups are summarized in table 7.4. They mirror the patterns found in the judgment data when it comes to the effects of the three factors. A difference between the production and the judgment data is that all three groups prefer preverbal subjects to postverbal subjects across the board in production, but not in judgment.

Table 7.4. Word order patterns in production for all three groups.

<table>
<thead>
<tr>
<th></th>
<th>Monolinguals</th>
<th>Dutch heritage speakers</th>
<th>American heritage speakers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verb type</td>
<td>Significant</td>
<td>Significant</td>
<td>Significant</td>
</tr>
<tr>
<td>Focus</td>
<td>Significant</td>
<td>Not significant</td>
<td>Not significant</td>
</tr>
<tr>
<td>Definiteness</td>
<td>Significant</td>
<td>Significant</td>
<td>Not significant</td>
</tr>
</tbody>
</table>

To check for significant quantitative differences between the groups, another model was run on the entire data set, with language as an additional fixed factor, using orthogonal sum-to-zero contrasts: one contrast between the monolingual group (coded as +2/3) vs. the mean of the two heritage speaker groups (both coded as -1/3), and another contrast between the two groups of heritage speakers (the Dutch group coded as -0.5 and the US group as +0.5). All other (binary) variables were coded as -0.5 vs. +0.5. This intercept of the model was significant (β = -1.43, SE = 0.35, z = -4.14, p < .001), indicating that the group as a whole used SV more often than VS across conditions. However, there was no significant main effect of language, indicating that the three groups did not differ significantly in terms of their use of SV/VS across the board. The overall production percentages of SV and VS for each group are illustrated in figure 7.4.

Figure 7.4. Use of SV and VS across conditions for each group (production).
The model rendered significant main effects for verb type ($\beta=2.02$, SE=0.36, $z=5.59$, $p<.001$), focus ($\beta=0.75$, SE=0.36, $z=2.09$, $p=.037$) and definiteness ($\beta=1.03$, SE=0.26, $z=4.0$, $p<.001$), indicating that all participants combined produced VS more often with unaccusative verbs than with unergative verbs, in narrow focus than in broad focus, and with indefinite subjects than with definite subjects. Moreover, like in the judgment data, there was a significant two-way interaction between group (contrast 1) and focus ($\beta=0.90$, SE=0.45, $z=1.98$, $p=.048$), indicating that the effect of focus was stronger in the monolinguals than in the two heritage groups combined, as illustrated in figure 7.5.

Moreover, and again similar to the judgment data, there was a significant two-way interaction between group (contrast 2) and definiteness ($\beta=–0.93$, SE=0.44, $z=–2.13$, $p=.033$), indicating that the effect of definiteness is indeed stronger in the Dutch-dominant heritage speakers than in their English-dominant counterparts. This effect is illustrated in figure 7.6.
Besides these two-way interactions, there was a significant three-way interaction between group (contrast 1), verb type and focus ($\beta=-1.90, SE=0.91, z=-2.01, p=.036$) and a significant four-way interaction between group (contrast 2), verb type, focus and definiteness ($\beta=-3.85, SE=1.72, z=-2.23, p=.026$). The three-way interaction indicates that there is an interaction effect between verb type and focus, which is stronger in the monolingual speakers than in the heritage speakers, if present at all in the latter group. The most relevant interpretation of the four-way interaction between group (contrast 2), verb type, focus and definiteness, is that there is a three-way interaction between verb type, focus and definiteness that is significantly stronger in the Dutch-dominant group than in the English-dominant group.

In sum, although the production results are somewhat more complex due to the inclusion of higher order interactions which are difficult to interpret, they very closely resemble the judgment data. In both tasks, monolingual speakers show sensitivity to the effects of verb type, focus and definiteness on word order; the Dutch-dominant heritage speakers show knowledge only of verb type and definiteness, while the English-dominant heritage speakers only exhibit knowledge of verb type. As for word order preferences across conditions, there were no significant differences between the three groups. In the following section, these results will be discussed in light of the hypotheses.
7.8 Discussion

This study tested Dutch-dominant and English-dominant heritage speakers of Spanish, as well as a control group of monolingually raised speakers of Spanish, regarding their judgment and production of subject position in intransitive sentences in Spanish.

The first research question asked which variables (verb type, focus and definiteness) determining word order in Spanish are most vulnerable in heritage speakers of Spanish. The data for the control group confirmed that all three factors indeed interact with word order in monolingual Spanish. The Dutch-dominant group demonstrated knowledge of the effect of verb type and definiteness, but not of focus. The English-dominant group showed sensitivity to verb type only, and not to focus or definiteness. In sum, verb type was the most robust factor of the three. Focus was problematic in both heritage speaker groups, while definiteness was vulnerable only in the English-dominant group.

The next step is to try to explain the differential vulnerability between these factors. I would like to discuss two possible ways to approach this question; one linguistically based explanation and one usage-based explanation. As for the linguistic approach, the Interface Hypothesis (Sorace, 2011; Sorace & Filiaci, 2006), within the generative framework, claims that phenomena located at external interfaces, such as syntax–pragmatics or syntax–discourse, are more vulnerable in bilingual populations than phenomena pertaining to core syntax or to internal interfaces, such as syntax–phonology or syntax–semantics.7 The reasoning behind this hypothesis is that it is more costly to process two different types of information. This is especially problematic for bilinguals, who already suffer from processing limitations as a result of the simultaneous activation of two languages. Since the relation between verb type and word order has both a syntactic and a semantic element to it, it is generally considered to pertain to the internal interface between syntax and (lexico–)semantics (following Hertel, 2003; Parafita-Couto et al., 2015). Focus, on the other hand, given its relation to discourse, is usually regarded as an external interface phenomenon (following Roggia, 2011; Domínguez, 2013; Zapata et al., 2005, among others). As for definiteness, I agree with Rothman and Slabakova (2011) that “[w]hen definiteness is based on previous mention of a referent, its calculation is also discourse-based” (p. 571). The effect of definiteness on word order therefore also belongs to the external interface between syntax and discourse–pragmatics. Following this line of thought, the Interface Hypothesis would predict verb type, an internal interface phenomenon, to be robust, and focus and definiteness, two external interface properties, to be vulnerable. This is in line with the results for the English-dominant heritage speakers, but not entirely for the Dutch-dominant group, who did show sensitivity to definiteness.

7 The original version of the Interface Hypothesis only distinguished broadly between narrow syntax and all interfaces (Sorace & Filiaci, 2006), but a revised version (Sorace & Serratrice, 2009; Tsimpli & Sorace, 2006; White, 2009) made a further distinction between internal and external interfaces, the latter of which were argued to be particularly vulnerable.
If we take a more usage-based perspective, it could also be the case that the differential vulnerability between factors is not due to linguistic properties of the factors themselves, but to the availability of evidence for each factor in the input. This is the approach taken by scholars such as O’Grady et al. (2011) and de Prada Pérez (2019), who claim that for linguistic structures with a very opaque form–meaning mapping, a large amount of input is necessary. Given that heritage speakers receive significantly less input than monolingual speakers, it may be the case that the input is simply insufficient for them to completely acquire (or maintain throughout life) structures with very non-transparent form–meaning mappings. On this account, one might expect those constructions that are most categorically distributed in the input to be least affected in heritage speakers. In order to evaluate the applicability of this hypothesis to the present study’s results, we must determine how categorical each of these features is. One way of doing so is by looking at their effect size in the monolingual data. The respective effect sizes for each factor in judgment and production are summarized in table 7.5.

Table 7.5. Effect sizes for each factor in the monolingual control group.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Judgment</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verb type</td>
<td>β=0.83</td>
<td>β=2.57</td>
</tr>
<tr>
<td>Focus</td>
<td>β=0.47</td>
<td>β=1.34</td>
</tr>
<tr>
<td>Definiteness</td>
<td>β=0.27</td>
<td>β=1.25</td>
</tr>
</tbody>
</table>

Although there is no way to statistically test whether one factor is significantly stronger than the other, this table shows that verb type is the strongest predictor for word order in monolinguals, in both judgment and production. The effect sizes for focus and definiteness are both considerably lower. Based on this pattern, verb type is expected to be the most robust factor, which is in line with our findings. Focus and definiteness should both be more vulnerable. This pattern, like the pattern predicted by the Interface Hypothesis, is in line with the results for the English-dominant group, but not for the Dutch-dominant group.

So, it seems that theories that try to explain vulnerability by focusing exclusively on properties of the heritage language itself, be it linguistic properties or properties related to the input, are not able to completely account for the data presented in this chapter; while such theories are compatible with the pattern attested in the English-dominant group, they are not entirely in line with that of the Dutch-dominant group. This is because neither of these theories takes into account the role of the specific dominant language.

---

8 I am aware that a more representative indication of the input heritage speakers receive would be to look at data by first generation immigrants. However, with the data at hand, the best way to approach this question is by using the results from the monolingual group.

9 It must be noted that the results are consistent with a previous version of the Interface Hypothesis, in which the problem with interfaces was considered to stem not from processing limitations, but from representational differences. In this version of the hypothesis, vulnerability at the external interface was expected only if the two grammatical systems differ with respect to the
This brings us to the second research question asked by this chapter: Do Dutch-dominant and English-dominant heritage speakers of Spanish differ with respect to their judgment and production of subject position with intransitive predicates in Spanish? Two hypotheses were formulated for this research question. First of all, a difference was predicted between English-dominant and Dutch-dominant heritage speakers of Spanish regarding their overall word order preference. The English-dominant group was expected to overgeneralize SV more than the Dutch-dominant group, based on the fact that English is more strictly SV than Dutch. This expectation was not borne out: in both tasks the two heritage groups behaved exactly the same as the control group when it comes to overall word order preferences. This means that the present study neither corroborated the overuse/overgeneralization for preverbal subjects found in previous research with English-dominant heritage Spanish speakers (Silva-Corvalán, 1993, 2001; Zapata et al., 2005; Hinch Nava, 2007; de Prada Perez & Pascual y Cabo, 2012), nor the overgeneralization of postverbal subjects by Dutch-dominant heritage speakers attested in chapters 5 and 6 (and reported in van Osch & Sleeman (2018b)).

Several factors may contribute to this departure from previous studies. First of all, the type of task may play a role. The US-based studies that most convincingly show an overgeneralization of preverbal subjects—Silva-Corvalán (1993, 2001) and Hinch-Nava (2007)—used (semi-) spontaneous production data. It may be the case that overgeneralization of a certain word order surfaces more clearly in spontaneous production than in more controlled tasks like the ones used in this study. Nevertheless, the studies presented in chapters 5 and 6 used a design very similar to the present study and yet demonstrated an overgeneralization of VS for Dutch-dominant heritage speakers, a finding that the present study failed to replicate. This difference may be related to the heritage speakers’ profiles. Most of the Dutch-dominant participants in the present study grew up in all-Spanish-speaking homes, whereas the majority of the participants in chapters 5 and 6 grew up in mixed families. Heritage children growing up in all-Spanish-speaking homes are often barely exposed to the majority language until the moment they start school, while children growing up in mixed families are exposed to both languages from birth. This means that the participants in this study and those of chapters 5 and 6 differ with respect to the amount of input received in the heritage language in childhood, and possibly also with the age of onset of bilingualism, two factors that have been associated with the phenomenon in question. Given that Spanish and Dutch are more similar regarding the definiteness effect on word order than Spanish and English, on this account it makes sense that only the English-dominant heritage speakers have problems with definiteness.

An interesting discrepancy arose, however, between the judgment data and the production data. In the production task all groups produced SV more often than VS across conditions. This prevalence of SV may indicate some kind of default. After all, SVO is the basic and most common word order in Spanish. However, this prevalence for SV was not replicated in the judgment data, possibly because the explicit presentation of both sentence types made participants more aware of the availability of the VS option.
degree of divergence in heritage speakers (e.g., Irizarri van Suchtelen, 2016; Montrul, 2008a; Unsworth et al., 2014). Thus, if the heritage speakers in this study had received more input in their respective societal languages, perhaps we would have found more evidence for an overgeneralization of either order. This hypothesis remains to be confirmed by future research.

In sum, no evidence was found for cross-linguistic influence from the majority language at the level of overall word order preferences.

The second hypothesis with respect to transfer from the dominant language regarded the sensitivity to the linguistic factors determining word order in Spanish: verb type, focus and definiteness. For verb type and focus, no difference was expected between the two heritage speaker groups, because English and Dutch behave similarly with respect to these two factors (i.e., in both languages the difference between unergative and unaccusative verbs and the difference between broad and narrow focus types are expressed in other ways than through word order). This expectation was borne out by the results: verb type was robust in both groups, while focus was vulnerable in both groups. For definiteness on the other hand, a difference was predicted to arise between the two heritage speaker groups. Based on the fact that Dutch exhibits a more widespread relation between definiteness and word order than English, it was hypothesized that, if transfer from the dominant language plays a role, English-dominant heritage speakers would have more problems recognizing the definiteness effect in their heritage language than their Dutch-dominant counterparts. This hypothesis was confirmed by the data: only the Dutch group showed significant knowledge of the effect of definiteness on word order in Spanish, and this effect was moreover significantly stronger than in the American group.

One might wonder whether the advantage for the Dutch group could be due to factors other than the majority language. After all, as mentioned in section 7.6.1, there were some differences between the two groups, which may have influenced their respective degrees of exposure and use of the heritage language. For instance, the Dutch group contained slightly more participants who were not born in the country of residence, and they had spent more time in Spanish-speaking countries during vacations and travels. This could mean that the Dutch group received more input in the heritage language, which in turn could explain their increased sensitivity to definiteness. On the other hand, more participants in the US group had lived in a predominantly Hispanic/Latino neighborhood and were raised in all-Spanish-speaking families, which could mean that the US group, and not the Dutch group, received more input in Spanish. Fortunately, the background questionnaire included detailed questions about the amount of input and use of both languages in different contexts—at home, at school/work, outside of the home, etc.—and for different age ranges: 0–5 years old, 6–12 years old, 13–18 years old and at the participants’ present age. An analysis of these data shows that there was no significant difference between the two groups in the amount of input or use of Spanish at home until age 5. After this age, however, we see a difference arise between the two groups: between 6 years old and the age at testing, the English-dominant heritage speakers reported more
input in Spanish at home, and they also used more Spanish at home than the Dutch group. There were no differences between the two groups in terms of input and use of Spanish at school, at work, or in their free time in either age range, nor were there differences with respect to the amount of input or use of Spanish through other activities such as reading, writing or listening to music. The only exception was the amount of exposure in Spanish through TV/movies, which was higher in the US group than in the Dutch group. In sum, it seems that, if anything, the Dutch group received somewhat less input in Spanish than the American group. It is thus safe to say that the heightened sensitivity to the effect of definiteness on word order found in the Dutch-dominant heritage speakers is not caused by more exposure to the heritage language in these speakers. This sensitivity is more likely to be related to influence from the majority language. This means that the vulnerability of definiteness found in American heritage speakers of Spanish has to do, at least to some degree, with the fact that the relation between word order and definiteness is nearly absent in English.

Based on the data presented here, I propose that, to fully account for differential vulnerability in heritage speakers, we need to look both at properties inherent to the heritage language and to properties of the specific majority language. The finding that focus is more vulnerable than verb type is most likely caused by differences between these two factors that are inherent to the language. Whether these differences are related to structural properties, as proposed by theories like the Interface Hypothesis, or to properties in the input, as usage-based theories would propose, is a question I leave for future research. On the other hand, the fact that definiteness was vulnerable in the English-dominant group, but not in the Dutch-dominant group is evidence that the specific majority language also influences one’s heritage grammar. A complete theory about vulnerability in heritage grammars should therefore take into account properties of the heritage language as well as properties pertaining to the specific majority language.

Note that the present study cannot fully rule out a possible role for cross-linguistic influence from the majority language on the acquisition of focus and verb type, given that both these factors work similarly in Dutch and English. Indeed, it is quite possible that heritage speakers of Spanish with a majority language that instantiates focus through word order in the same way as Spanish does will have less difficulty acquiring this phenomenon in their heritage language. To explore this question further, future research should include majority languages that encode focus and/or verb type more similarly to the way Spanish does.

7.9 Conclusion

This study investigated the knowledge of subject position in heritage speakers of Spanish in two different linguistic contexts. The results showed that not all factors determining word order in Spanish are equally resistant to the effects of reduced input and language contact. While the effect of verb type was robust, the effect of focus was vulnerable. The explanation for this difference probably concerns properties inherent to the heritage language: either linguistic properties or input-
related properties, or possibly both. As for the effect of definiteness on word order, an interesting asymmetry arose between heritage speakers with different majority languages. While Dutch-dominant heritage speakers were sensitive to the effect of definiteness, their English-dominant counterparts were not. This difference is most likely attributable to structural differences between the two majority languages under consideration. These findings imply that a comprehensive theory aiming to explain and predict differential vulnerability in bilingual populations cannot ignore the possible role for cross-linguistic influence from the majority language, and they underscore the importance of expanding our data pool to include many more language combinations.
Chapter 8
Discussion and conclusion

This dissertation has dealt with vulnerability in Spanish as a heritage language in the Netherlands. As described in the introduction, decades of research in heritage language have already demonstrated that heritage languages can differ from their monolingual baselines in many ways. This is old news by now. The time has come to start digging deeper to understand the nuances of this divergence: what do we know about the underlying cognitive processes causing the deviations? Why are there such immense differences between individual heritage speakers, as well as between heritage communities? How can we explain that certain elements of linguistic knowledge are robust in heritage speakers, whereas others are vulnerable?

This last question was the main research topic in this dissertation. I have approached this topic from the perspective of the Interface Hypothesis, which predicts phenomena located at the interfaces, in particular the external interface between syntax and discourse–pragmatics, to be especially vulnerable in bilingual populations. I have focused on a relatively understudied population, namely heritage speakers of Spanish in the Netherlands.

While the findings from the studies presented here provide some support for vulnerability at the interfaces, they also show that the real answer to this question is much more complex than a simple ‘yes’ or ‘no’. The degree and the type of vulnerability depends on many other variables that are external to the language itself, for instance, the specific task that is used and the type of knowledge that is targeted (implicit or explicit); the country of residence (the Netherlands vs. the United States) and what majority language is spoken there, the amount of input received in early childhood, and the age at which a testing takes place (in childhood vs in adulthood). Moreover, a comparison with L2 speakers reveals that vulnerability does not manifest itself similarly in all bilingual populations; the age of onset of the weaker language plays a role as well.

In this chapter, the main findings of the studies presented in this dissertation will now be summarized and discussed, divided into subsections. Each subsection discusses a different variable that plays a role in explaining vulnerability: interface location, task effects, the host country, the majority language, the type of bilingual and the age at testing. Meanwhile, I will point out which questions still remain and formulate some implications for future research.

8.1 Vulnerability at the interfaces

The main research question posed in this dissertation was whether we can find evidence for vulnerability at the interfaces between syntax and other domains. In its initial version, (Sorace, 2005), the Interface Hypothesis predicted vulnerability in all interfaces alike in bilingual populations. A revised version (Tsimpli & Sorace, 2006)
distinguished between internal and external interfaces and maintained that the external interfaces were particularly problematic. I have addressed this question by looking at two phenomena that lie at the crossroads of multiple interfaces, namely mood and subject position. Each of these two phenomena has various different (interface and non-interface) functions, which could be tested separately. This design allowed for a comparison between syntax and different (internal and external) interfaces within a single phenomenon, whilst keeping other variables constant. The next two subsections will summarize the findings for each of these two phenomena.

8.1.1 Mood
Chapters 2, 3, and 4 focused on Spanish mood in three different contexts, each of which pertains to a different interface location. The syntax condition contained sentences in which the predicate in the main clause obligatorily selects the mood in the complement clause: episodic predicates targeting indicative mood and volitional predicates targeting subjunctive mood. The syntax–semantics (internal) interface condition contained sentences in which the mood in the relative clause depends on the specificity of the antecedent. Finally, the syntax–pragmatics (external) interface condition contained negated sentences with epistemic, communication and perception predicates, in which the mood in the embedded clause depends on the speaker’s commitment to the truth of the proposition. Given that this phenomenon entailed a unique comparison between syntax, syntax–semantics (an internal interface) and syntax–pragmatics (an external interface), all within the same structure, it served as an ideal test case for the Interface Hypothesis.

The combined results from chapters 2, 3, and 4 suggest that mood is most robust in the syntax condition and most vulnerable in the external interface condition, in both heritage speakers and L2 speakers of Spanish. Some of the results indicate that, while the internal interface is less vulnerable than the external interface, it is still more vulnerable than syntax proper, pointing to a three-step hierarchy between the three conditions. This supports both version 1 of the Interface Hypothesis (which attributes vulnerability to all interfaces) and version 2 (which predicts the external interfaces to be particularly problematic). However, it must be noted that there were slight differences depending on the task, which will be discussed in more detail in section 8.2.

8.1.2. Subject position
The second interface phenomenon examined in this dissertation was the position of the subject relative to the verb in intransitive sentences. This was the topic of investigation in the studies presented in chapters 5, 6, and 7. Subject position depends on several linguistic factors, three of which were investigated: verb type, focus type, and definiteness of the subject. Given that verb type is related to the syntactic as well as the semantic properties of the verb, it is considered to be a syntax–semantics interface factor. Focus and definiteness are both related to discourse and pragmatics and as such pertain to the external syntax–discourse/pragmatics interface. Thus, unlike mood, this phenomenon does not have an exclusively syntactic
aspect to it, but verb type represents an internal interface, while both focus and definiteness represent an external interface. According to the revised version of the Interface Hypothesis, we would therefore predict focus and definiteness to be more vulnerable than verb type.

The combined findings from chapters 5, 6, and 7 show that verb type is very robust: all heritage speakers demonstrate knowledge of verb type, irrespective of task, majority language, amount of input, and age at testing (except for the youngest group in chapter 6, who were not yet sensitive to any of the factors). The relative stability of verb type corresponds well to the predictions made by the Interface Hypothesis. The results for focus and definiteness on the other hand are less straightforward: while chapter 5 reports knowledge of focus in adult heritage speakers, chapter 7 does not, and chapter 6 shows that knowledge of focus depends on the age at testing: the adult heritage speakers show sensitivity to this factor, but their child counterparts do not. For definiteness, chapters 5 and 6 indicate that adult heritage speakers are not sensitive to definiteness, while chapter 7 shows that they are, but this is true only of only the Dutch-dominant speakers, not the English-dominant ones. Moreover, chapter 6 reports that knowledge of definiteness differs between age groups: only child heritage speakers are sensitive to definiteness; their adult counterparts are not. These results suggest that focus and definiteness are indeed more vulnerable than verb type, but that the effects are modulated by various other factors, such as the tasks used, transfer from the majority language, and the age at testing.

In sum, although many language-external variables play a role in determining vulnerability in heritage speakers, the data for these two phenomena provide some support for increased vulnerability at the interfaces, particularly the external interface. The logical follow-up question is: why do we find this pattern? What is so special about interfaces? The next subsection will reflect on the underlying cause of interface vulnerability.

8.1.3. How to explain interface vulnerability?
In the introduction of this dissertation, two possible accounts were mentioned that may explain vulnerability at the interfaces. In the initial stage of the Interface Hypothesis, the difficulty at the interface was considered to be representational in nature (Tsimpli et al., 2004). Later, it was proposed that the problem lies in the processing limitations that come with being a bilingual. Sorace (2011) proposes that the external interfaces require the integration of different types of information, which puts a strain on the processor. Given that bilinguals constantly have to switch between languages and inhibit one language while they speak the other, they may not have the processing capacity available for such cognitively demanding structures. This hypothesis is supported by studies demonstrating overextension of subject pronouns by bilinguals of two null subject languages, such as Italian and Spanish (Bini,
1993; Sorace & Serratrice, 2009), Greek and Spanish (Margaza & Bel, 2006; Lozano, 2006), or Brazilian Portuguese and Spanish (Guido Mendes & Iribarren, 2007). The two explanations make different predictions: on a representational account, vulnerability is expected only if the two languages in contact differ with respect to the phenomenon in question. On a processing account, in contrast, vulnerability at the interfaces is expected regardless of the specific language combination. One way to differentiate between these two accounts is thus by comparing different language pairings. Chapter 7 of this dissertation compared Dutch-dominant and English-dominant heritage speakers of Spanish. As will be discussed in more detail in section 8.4, knowledge of the effect of definiteness on subject position in Spanish was vulnerable in English-dominant but not Dutch-dominant heritage speakers, arguably due to differences between the two majority languages. This finding suggests that the divergence found in the English-dominant heritage speakers pertains, at least partially, to the level of representation. After all, if vulnerability were entirely due to the mere fact of being bilingual and the concomitant processing constraints, no difference between the two heritage groups should occur.

However, this dissertation also provides some support for a processing-based account of interface vulnerability. Hopp (2009) explains that, if processing difficulties are involved in the difficulties at the external interface, we would predict tasks that place higher demands on the processor to provoke more divergence in bilinguals. The study presented in chapter 3 of this dissertation used both an acceptability judgment task and an elicited oral production task. If oral production tasks can be assumed to be more cognitively demanding, due to the time pressure involved, we would thus expect more divergence in this task. As discussed more extensively in section 8.2.2 of this chapter, this is exactly what we find for the subjunctive.

In sum, the data presented in this dissertation suggest that both representation and processing difficulties are involved in interface vulnerability. I therefore agree with Sorace (2011) that the two accounts need not be mutually exclusive; it is plausible that the full explanation includes an intricate interaction between representation, processing and possibly other factors.

8.1.4 Alternative explanations
While the findings in this dissertation are in consonance with some sort of special status for the interfaces, particularly the external interface, this does not mean that the explanation offered by the Interface Hypothesis is the only way to account for them. It is worth exploring whether other factors may also play a role. Some theories relate linguistic vulnerability to the evidence in the input. O'Grady et al., (2011), for instance, propose that the degree of vulnerability of a given linguistic phenomenon is determined by the strength of its form-meaning mapping, which in turn depends on

---

1 However, Filiaci, Sorace and Carreiras (2014) have demonstrated that, while the division of labor between null and overt pronouns in Spanish and Italian is similar, it is not identical. We should thus be cautious in accepting results like these as evidence against a representational account.
Discussion and conclusion

input-related factors such as transparency, frequency, and salience. In a similar vein, de Prada Pérez (2019) argues that the variability in the distribution of a construction determines its permeability in bilingual language acquisition: the more categorical, the stronger the evidence in the input. As discussed in chapter 2 (for the subjunctive), and chapter 7 (for subject position), precisely those conditions that were shown to be vulnerable in the heritage speakers in this dissertation manifest a more variable distribution in the monolingual control groups, suggesting that the evidence for these constructions in the input heritage speakers receive is less clear.

If we wanted to distinguish between these two factors—interface location and evidence in the input—we would have to look either at phenomena that are located at the external interface and yet are transparent and categorical in the input, or conversely at purely syntactic constructions with opaque form-meaning mappings and a variable distribution. However, whether such phenomena exist is questionable, given that the two factors are likely to correlate with one another: interface phenomena by definition have a variable distribution given that their interpretation depends on the context. This may thus prove to be a very challenging conundrum.

In conclusion, the findings presented in this dissertation show some support for vulnerability at the interfaces, particularly the external interface between syntax and discourse–pragmatics. However, based on the available data we cannot know for sure whether this vulnerability is due to the interface location per se, or to input-related factors that may be inherently connected to it.

What complicates matters further is the fact that interface vulnerability is modulated by various factors that are external to the heritage language, such as the task used, characteristics of the heritage community and the host country, influence from the majority language, the amount of input and the age at which testing takes place. The remainder of this chapter will discuss these language-external factors in detail, starting with the effect of task.

8.2 The effect of task

This subsection discusses the role played by the type of task in heritage speakers’ divergence. Task effects are widely attested in linguistic research, with all kinds of populations (e.g., Bowles, 2011; Paradis, 2010). This dissertation contains several instances of task effects. First of all, the mode of presentation of the target sentences (auditory vs written) was found to differentially influence the results for focus in chapters 5 and 7. I will argue that this may be related to an effect of prosody. Moreover, on several occasions in this dissertation, different results are reported for judgment and production tasks. In what follows, I will discuss these two task effects separately.

Some studies attempting to disentangle between interface location and other related factors are Laleko & Polinsky (2016) and Wilke (2018).
8.2.1 Effect of prosody
The effect of prosody becomes clear when we compare the results for focus attested in chapters 5 and 7. The study presented in chapter 5 (and partially in chapter 6, for the adult heritage speakers’ data) attests knowledge of focus for adult heritage speakers in the Netherlands, while the study reported in chapter 7 fails to demonstrate this result in the same population. I would like to argue that this difference is likely to be related to an unforeseen effect of prosody in the study in chapter 5. Although this study used an acceptability judgment task very similar to the one presented in chapter 7, a crucial difference lies in the presentation of the target sentences. In the study discussed in chapter 5 the two target sentences were presented both in written and auditory form, whereas in the study from chapter 7 they appeared exclusively in written form. I believe that the sensitivity to focus attested in chapter 5 may reflect not (only) knowledge of the relation between focus and subject position, but an unforeseen effect of prosody. Here is why. Some studies have shown that in Spanish transitive sentences, narrow focus on the subject can also be expressed using prosodic stress on the (preverbal) subject (e.g., Gabriel, 2010; Hoot, 2012; Muntendam, 2009) instead of inversion. It may be that this applies to intransitive sentences as well, although I have not been able to find literature that confirms this. The target sentences in the study from chapter 5 were recorded by a native speaker of Spanish who was instructed to use neutral intonation, with the intention of ruling out any effect of prosody. However, ironically enough, it may have just had the opposite effect, because the ‘neutral intonation’ entailed a slight prosodic stress on the second element of the sentence, which, in VS sentences, was the subject (e.g., llegó el niño – ‘arrived the boy’), and, in SV sentences, the verb (e.g., el niño llegó – ‘the boy arrived’). If narrow focus on the subject can indeed be expressed by means of a stressed preverbal subject in intransitive sentences just as in transitive sentences, an unstressed preverbal subject (“el niño llegó”) in the narrow focus condition becomes infelicitous from a prosodic point of view. So now there are two cues indicating that the sentence is infelicitous: the position of on the subject (SV instead of VS) as well as the prosodic stress pattern (on the verb instead of the subject). It is possible that the heritage speakers rejected these sentences (at least in part) based on prosody, rather than on subject position.

In the judgment task used in chapter 7, participants did not hear the sentences at all, they only read them. This allowed them to internally apply prosodic stress to preverbal subjects in the narrow focus condition (el niño llegó – ‘the boy arrived’), thus increasing their acceptability, and possibly cancelling out the difference in rating between the two sentences.

Fortunately, chapter 7 included elicited production data as well, which we can analyze to check whether participants indeed applied stress on the preverbal subject in the narrow focus condition when they had to produce the sentences. It was outside the scope of this dissertation to conduct sophisticated phonetic analyses, but all preverbal subject responses were listened to and coded for prosodic stress. The results are depicted in figure 8.1.
Figure 8.1. Stressed and unstressed subjects in broad and narrow focus for the three groups (elicited production).

The graph confirms my suspicion that participants are indeed able to use stress on the preverbal subject to mark narrow focus. This goes for both monolingual speakers as well as for both groups of heritage speakers (Dutch and American) alike. However, as the graph shows, besides prosody, monolinguals also use subject position to distinguish between broad and narrow focus: they produce VS more often in narrow than in broad focus. This means that focus in monolingual Spanish is actually located at the three-way interface between syntax, discourse, and prosody. Unlike the monolinguals, the heritage speaker groups do not use VS more often in narrow focus than in broad focus, but they do use prosodic stress on the preverbal subject. For the heritage speakers, prosody may thus be the only possible way to mark narrow focus in this task. This makes sense given that it is the only means to express focus available in their dominant languages, English and Dutch. However, it raises doubt on the claims made by the Interface Hypothesis, given that prosody is also considered to be a language-external domain. Since prosody was not a main variable of interest in the studies presented in this dissertation, further research is necessary to examine the exact way in which prosody interacts with focus in both monolingual and heritage speakers of Spanish. Nevertheless, these results clearly demonstrate that prosody plays a role in marking focus and that it should not be neglected in future studies on the topic.

8.2.2 Judgment vs. production

Another task effect concerns a difference between judgment and production. The study reported in chapter 3 demonstrated a difference between these two task types.
when it comes to heritage speakers’ knowledge of the subjunctive. In the acceptability judgment task, although there were quantitative differences with monolingual speakers, the heritage speakers accurately rated the subjunctive significantly higher than the indicative in relative clauses with non-specific antecedents. But the same speakers did not significantly produce the subjunctive more often than the indicative in the same condition in the elicited production task. Moreover, in the negation context, they produced more indicative verbs than subjunctive ones (almost significantly) in the condition that targeted subjunctive, while in judgment they rated both moods equally high in the same condition. How can we explain this task effect? The results of the judgment task suggest that heritage speakers possess accurate knowledge about mood in relative clauses; they know that a subjunctive verb is required when the antecedent is non-specific. However, they are somehow not able to access this knowledge in the same way in real time in a production task, which might imply that the divergence occurs at the processing level rather than at the representational level, as suggested in section 8.1.3. This dissociation between representation and processing (or competence and performance) is reminiscent of the Missing Surface Inflection Hypothesis (Haznedar & Schwartz, 1997; Prévost & White, 2000), a theory about second language acquisition that maintains that L2 learners have intact knowledge of abstract grammatical features but run into processing problems when mapping these features onto their surface forms in production, causing them to resort to default forms. On this account, the claim would be that knowledge is indeed present (as evidenced by accuracy in judgment tasks), but that it is simply not always accessible during oral production.

However, one might wonder to what extent untimed written tasks like the acceptability judgment task used in this study are truly representative of actual linguistic competence. Research suggests that untimed meta-linguistic tasks that focus on accuracy of form (such as the judgment task used in this dissertation) are more likely to tap into explicit knowledge, while timed tasks that focus on meaning (like the oral production task used in this dissertation) measure implicit knowledge (Ellis, 2009). This suggests that the knowledge possessed by the heritage speakers in this study is more explicit than implicit. Interestingly, this finding contradicts research with heritage speakers of Spanish in the United States (Montrul, 2011; Bowles, 2011; Montrul, Foote & Perpiñán, 2008a), which generally reports the opposite pattern: more divergence in heritage speakers in explicit (and typically written) tasks than in implicit (and typically oral production) tasks. Many of these previous studies have juxtaposed heritage speakers against L2 speakers and have demonstrated differential task preferences for the two groups. While heritage speakers have been found to deviate more on explicit (and written tasks), L2 speakers diverge more on implicit

---

3 A similar effect was not observed for subject position, as heritage speakers did not deviate more in production than in judgment. However, all three groups, including the monolinguals, preferred preverbal subjects in production but not in judgment, a finding that can probably be explained by the simultaneous presentation of the two sentences in the judgment task, which may have made the participants aware of the possibility of VS order.
Discussion and conclusion

(often oral production) tasks (Bowles 2011; Montrul, 2009b; 2011a; Montrul, Foote, & Perpiñán, 2008a; Montrul, Davidson, De La Fuente, & Foote, 2014), a finding that is accounted for by differences between the two populations regarding age of onset, manner of acquisition (explicit instruction vs. naturalistic exposure) and mode of exposure (written vs. spoken/oral language).

Chapter 4 of this dissertation describes a comparison between heritage and L2 speakers of Spanish in the Netherlands. Both groups performed an acceptability judgment task that was assumed to test explicit knowledge, and an elicited production task that tapped into more implicit knowledge. In this study, the effect of language mode (written vs. oral) was taken out of the equation by presenting all items simultaneously written and auditorily. Between-group comparisons within each task confirmed the findings from previous studies in the US in that heritage speakers outperform the L2 speakers in the implicit task and vice versa in the explicit task. This provides support for the claim that early acquisition of a language results in a type of knowledge that is qualitatively different from (more implicit than) the knowledge resulting from late acquisition (Bley-Vroman, 1990; Penfield & Roberts, 1959; Lenneberg, 1967).

However, based on previous research, one would also expect to find differential task effects in a within-group comparison. Many studies in the US (Montrul, 2011a, Bowles, 2011; Montrul, Foote, & Perpiñán, 2008a) have reported that L2 speakers diverge more on implicit tasks than on explicit tasks, and that heritage speakers diverge more on explicit tasks than on implicit tasks. This pattern is confirmed for the L2 speakers in this dissertation, but not for the heritage speakers, who show more deviation in the implicit production task than in the explicit judgment task (at least in some conditions). While this may be puzzling at first sight, I argue that this departure from US-based studies may be related to the fact that the present study was conducted in a different socio-linguistic environment. The importance of the specific societal circumstances in the host country will be considered in the next subsection.

8.3 The role of the host country and the immigrant community

There are certain important differences between the two heritage Spanish communities in the Netherlands and the US. In chapter 3, I discussed the possibility that heritage speakers in the Netherlands may have higher meta-linguistic awareness than their American peers as a result of the more pronounced presence of foreign languages in the Dutch educational system and in the media. This may explain their relative advantage with metalinguistic, explicit language tasks. At the same time, they may be at a disadvantage when it comes to oral production. While there are large Spanish-speaking communities in several regions in the US (Florida, New York City, Southern California), in which Spanish is very much a part of everyday life, these types of communities do not exist in the Netherlands. It may thus be that some of the heritage speakers in the American studies have access to more, and more varied, input, and have more experience speaking the language than their Dutch counterparts. This would explain why the Dutch heritage speakers tested in this
dissertation do not show the relative advantage in oral production that is typically reported in studies on heritage Spanish in the US.

The role of community type and size is also mentioned by Kupisch and Rothman (2018) and Kupisch (2013). These authors point out a discrepancy between findings from heritage speaker research in the US and Europe: while studies on heritage languages in the US generally report deviation from a monolingual norm, European studies tend to emphasize similarities with monolinguals. To illustrate this, Kupisch and Rothman (2018) summarize a series of studies by Kupisch and colleagues in which heritage speakers of Italian and French in Germany are compared with their respective mirror images, that is, heritage speakers of German in Italy and France (Kupisch et al., 2013, 2014; Barton, 2015; Lein, Kupisch, & van de Weijer, 2016). These studies demonstrate that, especially the heritage speakers of French, who had received more formal education in their heritage language, performed quite similarly to the baseline group. Apart from possible methodological differences between the studies conducted in the US and in Europe, Kupisch and Rothman (2018) allude to the possibility that “[...] the former [group] often focuses on large minority communities with comparatively low prestige, whereas many studies of early bilinguals in Europe have looked at comparatively smaller communities and more prestigious languages (Romance languages in Germany, for instance)” (Kupisch & Rothman, 2018:578). This means that differences in terms of input and socio-economic status are practically inevitable.

If the size, type, and social prestige of heritage communities indeed play an important role in explaining divergence, it makes sense to look at heritage languages of larger and more marginalized ethnic minority groups in Europe. We would expect those languages to exhibit higher degrees of divergence, similar to Spanish, Russian and Chinese in the US. Turkish is an example of such a language: the Turkish communities in European countries tend to be large and relatively dense, and they generally suffer from low prestige in their respective host countries. A vast number of studies indeed confirms that heritage Turkish in the Netherlands and Germany deviate from the monolingual baseline in several ways (e.g., Fritsche, 1982; Fritsche, 1982; Extra & Verhoef, 1993; Doğruöz & Backus, 2009; Rehbein et al., 2009; Onar Valk, 2015).4

So far, the picture painted here thus suggests that characteristics of the specific immigrant community can influence the way heritage languages are acquired and maintained. However, to properly corroborate such a claim, comparative studies should be conducted, examining the same heritage language in different geographical areas5 and countries, or even on different continents. Heritage Spanish makes for an interesting test case, because the Spanish-speaking immigrant communities in the US and in Europe exhibit considerable sociolinguistic differences. Chapter 7 of this dissertation describes such a comparison, testing heritage speakers in the

---

4 But see Kupisch et al. (2017) for a counterexample.
5 Moro (2016) describes an interesting comparison between heritage speakers of Ambon Malay who grew up in Moluccan wards (municipalities) in the Netherlands and those who grew up outside such wards, demonstrating less divergence for the former group.
Netherlands and in New Jersey, using the exact same tasks. Since the focus in chapter 7 was on transfer from the majority languages (which will be discussed in the next subsection), the two participant groups were matched regarding their general proficiency in Spanish before comparing them on the phenomenon of interest: subject position. However, in light of what has been discussed in this section, it may be interesting to compare the two groups with respect to their general proficiency in Spanish, which was measured by means of the DELE (Diploma de Español como Lengua Extranjera) and a lexical decision task. Two Wilcoxon signed rank tests reveal that the Dutch heritage speakers scored significantly better than their US counterparts on the DELE (37.25 vs. 33.72, W=447, p=.03) but not on the lexical decision task (107.6 vs. 104.93, W=363, p=.55). The Dutch heritage speakers thus have an advantage over their American counterparts, but only on the DELE, which is the more meta-linguistic task of the two. This fits nicely with the suggestion made at the beginning of this section that Dutch heritage speakers have higher meta-linguistic awareness due to increased experience with, and exposure to, foreign languages.

To conclude, some of the results in this dissertation certainly suggest that characteristics of the immigrant community and the host country may play an important role in explaining variability between heritage languages. This should be examined with greater scrutiny by means of direct comparisons of the same heritage language in different societies. These types of comparisons are interesting for another reason as well: they allow for an investigation of the effect of transfer from the majority languages, which is the topic of discussion in the next section.

8.4 The role of the majority language

Since adult heritage speakers are typically dominant in the majority language of the society, many of the deviations attested in their heritage language are often attributed to influence from their dominant language. To name a few, reduction in the gender system in heritage Russian (Polinsky, 2008), loss of case marking in heritage Korean (O’Grady et al., 2011), and an impoverished verbal system in heritage Spanish (Silva-Corvalán, 2003) may be explained by the lack of gender and case marking and the simplicity of the verbal system in English, the dominant language in these cases. However, the same phenomena may just as well be explained by simplification: a universal process whereby the more complex or unmarked elements of language are weakened as a result of reduced input and activation. Given the morphological simplicity of English, which is the majority language in the bulk of heritage language research, it is difficult to disentangle simplification from dominant language transfer in these cases.

The studies presented in this dissertation offer new insight into this question by introducing a relatively new language pair, namely Spanish-Dutch. Although Dutch and English are typologically similar languages, there are some differences between

---

6 The matching of the two groups was done based on the results for the lexical decision task only.
7 The same language combination is studied in Pablo Irizarri van Suchtelen’s (2016) dissertation on Chilean heritage speakers of Spanish in the Netherlands.
the two languages relevant to one of the phenomena discussed in this dissertation, namely subject position. One of these differences concerns the relation between definiteness and word order. In Spanish, definite subjects tend to precede the verb, while indefinite subjects follow it. Dutch exhibits a similar definiteness effect, in that the there-insertion construction, which prompts VS order, is only possible with indefinite subjects. This construction exists in English as well, but it is more marked and restricted to a limited set of verbs. Dutch is therefore more similar to Spanish in this respect. Chapter 7 of this dissertation compared adult heritage speakers in the Netherlands to a group of adult heritage speakers in the US, as well as a to monolingual control group. The three groups were tested on their sensitivity to the three factors determining subject position in Spanish: verb type, focus and definiteness. The results from both judgment and production demonstrated that the Dutch-dominant heritage speakers were sensitive to definiteness, while their English-dominant counterparts were not, suggesting that the majority language affects the heritage language in this phenomenon. On the other hand, no differences between the two groups emerged for the other two factors under investigation—verb type and focus—which work similarly in Dutch and English.

The possible influence of the majority language onto Spanish word order is also discussed in chapters 5 and 6. The studies presented in these chapters show that both adult and child heritage speakers of Spanish in the Netherlands have a greater preference for sentences with VS than their age-matched monolingual counterparts, across conditions. This finding stands in contrast with studies on heritage Spanish in the US, which generally report an overuse of the SV order compared to the baseline (e.g., Silva-Corvalán 1993, 2001; Hinch Nava, 2007; Montrul, 2005). I proposed that this divergent finding may be caused by the fact that postverbal subjects are much more frequent in Dutch due to the V2-rule. However, chapter 7, which directly compared heritage speakers in the Netherlands and the US, did not replicate this finding: the Dutch-dominant heritage speakers did not prefer VS more in comparison to the English-dominant ones, or to the monolinguals for that matter. While this might be due to some unwarranted task effect, it may also reflect differences between the linguistic profiles of the heritage speakers in the different chapters: the participants in chapters 5 and 6 came from bilingual families whereas most of the participants in chapter 7 grew up in all-Spanish homes. There were thus important differences between the two groups regarding the amount of input they received in childhood.

The next section discusses this possibility in more detail.

8.5 The role of the amount of input

This section discusses how differences regarding the amount of exposure to the heritage language in childhood can be reflected in the outcome of heritage language acquisition. While this was not a main research question for this dissertation, it may be relevant for explaining some of the findings.

The studies presented in this dissertation included participants who grew up with two Spanish-speaking parents as well as participants from households where
only one parent spoke Spanish while the other parent spoke Dutch (mixed families). Although most definitions of heritage speakers include both these subtypes of heritage speakers, there are important differences between the two. Heritage children growing up in families where only the heritage language is spoken receive considerably more input in their heritage language than children born into mixed marriages. In some cases, they are barely even exposed to the majority language until the moment they start school, which makes them sequential bilinguals. Children growing up in mixed families, on the other hand, are always simultaneous bilinguals since they are exposed to both languages from birth. They receive relatively less input in the heritage language and more input in the majority language. Moreover, the degree of co-activation between the two languages can be expected to be higher in this type of bilinguals. Several studies point out that heritage speakers’ proficiency is affected by the age of onset of the majority language (simultaneous vs. sequential bilinguals) (Montrul, 2008a; van Osch, Hulk, Sleeman, & Irizarri van Suchtelen, 2014; Irizarri van Suchtelen, 2016) as well as the amount of input received in childhood (e.g., Unsworth et al., 2012; Rodina & Westergaard, 2017).

How does this relate to the findings in the present dissertation? Most of the Dutch participants in the studies described in this dissertation were raised in bilingual households, which means that they acquired their two languages simultaneously from birth. This was by far the most common profile I came across while recruiting participants in the Netherlands. However, the participants in chapter 7 displayed a different profile. This is because almost all of the heritage speakers tested in New Jersey were raised in all-Spanish families. During the subsequent data collection in the Netherlands, I specifically looked for participants with two Spanish-speaking parents to ensure comparability between the two heritage speaker groups. This may explain why the Dutch-dominant heritage speakers from chapter 7 did not replicate the overgeneralization of VS attested in chapters 5 and 6: they had received more input in Spanish in childhood. Given that they had two Spanish-speaking parents, some of them may even have been barely exposed to Dutch until age 4. There thus appears to be an interplay between cross-linguistic influence and input effects: those heritage speakers who received less input in Spanish exhibited more cross-linguistic influence from Dutch regarding word order preferences. What is more, the same heritage speakers from chapter 7 demonstrated sensitivity to the definiteness effect in Spanish, while the adult heritage speakers in chapters 5 and 6 did not. This difference, too, may be attributed to the difference in profile just described.

These coincidental findings stress the role of the amount of input. Those heritage speakers who were raised in bilingual households and thus received less input in the heritage language deviated from monolinguals when it came to overall word order preferences and sensitivity to definiteness. In contrast, the heritage speakers who grew up in all-Spanish speaking homes converged with the monolingual norm on the same phenomena.

---

8 But see Kupisch (2013) for a report on successful acquisition in simultaneous bilingual heritage speakers.
However, the amount of input received by heritage speakers is not static: it may change from one life phase to the next. For instance, many heritage speakers experience a sharp decrease in input in the heritage language when they start primary school (if they go to school in the majority language). Can we see these changes in the input reflected in the development of the heritage language? This is the topic of discussion in the next section.

8.6 The age at testing: A developmental perspective

Many heritage language definitions (e.g., Valdés, 2000) allude to a shift in dominance from the heritage language to the majority language when children start school. From this moment on, the input in the heritage language is drastically reduced for most heritage speakers. This reduction in input has been argued to potentially affect the heritage language in two ways: it can cause early acquired structures to suffer attrition (e.g., Polinsky, 2011), or it may interrupt the acquisition process of structures that are still developing, a process often referred to as incomplete acquisition (Montrul, 2002). Some scholars object to this view of heritage languages as ‘incomplete’ and argue that the differences with monolinguals are the result of complete acquisition of a different variety. This has also been labelled the Missing Input Divergence Hypothesis (Rothman, 2007; Pires & Rothman, 2009). On this account, deviations in heritage speakers are due to qualitative input differences, such as when structures are only present in particular registers to which heritage speakers are not exposed, or when structures in the input change as a result of attrition in the first generation. Given that most of the research has focused exclusively on adult heritage speakers, we cannot deduce much about the origin of the observed deviations.

To differentiate between these possible scenarios, one would ideally conduct longitudinal studies following child heritage speakers during their entire childhood, something that is not very feasible. A less time-consuming option, advocated by Polinsky (2018), is to compare child heritage speakers to adult heritage speakers and to a baseline of bilingual immigrants. In this way, we can disentangle between various possible scenarios: successful (monolingual-like) acquisition, delayed acquisition, attrition/reanalysis, incomplete acquisition, or complete acquisition of a different variety.

Chapter 6 describes such a cross-sectional study, but instead of only comparing one group of child heritage speakers to adults, 4 different age groups were included: 5-year-olds, 9-year-olds, 13-year-olds, and adults. The inclusion of the intermediary age groups allowed for a closer estimation of exactly when children acquire certain properties or potentially start to lose others. The study furthermore tested age-matched monolingual control groups (for all age groups except for the 5-year-olds). This was done because some structures are acquired late in monolingual acquisition. If a given property appears late in child heritage speakers, age-matched monolingual control groups can help differentiate between “typical” late acquisition and delayed acquisition due to reduced input.
The data presented in chapter 6 reveal different developmental pathways for the different variables associated with word order. Knowledge of verb type was shown to be relatively robust: it was attested in all heritage speaker groups except for the 5-year-olds, suggesting that it was acquired at some time between 5 and 9 years of age. Unfortunately, the study did not include 5-year-old monolingual children. However, there is considerable evidence in previous research showing that monolingual Spanish children distinguish between verb types before age 5 (e.g., Grinstead, 1998; Casielles-Suárez et al., 2006; Villa-García & Suárez-Palma, 2016), suggesting that the acquisition of verb type is slightly delayed in heritage language acquisition.

Focus was acquired even later by the heritage speakers: between ages 9 and 13. The control data showed that knowledge of this factor was already present in 9-year-old monolinguals, and some of the previous literature suggests that sensitivity to the effect of focus on word order emerges as early as age 5 (Pladevall-Ballester, 2010; Villa-García & Suárez-Palma, 2016). This would suggest that the acquisition of focus is delayed even more than verb type.

The delayed acquisition of these two factors implies that some properties of language can be eventually acquired by heritage speakers, but require a certain critical mass of input. As shown by the different degrees of delay for verb type and focus, the specific amount of input necessary may differ between properties, possibly depending on the linguistic complexity of the properties in question, an idea also alluded to by O’Grady et al. (2011). If complexity can be defined in terms of interface vulnerability, focus may be considered to be more complex than verb type due to the integration of discourse-pragmatic features. This would explain the increased delay for this property; more input is necessary to fully acquire it.

A different scenario was observed for the knowledge of the relation between definiteness and word order. The 9- and 13-year old heritage speakers showed sensitivity to definiteness, but the adult heritage speakers did not, suggesting that knowledge of this factor is lost rather late in life. I argued that this may be due to a relatively sharp decrease in input after heritage speakers leave their parental home. This implies that some properties of language can indeed be acquired by heritage speakers in early childhood despite reduced input, but need consistent input to be maintained throughout their lives.

Note that the baseline groups in chapter 6 consisted of monolingual speakers of Spanish, rather than of Spanish-dominant bilinguals. One might object that the data from adult monolinguals is not completely representative of the input heritage speakers receive (e.g., Polinsky & Kagan, 2007; Rothman & Treffers-Daller, 2014). As mentioned earlier, it may be that the Spanish spoken by the heritage speakers’ parents has changed under the influence of protracted contact with a second language (Dutch in this case). Indeed, several studies have observed differences between first-generation immigrants and monolingual speakers of the same language (e.g., Irizarri van Suchtelen, 2016; Montrul & Sánchez Walker, 2013). For this reason, many scholars favor the use of first-generation immigrants as a baseline (Polinsky, 2018). However, this approach raises another question, namely whether to test...
recent arrivers, whose L1 probably has not yet changed dramatically, or long-term immigrants, who are more likely to suffer from L1 attrition. While the former may be more representative of heritage speakers' input in early childhood, the latter may be a proxy for more recent input. That being said, it is worth considering whether the attested divergences in chapter 6 could be due to qualitatively different input. This is not likely to be the case for the three factors—verb type, focus and definiteness—given that for all three the target pattern is attested in at least one of the age groups. If these factors were not instantiated in the input, how could they have been acquired at all?

However, with regard to general word order preferences, we have to consider a possible role for qualitative input effects. Chapter 6 shows that heritage speakers in all age groups had a significantly greater preference for VS than their age-matched counterparts, except for the 5-year-olds, for which there was no control group. As discussed in section 8.4, the observed overgeneralization of postverbal subjects may be explained by the relatively high frequency of postverbal subjects in Dutch. The fact that this overgeneralization is attested in all age groups would then suggest continuous transfer from the majority language onto the heritage language, throughout all of childhood and adolescence. However, based on the data at hand we cannot rule out the possibility that this pattern was already present in the heritage speakers’ parents (though perhaps to a lesser extent) when they spoke Spanish with their children. This is something worth looking into in future research.

Summing up, this subsection has demonstrated that vulnerability in heritage speakers may differ depending on the age at which they are tested. Several different scenarios were shown to occur in heritage language development: attrition, delayed acquisition, and cross-linguistic influence, even within one and the same phenomenon. These findings moreover underscore the importance of including children’s data in heritage language research. Without these data, we would not have been able to tell whether the adult heritage speakers’ lack of sensitivity to definiteness was most likely due to attrition, arrested development, or complete acquisition of a qualitatively different variety. Moreover, without the inclusion of the intermediary age groups, we would have no idea at which age the properties under investigation were acquired/attrited. The findings also plead for the inclusion of age-matched monolingual control groups, especially for phenomena that are not very well documented in child acquisition research. Without these control groups, it would have been impossible to distinguish between delayed or monolingual-like acquisition of verb type and focus.

Now that several language-external factors have been considered, the next section will summarize the main findings of this dissertation, meanwhile providing some answers to the questions posed in the introduction as well as implications for future research.
8.7 Conclusion

In conclusion, this dissertation makes a valuable contribution to the heritage language acquisition literature by focusing on a relatively understudied population and language pair, namely heritage speakers of Spanish in the Netherlands. The aim was to uncover which factors play a role in explaining vulnerability in heritage language acquisition. Both language-internal and language-external factors were considered. The language-internal component entailed an innovative comparison between different linguistic domains, viz. syntax and the internal and external interfaces. Instead of comparing different phenomena with each other, I looked at phenomena that have different functions, pertaining to different interfaces (or to syntax proper). This allowed for a neat comparison within a single phenomenon, while keeping as many variables as possible constant. The first phenomenon, Spanish mood, was tested in a syntactic context, an internal interface context, and an external interface context. This unique design made it possible to simultaneously test both the original version of the Interface Hypothesis (which predicts vulnerability for all interfaces alike) and the revised version (which predicts particular vulnerability at the external interfaces). The findings regarding mood indicated a three-way hierarchy: from syntax as the least vulnerable domain to the external interface as the most vulnerable domain, and the internal interface in the middle. The data for the second phenomenon, subject position, confirmed the particular vulnerability at the external interface, given that two external interface factors determining subject position—focus and definiteness—were shown to be less robust in heritage speakers than verb type, an internal interface factor.

Apart from this language-internal component, the data from this dissertation revealed that a range of other factors, external to the heritage language, also contributed to vulnerability. First of all, the way in which the phenomena were tested influenced the results in several ways. For instance, heritage speakers diverged more from monolinguals regarding mood when they had to judge sentences than when they had to produce them. Moreover, judgments on subject inversion in narrow focus differed considerably depending on whether the target sentences were presented only in written form, or also auditorily. This task effect implied a crucial influence of prosody, a factor that is oftentimes neglected in studies investigating focus.

The findings from this dissertation also reveal that the same heritage language can have different characteristics depending on the host country. For instance, the relative advantage with the judgment task found in the heritage speakers of Spanish in this dissertation contrasted with the pattern generally reported for American heritage speakers (e.g., Bowles, 2011). I suggested that differences in the type and size of the heritage Spanish communities in the two respective host countries may account for this divergent result.

A direct comparison between heritage speakers in the Netherlands and in the US moreover unveiled differences between these two groups that could be traced back to differential cross-linguistic influence from the two majority languages. These findings underscore that we should not consider heritage speakers and their
languages as though they existed in a vacuum: the specific (socio-)linguistic circumstances may play a determining role.

To shed new light on the perennial question about the role of the age of onset in bilingualism, heritage speakers were compared to L2 speakers of Spanish. The observed differences between these two groups regarding their task preferences imply that early age of a second language results in a fundamentally different (more implicit) representation of knowledge than late acquisition.

Finally, this dissertation fills an important gap in the heritage acquisition literature by including data on a thus far underexplored group, namely school-age and adolescent heritage speakers. The pattern revealed by these data suggests that various different processes—language attrition, delayed acquisition, and cross-linguistic influence—occur simultaneously, all within one and the same phenomenon. It also shows that vulnerability is dynamic; it can change from one stage to the next as a result of changes in the input.

The main message the reader should take home after reading this dissertation is that heritage language acquisition is a complex object of study, in which various factors play a role simultaneously in an intricate way. To understand why heritage languages are the way they are, and how exactly speakers end up with these grammars, we must take into consideration which domain of language we are looking at and what kind of tasks we use to test it. Moreover, since heritage speakers come in many different flavors, we have to be very conscious of who exactly we are investigating: where they live, what other language(s) they speak, how much input they have received, and what stage in their life they are at. Only by taking into account all these language-internal and -external variables can we hope to arrive at a comprehensive and refined theory of heritage language acquisition.


References


de Prada Pérez, A. (2010). Variation in subject expression in Western Romance. In S. Colina, A. Olarrea, & A. M. Carvalho (Eds.), *Selected papers from the 39th Linguistics Symposium on Romance Languages (LSRL)* (pp. 267–284). Amsterdam: John Benjamins.


Domínguez, L. (2007). The L2 acquisition of Spanish focus: A case of incomplete and divergent grammars. In S. Baauw, J. van Kampen, & M. Pinto (Eds.), The acquisition of Romance languages: Selected papers from The Romance Turn II (pp. 45–57). Utrecht: LOT.


References


References


S. Kang, C. S. Sandy, & E. Stickles (Eds.), *Proceedings of the 37th annual meeting of the Berkeley Linguistics Society* (pp. 375-388).


Appendices

Appendix I: Mood items – AJT

The table below demonstrates, for each of the 3 conditions, and for each target mood, the stories and the accompanying sentences. These items, some of which were based on material from Borgonovo et al. (2015) and Borgonovo & Prévost (2003), were part of the judgment experiments described in chapters 2, 3, and 4. In the experiment, the story and the sentences were presented in both written and auditory form. The two sentences were presented separately and were rated individually on a scale from –2 to 2.

Table 1. Mood items for the acceptability judgment task.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>CONTEXT</th>
<th>SENTENCES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SYNTACTIC CONTEXTS - TARGET: INDICATIVE</strong></td>
<td>Todo el mundo sabia que mi abuelo engañaba / engañar a su esposa.</td>
<td></td>
</tr>
<tr>
<td><strong>1</strong></td>
<td>Mi abuelo era un gran mujeriego. Estuvo casado por 50 años y siempre le fue infiel a su esposa. Mi mamá me ha contado que toda la familia lo sabía, menos mi abuela.</td>
<td></td>
</tr>
<tr>
<td><strong>2</strong></td>
<td>Mi papá es gerente de una compañía muy grande. Últimamente estuvo muy ocupado. Cuando lo veo, lo noto muy cansado. Hablando de él, le digo a mi mamá:</td>
<td></td>
</tr>
<tr>
<td><strong>3</strong></td>
<td>Mi abuelo abandonó a su familia cuando mi mamá era niña. Nunca más supo algo de él. Años después, la policía encontró evidencia de que mi abuelo se había muerto, pero mi mamá no lo quiere creer.</td>
<td></td>
</tr>
<tr>
<td><strong>4</strong></td>
<td>Nunca conoci a mi papá. Se fue cuando yo era bebé. Mi mamá lo odia, así que nunca me ha contado nada de él. Un día encontré una foto de él con un premio de una competencia de guitarra. Cuando mi amigo me pregunta si sé algo sobre mi papá, le digo:</td>
<td></td>
</tr>
<tr>
<td><strong>5</strong></td>
<td>Tengo un nuevo compañero que se llama Arturo. Siempre hace chistes malos, sólo habla de sí mismo, y hace muchos comentarios arrogantes. A todos nos cae mal, pero él piensa que es amigo de todos. Durante la pausa del trabajo chismoseo con otro compañero. Le digo:</td>
<td></td>
</tr>
<tr>
<td><strong>6</strong></td>
<td>Mi hijo siempre saca muy buenas notas en la escuela. Siempre pensé que simplemente estudiaba mucho, pero hoy me ha llamado un profesor diciendo que sospechan que mi hijo ha copiado a otros niños en su último examen. Cuando llega mi esposa, le cuento:</td>
<td></td>
</tr>
</tbody>
</table>

Sólo sé que tocaba / toca muy bien la guitarra.

Arturo no se da cuenta de que le cae / caiga mal a todo el mundo.

Piensan que nuestro hijo hizo / hiciera trampa en un examen.
| 7 | Estoy en casa en mi día libre. De repente tocan la puerta y allí están tres de mis compañeros de trabajo con globos y pastel. Muy sorprendido, les pregunto qué hacen aquí. Me contestan: | Pensábamos que eras / fuera tu cumpleaños. |
| 8 | Mi amiga Renata tiene padres muy estrictos. Le prohíben muchas cosas. Por ejemplo, no puede tener novio hasta que cumpla 18 años. Hace poco, Renata conoció a un chico y empezó a salir con él en secreto. Hoy voy con una amiga a visitar a Renata a la casa de sus papás. Antes de entrar a la casa, le digo a mi amiga: | Sus papás no saben que tiene / tenga un novio. |
| 9 | Mi abuela y yo somos muy diferentes. Ella se preocupa por todo y ve todo muy negativo, mientras yo soy muy optimista y alegre. Siempre le digo que no se preocupe tanto y que todo saldrá bien. Y ella siempre me contesta: | Algún día te darás cuenta de que no siempre salgas / salga todo bien. |

**SYNTACTIC CONTEXTS - TARGET: SUBJUNCTIVE**

| 10 | Mi amigo se acaba de mudar. Esta mañana me llamó para pedirme ayuda. Le digo a mi novia que me tenga que ir. Explico la situación: | Mi amigo me pidió que le ayudé / ayudara a pintar la casa. |
| 11 | Mi hija usa muchas palabras groseras cuando habla, lo que me molesta bastante. Lo hablo seriamente con mi esposa. Hablando con ella, le digo: | No quiero que nuestra hija habla / hable de manera tan grosera. |
| 12 | Mi padre era muy estricto y terco. Muchas veces cuando le decía lo que pensaba se enojaba conmigo. Un día decidí que no podía seguir así, e hice algo al respecto. | Exigí que me permitió / permitiera expresar mis opiniones. |
| 13 | Mi amigo Carlos es muy bueno para dibujar edificios. Ayer hablamos de su futuro y le dije que pienso que sería un buen arquitecto y que debería intentarlo. Hablando de él con mi novia, digo: | Le recomendé a Carlos que mostró / mostrara sus diseños a una firma de arquitectos. |
| 14 | Desde chiquito siempre he tomado clases de guitarra. Tocaba muy bien. Mi profesor siempre me decía que debería estudiar música. Al final decidí estudiar biología. A veces me pregunto si fue una buena decisión. | Mi profesor siempre me aconsejaba que estudiara / estudiara música. |
| 15 | Hace una semana que no tenemos agua caliente en mi casa. Hoy vino un plomero para revisar el calentador de agua. Mi novia se quedó en casa para recibir al plomero. Digo a un compañero de trabajo: | Espero que han / hayan solucionado el problema. |
| 16 | Mi amigo Juan y yo estamos en la estación de trenes. Me pregunta si puedo leer el reloj que está a 20 metros de distancia. Yo lo puedo leer sin problema. Le digo a Juan: | Te aconsejo que te haces / hagas un examen de vista. |
| 18 | Estoy organizando una fiesta muy chic en mi casa. Contrató a un chef profesional para la cena. Uno de los invitados me ha dicho que tiene algunas alergias. Cuando llega a la fiesta, le digo: | Tranquilo, pedí al chef que tuvo / tuviera en cuenta tus alergias. |

### RELATIVE CLAUSES - TARGET: INDICATIVE

| 19 | Josefina se van de vacaciones a Buenos Aires. Le encanta nadar y encuentra un hotel céntrico con piscina. Quiere hacer una reserva inmediatamente y le dice a su marido: | Quiero reservar una habitación en un hotel central que tiene / tenga piscina. |
| 20 | Mis abuelos van a Cuba en febrero. Antes de irse, les dicen a sus nietos: | iremos a un lugar donde no hace / haga frío. |
| 21 | Carmela hace dieta. Ha oído que hay un nuevo helado sin azúcar y quiere probarlo. Cuando su madre va a comprar helados para las dos, Carmela le dice: | Me gustaría probar un sabor nuevo que no tiene / tenga azúcar. |
| 22 | Luisa y María van juntas de compras, pero durante una hora se separan y cada una va por su lado. En ese tiempo, Luisa ve una chaqueta con un dragón bordado en la espalda. La chaqueta le encanta. Las dos amigas se encuentran otra vez y Luisa le pregunta a María: | ¿Has visto una chaqueta que tiene / tenga un dragón en la espalda? |
| 23 | Todas las mañanas veo un gato blanco con las orejas negras caminando en el jardín. Esta mañana no lo he visto todavía. Le pregunto a mi esposa: | ¿Has visto un gato blanco que tiene / tenga las orejas negras? |
| 24 | Un amigo mío me contó que leyó tres artículos en internet que describen un tratamiento experimental para el asma. No he sido capaz de encontrarlos y digo: | Busco tres artículos que discuten / discutan un nuevo tratamiento experimental para el asma. |
| 25 | Gerardo ha estado mirando deportes por televisión todo el día. Cristina, su esposa, quiere mirar un programa político satírico que ha visto anunciado en el periódico. Le dice a Gerardo: | Me gustaría ver un programa que se rie / ría del gobierno. |
| 26 | Mi amigo está visitando Ámsterdam por primera vez. Ayer salió con sus amigos, y visitaron varios bares en el centro de la ciudad. Mi bar favorito es un bar de hielo que queda en el centro también. Le pregunto: | ¿Has visitado un bar que está / esté construido en hielo? |
| 27 | Sara y Pedro tienen un grifo defectuoso en la bañera, pero no tienen dinero para pagar un plomero. Pedro va a la biblioteca, donde encuentra un libro con instrucciones para romper la pared y reparar justamente el tipo de grifo que ellos tienen. Llama a Sara por teléfono y le dice: | Sacaré de la biblioteca un libro que explica cómo arreglar el problema. |
| 28 | Pedro acaba de trasladarse a Madrid y mañana irá a buscar un apartamento. Aunque vive solo, quiere un piso grande. Dice: | Quiero un apartamento que tenga 300 m². |
| 29 | Lucía ha rendido su último examen del trimestre. Decide pasar la noche mirando películas y va al videoclub, donde las películas están organizadas por género: de misterio, comedias, terror, etc. Le es difícil decidirse, ya que hay muchísimas películas, pero se dice a sí misma: | Veré primero una película que me haga llorar, y después una comedia. |
| 30 | El Sr. López quiere comprarle un anillo a su novia, Luisa, que adora las esmeraldas. Él sabe muy poco de piedras preciosas, pero quiere encontrar la mejor para ella. Les dice a sus amigos: | Para Luisa, voy a comprarle una esmeralda que no tiene defectos. |
| 31 | María tiene que dar una presentación sobre Miró para su clase de historia de arte. Quiere dar muchos ejemplos de pinturas de Miró durante la presentación. Va a la biblioteca y le dice a la señora: | Busco un libro que tiene pinturas de Miró. |
| 32 | Karla no sabe mucho de física nuclear, pero está muy interesada en el tema. Fue a una librería, esperando encontrar algo para leer sobre este tema fascinante. Karla le dice al vendedor: | Necesito un libro que explica de manera fácil la física nuclear. |
| 33 | Cada invierno, la familia Muñoz se va de vacaciones. Este año todavía no saben adónde quieren ir, pero una cosa está segura: todos quieren esquiar. Un amigo de la familia les pregunta adónde irán por las vacaciones. El papá dice: | Iremos a lugar donde se puede esquiar. |
| 34 | Tengo que pasar una noche en un hotel, pero no puedo dejar a mi perro solo en casa. El problema es que la mayoría de los hoteles en el barrio donde tengo que estar no aceptan perros en las habitaciones. Le pregunto a alguien en la calle: | ¿Conoces un hotel en este barrio que acepta perros? |
| 35 | Es la primera visita de Juan a Madrid. Tiene muchas ganas de comer comida italiana. Está buscando un restaurante, pero no tiene dinero en efectivo y ninguno de los restaurantes que ve acepta tarjeta de crédito. Un señor le ofrece su ayuda y Juan le dice: | Busco un restaurante italiano donde se puede pagar con tarjeta de crédito. |
| 36 | Javier acaba de comprar una casa del siglo XVIII. Ahora quiere comprar muebles que vayan con el estilo de su casa, pero no encuentra nada porque todas las mueblerías de su barrio sólo venden muebles modernos. Le dice a un amigo: | Estoy buscando un negocio que vende muebles antiguos. |
### NEGATION - TARGET: INDICATIVE/SUBJUNCTIVE

<table>
<thead>
<tr>
<th>No.</th>
<th>Spanish Text</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>37</td>
<td>El señor López tiene un pasado criminal. Cuando era joven, fue un miembro importante de un cártel de drogas. Su hija Ximena no tenía ni idea de la historia de su papá, hasta que ayer llegó la policía a la casa para arrestarlo. Un agente intentó contarlle la verdad sobre su papá, pero Ximena rehusó creerlo.</td>
<td>Ximena no creía que su padre era / fuera criminal.</td>
</tr>
<tr>
<td>38</td>
<td>Mi amiga Julieta está casada con un hombre del que todos sabemos que es muy mujeriego. Yo sé que se acuesta con otras mujeres, pero siempre cuando digo algo, Julieta se enoja conmigo.</td>
<td>Julieta no cree que su marido la engaña / engañe con otras mujeres.</td>
</tr>
<tr>
<td>39</td>
<td>Carolina y yo vamos a un concierto de una amiga mía. Carolina dice que mi amiga no está cantando en vivo. Me enojo, porque yo sé que sí canta de verdad, pero Carolina no se deja convencer.</td>
<td>Carolina no está convencida de que mi amiga canta / cante de verdad.</td>
</tr>
<tr>
<td>40</td>
<td>Pablo y Amalia acaban de terminar su relación, pero decidieron seguir siendo amigos. Ayer se vieron por primera vez desde que terminaron. Amalia todavía estaba muy triste, pero no quiso mostrárselo a Pablo y actuó muy normal.</td>
<td>Pablo no notó que Amalia se sentía / sintiera triste.</td>
</tr>
<tr>
<td>41</td>
<td>Paulina llegó tarde a la escuela hoy. La primera clase era class de teatro y todos los alumnos estaban corriendo y haciendo ruido. Por esta razón, Paulina pudo entrar a hurtadillas sin ser regañada por el profesor.</td>
<td>El profesor no vio que Paulina entró / entra a la clase.</td>
</tr>
<tr>
<td>42</td>
<td>Hoy fue un día muy soleado. Gabriela estaba en un cuarto sin ventanas todo el día, así que no podía ver el sol. Yo digo:</td>
<td>Gabriela no vio que hacía / hiciera sol.</td>
</tr>
<tr>
<td>43</td>
<td>Susana era una amiga mía, pero perdimos el contacto. Aun así, seguimos teniendo amigos en común. Un día la veo en la calle con un bebé recién nacido. Me sorprendo, y le digo a mi esposa:</td>
<td>Nadie me dijo que Susana tuvo / tuviera un hijo.</td>
</tr>
<tr>
<td>44</td>
<td>Paula y su novio Carlos viven muy lejos el uno del otro. Ella le envía cartas todos los días. De repente, Paula llega a la casa de Carlos sin haberle avisado. Yo digo:</td>
<td>Paula no le ha escrito a Carlos que venía / viniera de visita.</td>
</tr>
<tr>
<td>45</td>
<td>Los hijos de Teresa están de vacaciones en Italia con un grupo de amigos. De repente, Teresa se entera por la mamá de alguien del grupo que todos han sido detenidos por la policía por conducir bajo los efectos de alcohol. Teresa se enoja.</td>
<td>Sus hijos no le han comunicado que han / hayan tenido problemas.</td>
</tr>
</tbody>
</table>

### NEGATION - TARGET: SUBJUNCTIVE

<table>
<thead>
<tr>
<th>No.</th>
<th>Spanish Text</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>46</td>
<td>Emilio trabaja como un portero en un club de noche donde los menores de edad no están permitidos. Ayer llegó una chica que no traía identificación. Se veía muy joven. Emilio no la dejó entrar.</td>
<td>Emilio no creía que la chica tenía / tuviera 18 años.</td>
</tr>
<tr>
<td>47</td>
<td>Julio lleva un mes con mucha tos. Al principio pensaba que simplemente tenía una gripe fuerte, pero ahora se empieza a preocupar. Su prima Lucía es doctora. Ella lo examina profundamente pero no encuentra nada raro.</td>
<td>Lucía no cree que Julio tiene / <strong>tenga</strong> una enfermedad grave.</td>
</tr>
<tr>
<td>48</td>
<td>Aplico para un trabajo en una compañía internacional. Uno de los requisitos es que hay que hablar 3 idiomas. Yo hablo español e inglés, y algo de francés, pero no muy bien. Por eso me rechazan. Yo digo:</td>
<td>No están convencidos de que habla/ <strong>hable</strong> bien francés.</td>
</tr>
<tr>
<td>49</td>
<td>Joaquín y su hermana Frida son vecinos. Siempre se hablan por la ventana. Hoy Joaquín le pregunta si quiere ir al cine. Frida no sabe si tiene tiempo, pero le dice que lo llamará por la ventana si sí. Al final nunca lo llama, así que Joaquín decide dormirse temprano. Yo digo:</td>
<td>Joaquín no oyó que su hermana lo llamó / <strong>llamara</strong>.</td>
</tr>
<tr>
<td>50</td>
<td>Bruno estuvo de vacaciones en una región en México donde puede hacer mucho calor, pero ahora el clima estaba bastante bien. Al regresar, un amigo le pregunta cómo estuvo el clima. Bruno contesta:</td>
<td>No sentí que hizo / <strong>hiciera</strong> tanto calor.</td>
</tr>
<tr>
<td>51</td>
<td>Marisol es profesora en una escuela. Un día después del trabajo, la mamá de Elisa le pregunta si ha visto a su hija comer dulces en la clase. Marisol no está segura, porque no vio nada.</td>
<td>Marisol no vio que Elisa comió / <strong>comiera</strong> dulces.</td>
</tr>
<tr>
<td>52</td>
<td>Enrique extrañó mucho a su hija, Daniela, que vive en el extranjero. Siempre espera que un día le escriba que lo viene a visitar. Un día le llegó un mail de ella, y se emocionó, pero en el mail no estaba escrito nada sobre una visita.</td>
<td>Daniela no había escrito que venía / <strong>viniera</strong> a visitarlo.</td>
</tr>
<tr>
<td>53</td>
<td>Vivo en Amsterdam. Mi hermano Julio lleva años viviendo en el campo, pero regularmente vuelve por unos días a visitarnos. Mi mamá pregunta si Julio viene a cenar hoy, Yo no he escuchado nada de él, así es que le digo a mi mamá:</td>
<td>Julio no me ha dicho que esté / <strong>esté</strong> en la ciudad.</td>
</tr>
<tr>
<td>54</td>
<td>El presidente del Gobierno está gravemente enfermo, y hay un rumor sobre su posible renuncia. Nadie sabe qué pasará. Hoy hizo un discurso dirigido al país, pero solamente habló del presupuesto. En el periódico escriben:</td>
<td>El presidente no ha anunciado que renuncia / <strong>renuncie</strong> a su trabajo.</td>
</tr>
</tbody>
</table>
Appendix II: Mood items – EPT

The table below demonstrate, for each of the 3 conditions, and for each target mood, the stories and the accompanying sentences. These items were part of the production task described in chapters 3 and 4. In the experiment, the story and the sentences were presented both written and auditorily.

Table 2. Mood items for the elicited production task.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>CONTEXT</th>
<th>SYNTACTIC CONTEXTS - TARGET: INDICATIVE</th>
<th>SENTENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Estoy molesto porque mi esposa nunca limpia la casa. Esta noche de nuevo no me ayuda a lavar los platos. Me enojo y le digo:</td>
<td>Quiero que...</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Hace dos semanas fui testigo de un accidente terrible. Todavía no puedo dejar de pensar en ello. Mi pareja me dice que conoce a un psicólogo que me puede ayudar. Me dice:</td>
<td>Te aconsejo que...</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Esta mañana mi amiga y yo estuvimos en una tienda de antigüedades y por accidente se nos cayó un florero muy caro. El dueño de la tienda se enojó y nos dijo que teníamos que pagar por él. Al llegar a casa le cuento a mi mamá:</td>
<td>El dueño de la tienda exigió que...</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Mi esposa y yo estamos discutiendo. Yo creo que ella es muy poco estricta con nuestros hijos. No le importa si se terminan su plato de comida. Yo me acuerdo que cuando era niño siempre tenía que comerme todo el plato. Le digo a mi esposa:</td>
<td>Mi mamá siempre quería que...</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Mi novia muchas veces se tiene que ir al extranjero por su trabajo. En este momento está en Dinamarca por un tiempo indefinido. No sé cuándo vendrá a visitarme. La extraño mucho. Le digo a un amigo:</td>
<td>Espero que mi novia...</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Hoy tuve una discusión muy fuerte con mi novia. Se enojó tanto conmigo que me dijo que me tenía que ir de su casa. Hablando con mi mamá le cuento:</td>
<td>Mi novia quiere que...</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Mi hijo siempre llega a las 4 de la escuela. Hoy son las 6 y todavía no ha llegado. Tampoco contesta su teléfono. Yo, preocupado, le digo a mi esposa:</td>
<td>Espero que no...</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Mi mamá siempre ha estado deprimida, lo que me afectó mucho durante mi infancia. Yo hacía todo para alegrarle un poco la vida y hacerla feliz. Cuento a mi psicólogo:</td>
<td>Sólo quería que mi mamá...</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Cuando yo era niño, mi papá siempre estaba muy ocupado con su trabajo. Por eso, mi mamá siempre me recogía de la escuela. No obstante, siempre esperaba algún día ver a mi papá esperando en la salida de la escuela. Hablando de mi infancia, cuento a mi novia:</td>
<td>Siempre esperaba que mi papá...</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SYNTACTIC CONTEXTS - TARGET: SUBJUNCTIVE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Desde hace mucho dudo de mi relación con mi pareja. Simplemente ya no siento lo mismo que antes. Hoy decidí contárselo. Le digo:</td>
</tr>
<tr>
<td>11</td>
<td>En la casa de Alejandra trabajan dos empleados: un cocinero y una chica que limpia. Hoy, Alejandra estuvo en el jardín todo el tiempo, mientras los empleados estaban dentro de la casa. Cuando sale a comprar algo en una tienda se da cuenta de que hay menos dinero en su cartera de lo que pensaba.</td>
</tr>
<tr>
<td>12</td>
<td>Estoy con mi amigo en una plaza y veo a una actriz famosa. Mi amigo intenta tomarle una foto sin que se dé cuenta, pero parece que nos vio. Le digo a mi amigo:</td>
</tr>
<tr>
<td>13</td>
<td>Ayer hubo una protesta violenta de estudiantes en mi ciudad. Mi vecino me cuenta que más de 50 personas fueron arrestadas por la policía. Hablando con mi amigo, digo:</td>
</tr>
<tr>
<td>14</td>
<td>Hoy hay fiesta en mi casa. Empieza a las 9 de la noche, pero a las 8 alguien toca el timbre. Es un amigo mío. Le pregunto por qué ha llegado tan temprano. Me contesta:</td>
</tr>
<tr>
<td>15</td>
<td>Estoy de vacaciones en Liverpool, Inglaterra, con un amigo mío. Yo conozco muy bien la ciudad porque viví allí durante un tiempo. Pasamos por la antigua casa de John Lennon. Le pregunto a mi amigo:</td>
</tr>
<tr>
<td>16</td>
<td>Ana, mi compañera de casa, no hace nada, excepto fumar marihuana todo el día. Ella dice que no tiene nada de malo, pero a mí me preocupa bastante. Decido llamar a sus padres para contarles de su adicción. Les digo:</td>
</tr>
<tr>
<td>17</td>
<td>Hoy vamos a la playa con 6 amigos. Uno de ellos piensa que necesitamos dos coches, pero yo pienso que con sólo el mío estamos bien. Les digo:</td>
</tr>
<tr>
<td>18</td>
<td>Mi abuelo se murió cuando yo tenía 4 años. No me acuerdo casi nada de él, lo único que me acuerdo de él es su larga barba. Cuando mi mamá me pregunta si me acuerdo algo de él, digo:</td>
</tr>
</tbody>
</table>

**RELATIVE CLAUSES - TARGET: INDICATIVE**

<p>| 19 | Mi amiga Estefanía quiere hacer origami. La semana que viene es su cumpleaños. Me acuerdo haber visto un libro sobre origami en una librería cerca a mi casa. Digo: | A Estefanía le voy a comprar un libro que... |
| 20 | Una amiga mía me cuenta que ha visto un documental en internet sobre una nueva teoría lingüística. Me meto en internet para buscarlo, pero no lo encuentro. Digo: | Estoy buscando un documental que... |
| 21 | Adriano ha estado mirando dibujos animados todo el día. Su papá quiere ver un programa sobre la crisis económica, que ha visto anunciado en el periódico. Le dice a Adriano: Apaga eso, por favor, | quiero ver un programa que... |
| 22 | Mi jefe viaja muy frecuentemente a Quebec por el trabajo. Sé que allí existe un hotel de hielo, lo que me fascina, pero no sé si él lo conoce. Le pregunto: | ¿Alguna vez has estado en un hotel que... |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>Bianca y Marco se van de vacaciones a Lisboa. A los dos les encanta hacer ejercicio. Bianca encuentra un hotel cerca al mar con gimnasio. Antes de confirmar, le pregunta a Marco si está de acuerdo: Le dice:</td>
<td>Me gustaría reservar un hotel cerca al mar que...</td>
</tr>
<tr>
<td>24</td>
<td>María y Hernán se quieren cambiar de casa. Hoy vieron una casa que les gusta mucho, con trampolín en el jardín para los niños. Deciden comprarla. Les cuentan a los hijos:</td>
<td>Viviremos en una casa donde...</td>
</tr>
<tr>
<td>25</td>
<td>Sofía quiere comprar una casa. A ella le encanta asolearse. Aunque la mayoría de las casas en la ciudad no tienen terraza en el techo, ha visto una dentro de su presupuesto que sí tiene una terraza bastante grande. Decide comprarla. Le cuenta a su amiga:</td>
<td>Quiero comprarle una casa que...</td>
</tr>
<tr>
<td>26</td>
<td>Patricia y Cecilia van a una tienda de zapatos. Después de entrar, cada una va por su cuenta. Mientras están separadas, Cecilia ve unos zapatos con cordones amarillos que le encantan. Después de un tiempo se encuentran otra vez y Cecilia le pregunta a Patricia:</td>
<td>¿Has visto unos zapatos que...</td>
</tr>
<tr>
<td>27</td>
<td>Trabajo en un bar y cada día hay un gato negro con las patas blancas, pero hoy todavía no lo he visto. Hoy trabajo con una chica nueva. Le pregunto:</td>
<td>¿Has visto un gato negro que...</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>RELATIVE CLAUSES - TARGET: SUBJUNCTIVE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Miguel estudia arte en la universidad. Para un curso tiene que escribir un ensayo sobre el desarrollo del cine de los años cincuenta hasta el día de hoy. Va a la biblioteca para buscar un libro apropiado. Le pregunta a la señora:</td>
<td>Necesito un libro que...</td>
</tr>
<tr>
<td>29</td>
<td>Camilo está de vacaciones en Málaga. Le gustaría mucho comer tapas en un restaurante y ver un show de Flamenco. Va al centro antiguo y pregunta a alguien en la calle:</td>
<td>Busco un restaurante de tapas donde...</td>
</tr>
<tr>
<td>30</td>
<td>Una amiga de Amparo acaba de tener un bebé. Amparo sabe que su amiga es muy consciente sobre el medio ambiente. Por eso quiere comprarle pañales ecológicos como regalo, pero no sabe dónde comprarlos. Pregunta a una amiga:</td>
<td>¿Has oído de alguna tienda que...</td>
</tr>
<tr>
<td>31</td>
<td>Nuria y Felipe se mudaron recientemente a Roma. Les gusta mucho jugar al tenis, pero no tienen mucho dinero para hacerse socios de un club. Les preguntan a unos vecinos:</td>
<td>Buscamos un parque donde...</td>
</tr>
<tr>
<td>32</td>
<td>Mi hermana quiere hacer un ‘tarte tatin’ para la cena de su cumple, pero nunca lo ha hecho y no tiene ningún libro con recetas de postres. Yo sé que en internet se puede encontrar todo. Deben también haber videos sobre cómo hacer ‘tarte tatin’. Me meto en internet y le digo a mi hermana: No te preocupes,</td>
<td>Te buscaré un video que...</td>
</tr>
<tr>
<td>33</td>
<td>Estoy planeando unas vacaciones de invierno con mi familia. Todavía no sé adónde vamos a ir, pero como sé que a mis hijos les encanta la nieve, les prometo:</td>
<td>Este invierno iremos a un lugar donde...</td>
</tr>
</tbody>
</table>
204 Appendices

| 34 | Voy a ver una película en casa. La vez pasada vi una película muy triste. Hoy quiero reírme. Todavía no sé cuál película voy a alquilar, pero me digo a mí mismo: | Sacaré una película que... |
| 35 | Mi hija cumplirá 16 años y le quiero regalar algo especial. Sé que le gustan mucho los diamantes. Le digo a mi esposa: | Quiero comprarle a nuestra hija un anillo que... |
| 36 | Es día de San Valentín. Sé que a mi novia le encantan los peluches que hacen ruidos. Voy a una tienda de juguetes con mi amigo. Después de buscar por 5 minutos, no encontré nada. Le pregunto a mi amigo: | ¿Has visto un peluche que... |

**NEGATION - TARGET: INDICATIVE/SUBJUNCTIVE**

<p>| 37 | La abuela de Mariela, en su tiempo, era una cantante de jazz muy famosa, pero sus nietos no lo saben. Un día, la abuela empieza a contarle su historia a Mariela, pero Mariela piensa que su abuela está confundida y no la toma en serio. | Mariela no cree que su abuela... |
| 38 | Julieta está embarazada. Lleva 5 meses, pero todavía no se nota su barriga. Cuando le cuenta a su viejo amigo Teo, él piensa que Julieta está bromeando. | Teo no está convencido de que Julieta... |
| 39 | María y Fernando son una pareja que tiene muchos problemas. Todo el mundo sabe que Fernando la ama mucho, pero María es muy insegura sobre sí misma. Por eso siempre duda de su amor por ella. | María no cree que Fernando... |
| 40 | Jorge se siente muy enfermo, pero tiene que ir al trabajo porque tiene que hacer una presentación. Después de la presentación, Jorge pregunta a su compañero Adrián, si él había notado algo. Adrián está sorprendido porque no se dio cuenta para nada. | Adrián no notó que Jorge... |
| 41 | Hoy hubo un temblor en mi ciudad. No era muy grave, pero yo sí sentí que la tierra estaba temblando. Mi novia en cambio dice que no sintió nada. | Mi novia no sintió que... |
| 42 | Federico está cuidando el perro de su mamá. Es un cachorro, y todavía no lo dejan salir de la casa. Por eso, siempre tiene que estar alguien cuidándolo. Pero Federico está tan metido en su libro que no ve salir al perro por la ventana. | Federico no vio que el perro... |
| 43 | Mis papás siempre están muy orgullosos de mí. Piensan que soy increíble. También piensan que me va muy bien en el trabajo, pero no es verdad. De hecho, ayer mi jefe me dijo que este mes será mi último mes. Hoy vi a mis papás, pero no les dije nada. | No dije a mis papás que me... |
| 44 | Hace un tiempo Guillermo aplicó para un muy buen trabajo. Todavía no ha recibido una respuesta. Un amigo de Guillermo trabaja para la misma compañía y a él ya le han dicho que escogieron a Guillermo para el puesto. | A Guillermo no le han comunicado que lo... |</p>
<table>
<thead>
<tr>
<th>No.</th>
<th>Text en espaol</th>
<th>Negacion - Target: Subjunctive</th>
</tr>
</thead>
<tbody>
<tr>
<td>45</td>
<td>Le cuento al director de un programa de estudiantes de intercambio en Mexico que los estudiantes han sido detenidos por posesion de drogas. El director, quien se comunicaba con los estudiantes a diario por e-mail, no sabia de nada. Yo digo a un amigo:</td>
<td>Los alumnos no le han comunicado al director que...</td>
</tr>
<tr>
<td>46</td>
<td>Yo soy policia. Hoy vine un hombre a la comisaria para reportar que le habian robado dinero de la billeteira. No sabia quien era el culpable. Le conté que muchas veces resulta que los hijos roban a sus padres. Le pregunté si pensaba que eso era una posibilidad, pero estaba seguro que no.</td>
<td>El hombre no creia que su propio hijo...</td>
</tr>
<tr>
<td>47</td>
<td>Selma camina por la calle y ve a su tia caminando a 20 metros de ella. La llama, pero hay mucho ruido de los coches asi que es imposible oir algo.</td>
<td>Selma no cree que su tia la...</td>
</tr>
<tr>
<td>48</td>
<td>Los papas de Victoria siempre se pelean mucho. Ya han dicho muchas veces que se van a divorciar, pero nunca lo hacen, asi que Victoria ya no los toma en serio. Hoy, otra vez le dicen que se van a divorciar, pero Victoria no les cree.</td>
<td>Victoria no cree que sus papas...</td>
</tr>
<tr>
<td>49</td>
<td>Andrés es profesor en la escuela. Hoy dio una clase de educacion sexual a los alumnos de 12 anos. Después, un compaño le pregunta si los niños estaban serios o no. Andrés piensa que sí porque no los escuchó reir mucho. Le contesta al compáñero:</td>
<td>No oí que mis alumnos...</td>
</tr>
<tr>
<td>50</td>
<td>Esta mañana me vestí con ropa limpia que estaba en la secadora. Cuando llego a casa en la noche, mi esposa me cuenta que la secadora no está funcionando bien. Me pregunta si mi ropa no estaba mojada cuando me la puse. Yo no noté nada, así que digo:</td>
<td>No sentí que mi ropa...</td>
</tr>
<tr>
<td>51</td>
<td>Mi novia y yo estamos caminando por un pueblo en el sur de Francia. El pueblo es medio abandonado. Mi novia ve una casa vacia y quiere entrar. Me pregunta si pienso que vive alguien en la casa. Por lo que veo no me parece muy probable. Le contesto:</td>
<td>No se ve que...</td>
</tr>
<tr>
<td>52</td>
<td>Mi hermano y mi papá perdieron el contacto por una pelea grave. Ahora mi papá está muy enfermo. Parece que se va a morir. Llamo a mi hermano para avisarle. Espero que diga que lo viene a visitar, pero no dice nada al respecto. Después le cuento a mi mamá:</td>
<td>Mi hermano no ha dicho que...</td>
</tr>
<tr>
<td>53</td>
<td>Mi mamá nos cuenta que mi hermano Pedro ha chocado su bici con un coche, pero no nos ha dicho cómo pasó. Mi hermana inmediatamente asuma que Pedro tiene la culpa, y no el automovilista. Yo me enojo y digo:</td>
<td>Mi mamá no dice que Pedro...</td>
</tr>
<tr>
<td>54</td>
<td>Mi primo Javier me acaba de contar que viene de visitar a mi ciudad. Normalmente siempre se queda a dormir en nuestra casa. Mi esposa pregunta si esta vez otra vez necesita alojamiento, pero no ha dicho nada al respecto. Le contesto a mi esposa:</td>
<td>Javier no ha dicho que...</td>
</tr>
</tbody>
</table>
Appendix III: Subject position items – AJT – adults (exp. 1)

The table below demonstrates, for each of the 6 conditions (2 verb types x 2 focus types x 2 subject types) the stories and the accompanying sentences. These items were part of the judgment task for the adult participants, described in chapters 5 and 6. In the experiment, the story and the sentences were presented both written and auditorily. The two sentences had to be rated individually on a scale from −2 to 2.

Table 3. Subject position items for the acceptability judgment task (adults).

<table>
<thead>
<tr>
<th>ITEM</th>
<th>CONTEXT</th>
<th>UNACCUSATIVE VERBS - BROAD FOCUS - DEFINITE SUBJECTS</th>
<th>SENTENCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>La familia Rodríguez tiene una cena en casa. El señor Rodríguez y su hija Susana se ponen a pelear por una estupidez. Susana se enoja mucho y se va. Su hermano José, que llega tarde a la cena, ve la silla vacía de Susana y pregunta: “¿Qué pasó?” El papá, que no quiere contar los detalles, simplemente contesta:</td>
<td>Susana se fue.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Se fue Susana.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Mi compañero de casa, Pepe, nunca quiere que haya fiesta en nuestra casa. Este fin de semana se fue de vacaciones. Yo aproveché y planeé una fiesta para el sábado, pero el sábado en la mañana veo que Pepe ha regresado inesperadamente. Tengo que cancelar la fiesta. Hablando con mi mamá, me nota un poco malhumorado, así que me pregunto: “¿Qué pasó?” Le contesto:</td>
<td>Mi compañero regresó. Tuve que cancelar la fiesta.</td>
<td>Regresó mi compañero. Tuve que cancelar la fiesta.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UNACCUSATIVE VERBS - BROAD FOCUS - INDEFINITE SUBJECTS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>De repente, un ladrón entró.</td>
</tr>
<tr>
<td></td>
<td>De repente, entró un ladrón.</td>
</tr>
<tr>
<td>5</td>
<td>Un amigo vino. Los dos se fueron a pasear.</td>
</tr>
<tr>
<td></td>
<td>Vino un amigo. Los dos se fueron a pasear.</td>
</tr>
<tr>
<td>6</td>
<td>Un tío mío desapareció.</td>
</tr>
<tr>
<td></td>
<td>Desapareció un tío mío.</td>
</tr>
<tr>
<td></td>
<td>UNACCUSATIVE VERBS - NARROW FOCUS - DEFINITE SUBJECTS</td>
</tr>
<tr>
<td>-----</td>
<td>-----------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>7</td>
<td>Estás jugando a cartas con tus amigos. Tu hermana reparte las cartas y después sale al baño. Mientras está en el baño, tu prima Gabina se fue.</td>
</tr>
<tr>
<td>9</td>
<td>Mi hermana llegaba a su casa, hace poco, pero no lo sabía exactamente. Le pregunté a Roberto: “¿Quién se escapa?” Roberto contesta:</td>
</tr>
</tbody>
</table>
14 | Mi abuelo tiene noventa años. Pasa la mayoría del tiempo sentado en una silla. No se mueve casi nunca. Hoy estamos en el jardín, en una reunión familiar y mi hija de 3 años quiere jugar con su bisabuelo. Para gran sorpresa de todos, mi abuelo se para y hasta corre hacia mi hija. Todos quedamos boquiabiertos. Mi tío, que justo llega a la casa, pregunta: “¿Qué pasó?” Le contesto: ¡Mi abuelo corrió!

15 | Marco está viendo un partido de básquetbol con un grupo de amigos. Durante el medio tiempo de repente se para y corre hacia afuera. Sus amigos están confundidos. Cuando regresa, le preguntan: “¿Qué pasó?” Les contesta: Mi mamá llamo.

**UNERGATIVE VERBS - BROAD FOCUS - INDEFINITE SUBJECTS**

| 16 | Estoy muy cansado y quiero tomar una siesta, pero después de cinco minutos me despierta el llanto de un niño en la calle. Como ya no puedo dormir me levanto. Mi esposa se sorprende de verme levantado tan rápido y me pregunta: “¿Qué pasó?” Le contesto: Un niño lloro en la calle. Ya no pude dormir más.  
| 17 | David está en el cuarto grado de la primaria. Hoy los alumnos están muy rebeldes. El profesor dice: ‘Si oigo un murmullo, todos se quedan castigados.’ Desafortunadamente, un niño no se aguenta y empieza a reír. Cuando David llega a casa muy tarde, le cuenta a su mamá que toda la clase se quedó castigada por culpa de un solo niño. Su mamá le pregunta: “¿Qué pasó?” David dice: Un compañero se rio.  

**UNERGATIVE VERBS - NARROW FOCUS - DEFINITE SUBJECTS**

| 19 | Estoy en la sala de mi casa con un amigo y de repente se escucha al vecino gritar muy fuerte. Mi amigo me pregunta: “¿Quién gritó?” Le contesto: El vecino gritó.  
| 20 | Nicolás y Juan Pablo viven juntos. Su casa siempre está muy sucia porque los dos no son muy ordenados. En la mañana, Juan Pablo va a la universidad. En la tarde llega la mamá de Nicolás y limpia toda la casa. Regresando a casa, Juan Pablo le pregunta a Nicolás: “¿Quién limpió?” Nicolás contesta: Mi mamá limpió.  
| 21 | Natalia está en una clase de física. Todo el mundo está callado mientras el profesor explica la lección, pero de repente se escucha a alguien riéndose. Es su compañera Paulina, que siempre se rie mucho. El profesor no ve quién ha reído, así que pregunta: “¿Quién se rio?” Natalia contesta: Paulina se rio.
Appendices

**Appendix IV: Subject position items – AJT – 5-year-olds**

The table below demonstrates, for each of the 4 conditions (2 verb types x 2 focus types) the stories and the accompanying sentences. These items were part of the judgment task for the 5-year-old participants described in chapter 6. In the experiment, the story and the sentences were presented auditorily, accompanied by pictures.

**Table 4. Subject position items for the acceptability judgment task (5-year-olds).**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>CONTEXT</th>
<th>UNACCUSATIVE VERBS - BROAD FOCUS</th>
<th>SENTENCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tres perritos están jugando en la playa y se están divirtiendo mucho. Mientras juegan, llega su amigo el gato, muy triste porque no lo habían avisado. ¿Qué pasó?</td>
<td>Llegó el gato.</td>
<td>El gato llegó.</td>
</tr>
<tr>
<td>2</td>
<td>La ardilla está comiendo nueces, pero sabe que son de su amiga. La ardilla decide comerse las nueces antes de que la amiga regrese, pero su amiga la encuentra robándole la cena. ¿Qué pasó?</td>
<td>La amiga regresó.</td>
<td>Regresó la amiga.</td>
</tr>
<tr>
<td>3</td>
<td>Dos perros y un cerdito están viendo una película. El cerdito se levanta y se va porque no le gusta nada la película. ¿Qué pasó?</td>
<td>El cerdito se fue.</td>
<td>Se fue el cerdito.</td>
</tr>
</tbody>
</table>
| 4 | Todos los animales hacen una fiesta. Hay hasta un payaso, y a todos les encanta, pero al mono le da mucho miedo así que decide irse antes de que saquen el pastel. ¿Quién se fue? | Se fue el mono.  
El mono se fue. |
|---|---|---|
| 5 | Todos los animales se van de excursión a la granja, pero a mitad del día empieza a llover mucho y el toro quiere regresar al colegio porque no le gusta nada mojarse. ¿Quién regresó? | El toro regresó.  
Regresó el toro. |
| 6 | El pato visita a su amigo el búho y lo encuentra muy triste. El pato le pregunta qué le ocurre, y el búho le contesta que su amiga la tortuga se ha muerto a los 104 años, pero que ha tenido una larga y bonita vida. ¿Quién (se) murió? | Se murió la tortuga.  
La tortuga se murió. |

**UNERGATIVE VERBS - NARROW FOCUS**

| 7 | Hay un nuevo hipopótamo en el zoo. Todos creen que los hipopótamos son muy grandes y torpes. Pero de repente, el hipopótamo se pone a bailar como un auténtico profesional. Todos se quedan sorprendidos. ¿Qué pasó? | El hipopótamo bailó.  
Bailó el hipopótamo. |
| 8 | El gato está de paseo y ve a un perro lamiéndose una pata. El gato se preocupa porque cree que está herido. Pero de repente el perro empieza a correr a toda velocidad. ¿Qué pasó? | El perro corrió.  
Corrió el perro. |
| 9 | Todos los patos están esperando al conejo y la cabra para ir al colegio. Antes de salir, el teléfono suena y la mamá pato dice que el conejo llegará más tarde. ¿Qué pasó? | El conejo llamó.  
Llamó el conejo |

**UNERGATIVE VERBS - BROAD FOCUS**

| 10 | El cerdo, el perro y la vaca hacen una fiesta. Cuando la fiesta acaba, todos tienen que limpiar, pero el gato y el cerdo se van y solo queda el perro. ¿Quién limpió? | Limpió el perro.  
El perro limpió. |
| 11 | La cebra y la jirafa están descansando. La cebra se asusta y grita porque cree ver un león a lo lejos. Pero la jirafa le dice que es solo un gatito. ¿Quién gritó? | La cebra gritó.  
Gritó la cebra. |
| 12 | El oso panda está jugando en el parque y se cae cuando se tira del tobogán. A su amiga la vaca le parece gracioso, pero a los demás no. ¿Quién se rió? | La vaca se rió.  
Se rió la vaca. |
Appendix V: Subject position items – AJT – 9- and 13-year-olds

The table below demonstrates, for each of the 8 conditions (2 verb types x 2 focus types x 2 subject types) the stories and the accompanying sentences. These items were part of the judgment task for the 9- and 13-year-old participants described in chapter 6. In the experiment, the story and the sentences were presented auditorily, accompanied by pictures.

Table 5. Subject position items for the acceptability judgment task (9- and 13-year-olds).

<table>
<thead>
<tr>
<th>ITEM</th>
<th>CONTEXT</th>
<th>UNACCUSATIVE VERBS - BROAD FOCUS - DEFINITE SUBJECTS</th>
<th>UNACCUSATIVE VERBS - BROAD FOCUS - INDEFINITE SUBJECTS</th>
<th>UNACCUSATIVE VERBS - NARROW FOCUS - DEFINITE SUBJECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Un grupo de animales corre la maratón. El pato está a punto de ganar, pero se cae antes de llegar a la meta. ¿Qué pasó?</td>
<td>El pato se cayó.</td>
<td>Un oso se cayó.</td>
<td>Es día de limpieza en casa y todos los animalitos tienen que limpiar. El gato que es un poco torpe se tropieza con la fregona y lo moja todo. ¿Quién se cayó?</td>
</tr>
<tr>
<td>2</td>
<td>El perro se ha portado mal y su amo le ha hecho quedarse en el jardín. Pero su amo se siente mal y al final le deja pasar a la casa. ¿Qué pasó?</td>
<td>El perro entró.</td>
<td>Un ratón entró.</td>
<td>El oso y sus amigos van de excursión al lago. Hay muchas olas y todos les da miedo meterse en agua. Pero el oso es el más valiente del grupo. ¿Quién entró?</td>
</tr>
<tr>
<td>4</td>
<td>Tres perros están jugando en la playa y se están divirtiendo mucho. Mientras juegan, se ve llegar a su amigo el gato, muy triste porque no lo habían avisado. ¿Qué pasó?</td>
<td>El gato llegó.</td>
<td>Un conejito llegó.</td>
<td>El oso entró.</td>
</tr>
</tbody>
</table>

These items were described to participants auditorily. The experimenters recorded their responses to the sentences and the acceptability judgments (1 = unacceptably, 2 = acceptably, 3 = acceptably).
### UNACCUSATIVE VERBS - NARROW FOCUS - INDEFINITE SUBJECTS

<table>
<thead>
<tr>
<th>NÚMERO</th>
<th>SENTENCIA</th>
<th>RESULTADO</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>El gato y los ratones siempre se están al escondite. A los ratones les encanta, pero el gato está ya cansado decide salir a explorar y se encuentra un concierto callejero. ¿Quién salió?</td>
<td>El gato salió.</td>
</tr>
<tr>
<td>12</td>
<td>Todos los animales han ido de excursión a la granja. El toro, que había perdido el autobús, consigue llegar después de dos horas. ¿Quién llegó?</td>
<td>El toro llegó.</td>
</tr>
</tbody>
</table>

### UNERGATIVE VERBS - BROAD FOCUS - DEFINITE SUBJECTS

<table>
<thead>
<tr>
<th>NÚMERO</th>
<th>SENTENCIA</th>
<th>RESULTADO</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Hay una carrera de perros y lobos en la playa. Justo cuando está a punto de ganar, un perro se resbala y acaba en el agua. ¿Quién se cayó?</td>
<td>Un perro se cayó.</td>
</tr>
<tr>
<td>14</td>
<td>El lobo y sus amigos celebran una fiesta en una cabaña en las montañas. El guardia forestal les avisa del peligro de osos, pero no le hacen caso. Por la mañana, se encuentran un oso en la cocina. ¿Quién entró?</td>
<td>Un oso entró.</td>
</tr>
<tr>
<td>16</td>
<td>Se celebra una gran fiesta de cumpleaños. Todos los invitados han llegado, pero de repente llaman a la puerta. Es un mono al que nadie había invitado. ¿Quién llegó?</td>
<td>Un mono llegó.</td>
</tr>
</tbody>
</table>

### UNERGATIVE VERBS - BROAD FOCUS - INDEFINITE SUBJECTS

<table>
<thead>
<tr>
<th>NÚMERO</th>
<th>SENTENCIA</th>
<th>RESULTADO</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>La rana llega tarde al trabajo. En el camino se encuentra un gran charco imposible de cruzar. La única manera de cruzarlo es dando un buen salto. ¿Qué pasó?</td>
<td>La rana saltó.</td>
</tr>
<tr>
<td>18</td>
<td>Ha llegado la mañana y es hora de ir al colegio. Todos los animales están durmiendo todavía y el gallo tiene que silbar para despertarlos. ¿Qué pasó?</td>
<td>El gallo silbó.</td>
</tr>
<tr>
<td>19</td>
<td>El oso está explicando una lección en la escuela, pero nadie está escuchando. El oso se cansa y se da un grito a toda la clase. ¿Qué pasó?</td>
<td>El oso gritó.</td>
</tr>
<tr>
<td>20</td>
<td>El perro se encuentra unas galletas recién hechas. Son deliciosas y se las come todas. Cuando su amo lo ve, se enfada mucho y regaña al perro, que se siente muy mal y se echa a llorar. ¿Qué pasó?</td>
<td>El perro lloró.</td>
</tr>
</tbody>
</table>

### UNERGATIVE VERBS - NARROW FOCUS - INDEFINITE SUBJECTS

<table>
<thead>
<tr>
<th>NÚMERO</th>
<th>SENTENCIA</th>
<th>RESULTADO</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>Unos gatos están jugando a saltar. Uno de los gatos quiere ganar haciendo algo muy atrevido y da un gran salto por encima de su amigo. ¿Qué pasó?</td>
<td>Un gato saltó.</td>
</tr>
<tr>
<td>22</td>
<td>El león y el tigre caminan por la selva. Creen que no tienen de qué preocuparse, pero a lo lejos se oye el silbido de una serpiente que está vigilando. ¿Qué pasó?</td>
<td>Una serpiente silbó.</td>
</tr>
<tr>
<td>23</td>
<td>Un grupo de lobos está explorando el bosque. Todo está muy oscuro y silencioso. De repente se oye un grito. Uno de los lobos ha pisado una rana. ¿Qué pasó?</td>
<td>Una rana gritó.</td>
</tr>
<tr>
<td>24</td>
<td>Un grupo de animales ha ido al cine a ver una película de terror. A mitad de la película sale un monstruo aterrador y de repente se oye un gato asustado que llora. ¿Qué pasó?</td>
<td>Un gato lloró. Lloró un gato.</td>
</tr>
<tr>
<td>26</td>
<td>El mono llega tarde a su cita con el león. Se da mucha prisa para llegar. Pero ve a lo lejos que el león se está marchando, así que se empieza a silbar para llamar su atención. ¿Quién silbó?</td>
<td>El mono silbó. Silbó el mono.</td>
</tr>
<tr>
<td>27</td>
<td>La cebra y la jirafa están descansando. La cebra se asusta y grita porque cree ver un león a lo lejos. Pero la jirafa le dice que es solo un gatito. ¿Quién gritó?</td>
<td>La cebra gritó. Gritó la cebra.</td>
</tr>
<tr>
<td>28</td>
<td>Ha llegado el invierno y el zoo va a cerrar por vacaciones. Muchos animales vuelven a sus hogares. El mono se pone muy triste porque no podrá ver a sus amigos en varios meses y se pone a llorar. ¿Quién lloró?</td>
<td>El mono lloró. Lloró el mono.</td>
</tr>
<tr>
<td>29</td>
<td>Ha llegado el final de curso en la granja. Mientras todos los animales se van a casa en el autobús escolar, una oveja se va a pasear por el bosque dando saltos de alegría. ¿Quién saltó?</td>
<td>Una oveja saltó. Saltó una oveja.</td>
</tr>
<tr>
<td>30</td>
<td>Los pájaros están de celebración porque han nacido unos pollitos. Son muy pequeños y están todos dormidos. De repente un pollito abre el pico y se pone a silbar. ¿Quién silbó?</td>
<td>Un pollito silbó. Silbó un pollito.</td>
</tr>
<tr>
<td>31</td>
<td>Unas gallinas han ido a una feria. De repente se oyen unos gritos y alguien les dice que un mono era un mono que estaba llamando a su mamá. ¿Quién gritó?</td>
<td>Un mono gritó. Gritó un mono.</td>
</tr>
<tr>
<td>32</td>
<td>Unos animalitos están de paseo por la ciudad. A lo lejos, en un callejón se oye llorar a alguien. Es un cachorro que ha perdido a su mamá y no sabe dónde buscar. ¿Quién lloró?</td>
<td>Un cachorro lloró. Lloró un cachorro.</td>
</tr>
</tbody>
</table>

**UNERGATIVE VERBS - NARROW FOCUS - DEFINITE SUBJECTS**

**UNERGATIVE VERBS - NARROW FOCUS - INDEFINITE SUBJECTS**
Appendix VI: Subject position items – AJT – adults (exp. 2)

The table below demonstrates, for each of the 8 conditions (2 verb types x 2 focus types x 2 subject types) the stories and the accompanying sentences. These items were part of the judgment task for the participants described in chapter 7. In the experiment, the story was also presented auditorily. The two sentences had to be rated individually on a scale from −2 to 2.

Table 6. Subject position items for the second adult acceptability judgment task.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>CONTEXT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UNACCUSATIVE VERBS - BROAD FOCUS - DEFINITE SUBJECTS</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Escuchas un ruido muy fuerte en la casa de los vecinos. Vas a ver y ves a la vecina tirada en el suelo. Corres de regreso a tu casa para pedir ayuda. Tu hermana te pregunta: “¿Qué pasó?”. Tú dices:</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Estás viendo una telenovela con tu prima. Hay una escena donde una chica le está robando dinero a su hermano, pero su hermano, que justo entró al cuarto, la pilla con las manos en la masa. Suspiras por emoción. Tu prima, que no estaba prestando atención, te pregunta: “¿Qué pasó?”. Le contestas:</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Estás viendo las noticias con tu hermano. Muestran un evento por el día de la independencia en el palacio real. Hay mucha gente esperando en la plaza. De repente, el rey abre las puertas del balcón y sale para hacer un discurso. La gente en la plaza empieza a aplaudir. Tu hermano, que justo se fue a la cocina, escucha el ruido y pregunta: “¿Qué pasó?”. Le respondes:</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Estás en una fiesta de sorpresa para tu tío con toda tu familia. Mientras están todavía decorando la casa, escuchan la puerta. Todos se esconden rápido. Tu hermana, que no se dio cuenta, pregunta: “¿Qué pasó?”. Tú dices:</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>UNACCUSATIVE VERBS - BROAD FOCUS - INDEFINITE SUBJECTS</strong></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Estás en una banca en un parque con tu mamá. De repente ves a un niño caerse lejos de ti. Paras para ver si está bien. Tu mamá que no alcanza a ver, pregunta: “¿Qué pasó?”. Le contestas:</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Camilo está tomando algo en un bar con su amigo, que es muy mujeriego. De repente, el amigo se distrae por la llegada de una mujer. Camilo le pregunta: “¿Qué pasó?”. El amigo contesta:</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Estás viendo una película miedosa con tu hermanita. En la película, el protagonista escucha ruidos viendo del armario. Le da tanto miedo a tu hermanita que se tapa los ojos. Tú sigues viendo. La puerta del armario se abre. Hay un monstruo adentro que sale corriendo. Tu hermanita pregunta: “¿Qué pasó?”. Tú dices:</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Estás en una fiesta del trabajo. Vas al baño. Cuando regresas, unos compañeros están susurrando y mirando a una persona que acaba de entrar. Es una cantante, pero no la conoces. Preguntas: “¿Qué pasó?” Los compañeros dicen:</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>9</td>
<td>Estás en una fiesta familiar. De repente, se escucha un ruido muy fuerte. Es el abuelo, que se tropezó con una botella. Tu hermano, que justo estaba afuera, escuchó el ruido y viene corriendo. Pregunta: “¿Quién se cayó?” Tú dices:</td>
</tr>
<tr>
<td>10</td>
<td>Estás leyendo un libro a tu hijo sobre un príncipe, un enano y un gigante. La historia cuenta que uno de ellos tiene que entrar a una cueva para rescatar a la princesa. Tu hijo, que no puede esperar, te pregunta: “¿Y quién entró?” Voltea la página y ves que es el príncipe. Dices:</td>
</tr>
<tr>
<td>11</td>
<td>Estás en una cena de tu cuñado. Tu cuñado ha invitado a muchos amigos, entre otros a su vecina. Mientras tu cuñado está en el baño, la vecina sale un rato al jardín. Regresando del baño, tu cuñado ve una silla vacía y pregunta: “¿Quién salió?” Tú contestas:</td>
</tr>
<tr>
<td>12</td>
<td>Estás en la fiesta de cumpleaños de tu amigo. Mientras tu amigo está en el jardín, tocan a la puerta. Es su cuñado. Lo dejas entrar y vas al jardín para avisar a tu amigo. Tu amigo, que oyó el timbre, te pregunta: “¿Quién llegó?” Le contestas:</td>
</tr>
</tbody>
</table>

**UNACCUSATIVE VERBS - NARROW FOCUS - DEFINITE SUBJECTS**

<p>| 13 | Estás viendo el tour de Francia con tu primo. De repente, hay un accidente con un francés, pero tu primo se lo perdió, porque no estaba prestando atención. Ve que hubo un accidente y te pregunta: “¿Quién se cayó?” Tú respondes: | Un francés se cayó. Se cayó un francés. |
| 15 | Tu y tu compañero de la universidad llevan mucho tiempo esperando por el baño. Se escuchan ruidos muy extraños. Tu compañero no puede esperar más y va a buscar otro baño. Tú te quedas esperando. Cuando al final se abre la puerta, resulta que había una pareja adentro. Cuando vuelves al salón, tu compañero te pregunta: “¿Quién salió?” Le contestas: | Una pareja salió. Salió una pareja. |
| 16 | Estás en el cumpleaños de tu amigo y suena el timbre. Como tu amigo justo está recibiendo un regalo, tú abres la puerta. Es un hombre que dice que es un vecino. Lo dejas entrar y vas a buscar a tu amigo. Tu amigo ha escuchado el timbre y te pregunta: “¿Quién llegó?” Le contestas: | Un vecino llegó. Llegó un vecino. |</p>
<table>
<thead>
<tr>
<th>N°</th>
<th>Unergative Verbs - Broad Focus - Definite Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Estás en una fiesta familiar. Tu abuela, que es muy vieja y no camina bien, de repente ve a una araña y salta muy alto. Preguntas a tu prima: ¿Viste eso??. Tu prima, que no lo vio, dice: &quot;No. ¿Qué pasó?!&quot;. Tú dices: Mi abuela saltó. Saltó mi abuela.</td>
</tr>
<tr>
<td>18</td>
<td>Estás en el jardín con tu hijo de tres años. De repente, escuchas un silbido y te das cuenta de que fue tu hijo. Te sorprendes de que un niño tan chiquito pueda silbar. Corres al jardín de al lado y preguntas a la vecina: ¿Oiste?? La vecina dice: &quot;No. ¿Qué pasó?!!&quot;. Tú contestas: Mi hijo silbó. Silbó mi hijo.</td>
</tr>
<tr>
<td>20</td>
<td>Tú y tu amiga están cuidando al bebé de los vecinos. Están viendo una película y tu amiga se queda dormida. De repente se escucha el llanto del bebé y después de tres segundos para de llorar. Tu amiga que se despertó, te pregunta: &quot;¿Qué pasó?? Le contestas: El bebé lloró. Lloró el bebé.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>N°</th>
<th>Unergative Verbs - Broad Focus - Indefinite Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>Estás caminando por la calle con tu mamá. De repente ves a un viejo saltar. Preguntas a tu mamá: ¿Viste eso?? Tu mamá, que no notó nada, dice: &quot;No. ¿Qué pasó?? Tú contestas: Un viejo saltó. Saltó un viejo.</td>
</tr>
<tr>
<td>22</td>
<td>Estás en un concierto de música clásica con tu abuelo. Todo el público está muy callado, pero de repente se escucha a una mujer silbar. Dices a tu abuelo: ¡Qué raro!! Tu abuelo, que no había escuchado el silbido, contesta: &quot;¿Qué pasó?? Tú respondes: Una mujer silbó. Silbó una mujer.</td>
</tr>
<tr>
<td>23</td>
<td>Estás en cama con tu pareja que ya está durmiendo. De repente se escucha un borracho gritar en la calle. Tu pareja se despierta bruscamente por el grito y te pregunta: &quot;¿Qué pasó?? Le respondes: Un borracho gritó. Gritó un borracho.</td>
</tr>
<tr>
<td>24</td>
<td>Estás intentando grabar una canción con el piano, mientras tu hermano lee el periódico a tu lado. Durante la grabación te estorba el llanto de un niño afuera, y paras. Tu hermano te pregunta: &quot;¿Qué pasó?? Tú contestas: Un niño lloró. Lloró un niño.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>N°</th>
<th>Unergative Verbs - Narrow Focus - Definite Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>Estás en la playa con tu familia. Hay una piedra muy alta de donde se puede saltar al agua. Todos tienen mucho miedo, pero tu primo sí se atreve. Tu hermano escucha el ruido del agua, pero no vio quién saltó. Te pregunta: &quot;¿Quién saltó?? Tú respondes: Mi primo saltó. Saltó mi primo.</td>
</tr>
<tr>
<td>26</td>
<td>Estás en un bus con un amigo. De repente se escucha a alguien silbar. Sólo tú viste que fue el chofer. Tu amigo te pregunta: &quot;¿Quién silbó?? Le contestas: El chofer silbó. Silbó el chofer.</td>
</tr>
<tr>
<td>ITEM</td>
<td>CONTEXT</td>
</tr>
<tr>
<td>------</td>
<td>----------</td>
</tr>
<tr>
<td>27</td>
<td>María acuesta a su hijo e hija, que duermen en el mismo cuarto. Saliendo del cuarto, les advierte que duerman inmediatamente. Después de un rato, escucha un grito viniendo del cuarto. Fue el hijo. María vuelve a entrar y pregunta: “¿Quién gritó?”. La hija dice:</td>
</tr>
<tr>
<td>28</td>
<td>Estás viendo una película triste con tu prima. La película conmueve mucho a tu prima. Tu hermano, que está leyendo en el sofá, escucha un sollozo. Pregunta: “¿Quién lloró?”. Tú dices:</td>
</tr>
</tbody>
</table>

### Appendix VII: Subject position items – EPT – adults (exp. 2)

The table below demonstrates, for each of the 8 conditions (2 verb types x 2 focus types x 2 subject types) the stories and the accompanying sentences. These items were part of the elicited production task for the participants described in chapter 7. In the experiment, the story was presented auditorily. The two sentences had to be rated individually on a scale from −2 to 2.

**Table 7. Subject position items for the elicited production task.**
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Estás viendo una telenovela con tu prima. Hay una escena donde una chica le está robando dinero a su hermano, pero su hermano, que justo entra al cuarto, la pilla con las manos en la masa. Suspiras por emoción. Tu prima, que no estaba prestando atención, te pregunta: “¿Qué pasó?”. Le contestas:</td>
<td>ENTRAR</td>
</tr>
<tr>
<td>3</td>
<td>Estás viendo las noticias con tu hermano. Muestran un evento por el día de la independencia en el palacio real. Hay mucha gente esperando en la plaza. De repente, el rey abre las puertas del balcón y sale para hacer un discurso. La gente en la plaza empieza a aplaudir. Tu hermano, que justo se fue a la cocina, escucha el ruido y pregunta: “¿Qué pasó?”. Le respondes:</td>
<td>SALIR</td>
</tr>
<tr>
<td>4</td>
<td>Estás en una fiesta de sorpresa para tu tío con toda tu familia. Mientras están todavía decorando la casa, escuchan la puerta. Todos se esconden rápido. Tu hermana, que no se dio cuenta, pregunta: “¿Qué pasó?”. Tú dices:</td>
<td>LLEGAR</td>
</tr>
</tbody>
</table>

**UNACCUSSATIVE VERBS - BROAD FOCUS - INDEFINITE SUBJECTS**

| 5 | Estás en una banca en un parque con tu mamá. De repente ves a un niño caerse lejos de ti. Paras para ver si está bien. Tu mamá que no alcanza a ver, pregunta: “¿Qué pasó?”. Le contestas: | CAERSE |
| 6 | Camilo está tomando algo en un bar con su amigo, que es muy mujeriego. De repente, el amigo se distrae por la llegada de una mujer. Camilo le pregunta: “¿Qué pasó?”. El amigo contesta: | ENTRAR |
| 7 | Estás viendo una película miedosa con tu hermanita. En la película, el protagonista escucha ruidos viendo del armario. Le da tanto miedo a tu hermanita que se tapa los ojos. Tú sigues viendo. La puerta del armario se abre. Hay un monstruo adentro que sale corriendo. Tu hermanita pregunta: “¿Qué pasó?”. Tú dices: | SALIR |
| 8 | Estás en una fiesta del trabajo. Vas al baño. Cuando regresas, unos compañeros están susurrando y mirando a una persona que acaba de entrar. Es una cantante, pero no la conoces. Preguntas: “¿Qué pasó?”. Los compañeros dicen: | LLEGAR |

**UNACCUSSATIVE VERBS - NARROW FOCUS - DEFINITE SUBJECTS**

<p>| 9 | Estás en una fiesta familiar. De repente, se escucha un ruido muy fuerte. Es el abuelo, que se tropezó con una botella. Tu hermano, que justo estaba afuera, escuchó el ruido y viene corriendo. Pregunta: “¿Quién se cayó?”. Tú dices: | CAERSE |
| 10 | Estás leyendo un libro a tu hijo sobre un príncipe, un enano y un gigante. La historia cuenta que uno de ellos tiene que entrar a una cueva para rescatar a la princesa. Tu hijo, que no puede esperar, te pregunta: “¿Y quién entró?”. Volteras la página y ves que es el príncipe. Dices: | ENTRAR |
| 11 | Estás en una cena de tu cuñado. Tu cuñado ha invitado a muchos amigos, entre otros a su vecina. Mientras tu cuñado está en el baño, la vecina sale un rato al jardín. Regresando del baño, tu cuñado ve una silla vacía y pregunta: “¿Quién salió?”. Tú contestas: | SALIR |</p>
<table>
<thead>
<tr>
<th>12</th>
<th>Estás en la fiesta de cumpleaños de tu amigo. Mientras tu amigo está en el jardín, tocan a la puerta. Es su cuñado. Lo dejas entrar y vas al jardín para avisar a tu amigo. Tu amigo, que oyó el timbre, te pregunta: “¿Quién llegó?” Le contestas:</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td><strong>UNACCUSATIVE VERBS – NARROW FOCUS – INDEFINITE SUBJECTS</strong></td>
</tr>
<tr>
<td>14</td>
<td>Estás viendo el tour de Francia con tu primo. De repente, hay un accidente con un Francés, pero tu primo se lo perdió, porque no estaba prestando atención. Ve que hubo un accidente y te pregunta: “¿Quién se cayó?”. Tu respondes:</td>
</tr>
<tr>
<td>15</td>
<td>Estás en una reunión del trabajo. Ya es de noche, y el edificio está vacío. De repente, se escucha la puerta principal abrirse. Vas a ver, y es una niña. Tu jefe te grita desde la sala: “¿Quién entró?”. Tu contestas:</td>
</tr>
<tr>
<td>16</td>
<td>Estás en el cumpleaños de tu amigo y suena el timbre. Como tu amigo justo está recibiendo un regalo, tú abres la puerta. Es un hombre que dice que es un vecino. Lo dejas entrar y vas a buscar a tu amigo. Tu amigo ha escuchado el timbre y te pregunta: “¿Quién llegó?”. Le contestas:</td>
</tr>
<tr>
<td>17</td>
<td><strong>UNERGATIVE VERBS – BROAD FOCUS – DEFINITE SUBJECTS</strong></td>
</tr>
<tr>
<td>18</td>
<td>Estás en una fiesta familiar. Tu abuela, que es muy vieja y no camina bien, de repente ve a una araña y salta muy alto. Preguntas a tu prima: “¿Viste eso?” Tu prima, que no lo vio, dice: “No. ¿Qué pasó?”. Tu dices:</td>
</tr>
<tr>
<td>19</td>
<td>Estás en el jardín con tu hijo de tres años. De repente, escuchas un silbido y te das cuenta de que fue tu hijo. Te sorprendes de que un niño tan chiquito pueda silbar. Corres al jardín de al lado y preguntas a la vecina: “¿Oíste?”. La vecina dice: “No. ¿Qué pasó?”. Tu contestas:</td>
</tr>
<tr>
<td>20</td>
<td>Tú y tu compañero de la universidad llevan mucho tiempo esperando por el baño. Se escuchan ruidos muy extraños. Tu compañero no puede esperar más y va a buscar otro baño. Tú te quedas esperando. Cuando al final se abre la puerta, resulta que había una pareja adentro. Cuando vuelve al salón, tu compañero te pregunta: “¿Quién salió?”. Le contestas:</td>
</tr>
<tr>
<td>21</td>
<td><strong>UNERGATIVE VERBS - BROAD FOCUS - INDEFINITE SUBJECTS</strong></td>
</tr>
<tr>
<td>22</td>
<td>Estás caminando por la calle con tu mamá. De repente ves a un viejo saltar. Preguntas a tu mamá: “¿Viste eso?”. Tu mamá, que no notó nada, dice: “No. ¿Qué pasó?”. Tu contestas:</td>
</tr>
<tr>
<td>23</td>
<td>Estás en un concierto de música clásica con tu abuelo. Todo el público está muy callado, pero de repente se escucha a una mujer silbar. Dices a tu abuelo: “¿Qué raro!” Tu abuelo, que no había escuchado el silbido, contesta: “¿Qué pasó?”. Tu respondes:</td>
</tr>
<tr>
<td></td>
<td>Unergative verbs - narrow focus - definite subjects</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>23</td>
<td>Estás en cama con tu pareja que ya está durmiendo. De repente se escucha un borracho gritar en la calle. Tu pareja se despierta bruscamente por el grito y te pregunta: “¿Qué pasó?” Le respondes:</td>
</tr>
<tr>
<td>24</td>
<td>Estás intentando grabar una canción con el piano, mientras tu hermano lee el periódico a tu lado. Durante la grabación te estorba el llanto de un niño afuera, y paras. Tu hermano te pregunta: “¿Qué pasó?”. Tú contestas:</td>
</tr>
<tr>
<td>25</td>
<td>Estás en la playa con tu familia. Hay una piedra muy alta de donde se puede saltar al agua. Todos tienen mucho miedo, pero tu primo sí se atreve. Tu hermano escucha el ruido del agua, pero no vio quién saltó. Te pregunta: “¿Quién saltó?”. Tú respondes:</td>
</tr>
<tr>
<td>26</td>
<td>Estás en un bus con un amigo. De repente se escucha a alguien silbar. Sólo tú viste que fue el chofer. Tu amigo te pregunta: “¿Quién silbó?” Le contestas:</td>
</tr>
<tr>
<td>27</td>
<td>María acuesta a su hijo e hija, que duermen en el mismo cuarto. Saliendo del cuarto, les advierte que duerman inmediatamente. Después de un rato, escucha un grito viendo del cuarto. Fue el hijo. María vuelve a entrar y pregunta: “¿Quién gritó?”. La hija dice:</td>
</tr>
<tr>
<td>28</td>
<td>Estás viendo una película triste con tu prima. La película conmueve mucho a tu prima. Tu hermano, que está leyendo en el sofá, escucha un sollozo. Pregunta: “¿Quién lloró?”. Tú dices:</td>
</tr>
<tr>
<td>29</td>
<td>Estás en la piscina con tus hermanos. Hay un trampolín muy alto de donde se puede saltar al agua. Ninguno de tus hermanos se atreve, pero de repente ves que una niña se sube y salta sin miedo. Tu hermano escucha el ruido en el agua, pero no alcanza a ver bien porque justo se está viendo. Te pregunta: “¿Quién saltó?”. Contestas:</td>
</tr>
<tr>
<td>30</td>
<td>Estás caminando por la calle mientras hablas con tu primo por teléfono. De repente hay un taxista que silba tan fuerte que hasta tu primo lo escucha por el teléfono. Te pregunta: “¿Quién silbó?”. Le respondes:</td>
</tr>
<tr>
<td>31</td>
<td>Mientras estás en el parque hablando por teléfono con tu amigo, de repente pasa un loco que grita algo que no entiendes. Tu amigo, que escuchó el grito por el teléfono, te pregunta: “¿Quién gritó?”. Tú respondes:</td>
</tr>
<tr>
<td>32</td>
<td>Estás con tu hermana en el cine, mirando una película de amor. En un momento, se escucha un llanto bastante ruidoso por un rato. Tu hermana no alcanza a ver quién fue, pero tú ves que es un hombre. Después de la película, tu hermana te pregunta: “¿Quién lloró?”. Le respondes:</td>
</tr>
</tbody>
</table>
Summary

Vulnerability in heritage speakers of Spanish in the Netherlands: An interplay between language-internal and language-external factors

*Heritage speakers* are bilinguals who speak both a minority language, which was acquired in childhood through naturalistic exposure at home, and the majority language of the society. By the time they reach adulthood, most heritage speakers have become dominant in the majority language of society. Competence in the heritage language, on the other hand, varies considerably from one speaker to the next: where some merely understand the language but do not speak it (Au, Knightly, Jun, & Oh, 2002), others are almost indistinguishable from monolingual speakers of the same language (e.g., Kupisch, 2013). For the past decade, heritage language acquisition has become an increasingly popular field of research, given both the practical relevance of the topic in today’s globalizing world and the theoretical implications it can offer for theories on the effects of age of onset and input in bilingual language acquisition.

While much research has been conducted on Spanish as a heritage language in the United States (e.g., Silva-Corvalán, 1994; Montrul, 2009; Lynch, 2013), much less is known about Spanish in other countries, such as the Netherlands. This dissertation focuses specifically on heritage speakers of Spanish in the Netherlands in order to gain more insight into the possible role of societal circumstances and different majority languages.

While the general picture arising from previous research is that heritage speakers often diverge from their respective monolingual baselines, it is also clear that there is immense variability between speakers. Even within speakers there is variability: different elements of language are affected differently (e.g., Benmamoun et al., 2013). This dissertation examines several factors that play a role in determining vulnerability in heritage speakers. Both language-internal and language-external factors are considered. The language-internal component concerns the differential vulnerability between different modules of languages. Following the Interface Hypothesis (Sorace, 2011; Sorace & Filiaci, 2006), vulnerability is expected at the interfaces between syntax and other modules. The external interface between syntax and discourse–pragmatics is predicted to be particularly vulnerable, due to the integration of different types of information.

The language-external factors considered are 1) the type of task and, related to this, the type of knowledge that is targeted (explicit vs. implicit knowledge), 2) the role of the age of onset of the non-dominant language (comparing heritage speakers to L2 speakers of Spanish), 3) the role of the societal circumstances in the host country.

---

1 But see Irizarri van Suchtelen (2016) for an exception and references cited there.
Summary

222 (the Netherlands vs. the United States), 4) the role of the majority language (Dutch vs. English), and 5) the age at which heritage speakers are tested (comparing child, adolescent, and adult heritage speakers). Moreover, as discussed in the discussion chapter, amount of input is incidentally demonstrated to affect vulnerability as well.

The effect of linguistic domain is examined by means of two phenomena that lie at the crossroads of multiple interfaces, namely 1) mood and 2) subject position. Both these phenomena can be used to express different functions, pertaining to different domains. As such, different (internal and external) interfaces can be compared within a single phenomenon, while keeping other variables constant.

Chapters 2, 3, and 4 report on heritage speakers’ knowledge of Spanish mood. Spanish has two moods: the indicative and the subjunctive, which, broadly speaking, are used to refer to respectively factual and non-factual information. Three different contexts for mood are compared, each of which pertains to a different domain, namely 1) syntax, 2) the internal interface between syntax and semantics, and 3) the external interface between syntax and pragmatics. The syntactic context contains sentences in which the predicate in the main clause obligatorily selects the mood in the subordinate clause: episodic predicates target indicative mood, while volitional predicates target subjunctive mood. In these contexts, the wrong mood results in ungrammaticality, as illustrated in examples (1) and (2):

(1)  
Sé que vas / *vayas conmigo.  
know.1SG.PRES.IND that go.2SG.PRES.IND / go.2SG.PRES.SUBJ with me  
‘I know that you go with me.’

(2)  
Quiero que *vas/ vayas conmigo.  
Want.1SG.PRES.IND that go.2SG.PRES.IND / go.2SG.PRES.SUBJ with me  
‘I want you to go with me.’

The syntax–semantics (internal) interface context contains sentences in which the mood in the relative clause depends on specificity of the antecedent, a semantic feature. This is shown in examples (3) and (4).

(3)  
Buscamos un hotel que tiene una piscina.  
look.1PL.PRES.IND a hotel that have.3SG.PRES.IND a swimming pool  
‘We are looking for a hotel that has a gym.’ (and I know there is one)

(4)  
Buscamos un hotel que tenga una piscina.  
look.1PL.PRES.IND a hotel that have.3SG.PRES.SUBJ a swimming pool  
‘We are looking for a hotel that has a gym.’ (but I don’t know whether there is one).

Finally, the syntax–pragmatics (external) interface context contains negated sentences with epistemic, communication, and perception predicates, in which the mood in the subordinate clause depends on the speaker’s commitment to the truth
of the proposition. This distinction, which entails the pragmatic notion of speaker stance, is illustrated in examples (5) and (6).

(5) **Pedro no dice que es su culpa.**
Pedro NEG say.3SG.PRES.IND that be.3SG.PRES.IND his fault
‘Pedro does not say that it is his fault.’ (but I think it is / # and I don’t think so either)

(6) **Pedro no dice que sea su culpa.**
Pedro NEG say.3SG.PRES.IND that be.3SG.PRES.SUBJ his fault
‘Pedro does not say that it is his fault.’ (but I think it is / and I don’t think so either)

Chapter 2 reports the results of a contextualized acceptability judgment task carried out with adult heritage speakers of Spanish in the Netherlands and a control group of monolingual native speakers of Spanish. In this task, participants were presented (both in written and auditory form) with a story, followed by two sentences, one with an indicative verb and another with a subjunctive verb, each of which had to be rated on a scale from –2 to 2. The analysis revealed that the heritage speakers differed more from the control group in the subjunctive targeting conditions as compared to the indicative targeting conditions. Furthermore, the difference between the two groups was greater in the two interface conditions than in the syntax condition, and especially in the external interface condition, in which the heritage speakers failed to significantly distinguish between indicative and subjunctive. These findings imply a three-way hierarchy ranging from syntax (least vulnerable) to the external interface (most vulnerable). The individual data corroborate this pattern.

In chapter 3, these results are complemented by elicited production data from the same participants to explore the effect of task type. The elicited production task consisted of written and auditorily presented stories, followed by the beginning of a sentence, which the participants were asked to finish out loud. This task differed from the judgment task in several ways: first of all, there is more time-pressure; second, the focus is on meaning, rather than on form; and third, it (probably) raises less awareness concerning the topic of the test. Due to these differences, this task can be considered to tap into more implicit knowledge, while the judgment task arguably targets more explicit knowledge. Although the production data confirm the pattern of increased divergence with the subjunctive as compared to the indicative, and particular vulnerability at the interfaces, overall, the heritage speakers diverge more in this task than in the acceptability judgment task. This finding contrasts with most of the US-based literature which reports more divergence with judgment than production for heritage speakers (e.g., Montrul, Foote, & Perpiñán, 2008). The explanation proposed for this deviant finding is the difference between the Netherlands and the US regarding the socio-linguistic circumstances: Spanish communities in the US are bigger than in the Netherlands and thus provide more possibilities for aural input and spoken output with a greater range of interlocutors.
Summary

This may explain the relative advantage for American heritage speakers in the implicit oral production task and the failure to replicate this in their Dutch counterparts. On the other hand, the Dutch heritage speakers may have more meta-linguistic awareness due to the presence of many foreign languages both in the education system and in the media, which could explain why these speakers have relatively fewer problems with the explicit judgment task.

Chapter 4 entails a comparison of the same group of heritage speakers to a group of adult L2 learners of Spanish to investigate whether these two groups differ with respect to the kind of knowledge they possess regarding the subjunctive. The two groups were matched in terms of general proficiency in Spanish using both an explicit proficiency task (the DELE, Diploma de Español como Lengua Extranjera) and a more implicit one (an aural lexical decision task). Both groups completed the same acceptability judgment task (targeting explicit knowledge) and the oral production task (targeting implicit knowledge) described above. In line with previous research (e.g., Bowles, 2011; Montrul, 2011), the results show task-based differences between heritage and L2 speakers of Spanish for the subjunctive in the syntactic context and the syntax–pragmatics interface context: while heritage speakers perform better on the implicit task, L2 speakers have the advantage in the explicit task. It is furthermore explored whether this effect is more likely to be accounted for by differences between the two groups regarding their age of onset of the weaker language (early in the case of heritage speakers and late in the case of L2 speakers) or to manner of acquisition (naturalistic exposure in the case of heritage speakers and formal instruction in the case of L2 speakers). The fact that amount of exposure and instruction does not play a significant role in determining choice of mood pleads for an explanation based on difference in age of onset rather than manner of acquisition.

The second interface phenomenon examined in this dissertation is subject position in intransitive sentences. This is the topic of investigation in the studies presented in chapters 5, 6, and 7. Spanish subjects can be placed either before or after the verb. Both word orders are always grammatical, but there are several linguistic factors that determine which order is more felicitous in a given context. Three of these factors are investigated in this dissertation, namely 1) verb type, 2) focus type, and 3) definiteness of the subject. Verb type refers to the semantic distinction between unaccusative and unergative predicates. Unergative predicates, which are generally non-telic and agentive, tend to follow the subject, while unaccusative predicates, which are prototypically telic and less agentive, generally precede it, as shown in examples (7) and (8):

(7)  
Juan gritó.  
Juan shout.3SG.IND.PRET  
‘Juan shouted.’

(8)  
Llegó Juan.  
arrive.3SG.IND.PRET Juan  
‘John arrived.’
The second factor, focus, is a discourse-dependent factor. When the entire sentence is in presentational focus, for instance after the question ‘What happened?’, the preferred word order is subject-verb. If the subject is in focus on the other hand, it tends to follow the verb, as examples (9) and (10) illustrate.

(9) ¿Qué pasó? El niño gritó.
    what happen.3SG.PRET? the boy shout.3SG.PRET
    ‘What happened? The boy shouted.’

(10) ¿Quién gritó? Gritó el niño.
    who shout.3SG.PRET? shout.3SG.PRET the boy
    ‘Who shouted? The boy shouted.’

Finally, the definiteness of the subject also plays a role in determining its position in the sentence: definite subjects tend to precede the verb, while indefinite subjects generally follow it. Since definiteness is related to topicality, it is considered to be a discourse-pragmatic factor. The effect of definiteness on word order is illustrated in examples (11) and (12).

(11) El niño llegó.
    the boy arrive.3SG.PRET
    ‘The boy arrived.’

(12) Llegó un niño.
    arrive.3SG.PRET a boy
    ‘A boy arrived.’

These three factors thus represent two different interface locations: verb type pertains to the internal interface between syntax and semantics, while both focus and definiteness pertain to the external interface of syntax and discourse–pragmatics.

In view of the predicted vulnerability for the external interface we would therefore predict heritage speakers to diverge more from monolinguals when it comes to focus and definiteness than with verb type. This hypothesis is tested throughout chapters 5, 6, and 7. The combined findings from these three chapters imply that focus and definiteness are indeed more vulnerable than verb type. While robust knowledge of verb type is attested in all three chapters, the results for focus and definiteness are more variable: they are shown to depend on various language-external factors, such as the type of task, the age at testing, and the majority language. These three factors are discussed in chapters 5, 6, and 7 respectively.

Chapter 5 reports the results for an acceptability judgment task from the same groups of heritage and monolingual speakers of Spanish who were part of the studies presented in chapters 2, 3, and 4. The data show that the adult heritage speakers in the Netherlands were sensitive to verb type and focus, but not to definiteness. The lack of sensitivity to definiteness confirms the expectation that the external interface
Summary

is particularly vulnerable, but the attested sensitivity to focus in the same group refutes it. An additional finding in this chapter is that the adult heritage speakers significantly prefer postverbal subjects across conditions, unlike the monolingual controls, who rated both orders equally high. This contrasts with previous findings from studies conducted in the US, which often report an overuse of preverbal subjects due to influence from English (e.g., Silva-Corvalán, 2001; Hinch Nava, 2007). It is argued that this departure from studies conducted in the US may be explained by differences between the two majority languages, English and Dutch, namely the relatively more frequent occurrence of postverbal subjects in Dutch due to the V2 rule.

Chapter 6 investigates the development of the heritage language through a cross-sectional study in which different age groups are compared. The data (or at least a subset of thereof) from the adult heritage speakers in chapter 5 are complemented with data from 5-year-old, 9-year-old, and 13-year-old children. The contextualized judgment task used for the adults was adapted in terms of duration and content to make it more suitable for children. The combined findings from these four groups suggest that verb type is part of the heritage grammar as early as age 9, and stays robust through adulthood. Sensitivity to focus emerges late: it is not present in any of the child groups, but it was in the adult group. Knowledge of definiteness was found in the 9-year-olds and the 13-year-olds, but it was no longer part of the adult grammar anymore, suggesting attrition. The relative preference for VS was already present in the child heritage speakers and increased with age. These findings show that changes in the input during childhood and adolescence can result in both delayed acquisition and attrition in heritage language acquisition (even within the same phenomenon), and stress the importance of including data from child heritage speakers to disentangle these and other possible processes.

Finally, chapter 7 tests a new group of adult heritage speakers in the Netherlands, as well as a group of adult heritage speakers in the US to examine the role of the dominant language. The two groups, as well as a monolingual control group, were tested using an acceptability judgment task comparable (though not identical) to the task used in chapters 5 and 6. Moreover, this study also included elicited production data. The Dutch-dominant heritage speakers were shown to be sensitive to verb type and definiteness, but not to focus. Their English-dominant counterparts were only sensitive to verb type. Neither of these two groups differed from the monolingual speakers with regard to overall word order preferences. These patterns were identical in judgment and production. The fact that English-dominant, but not Dutch-dominant heritage speakers diverged from monolinguals regarding definiteness is taken to reflect an effect of cross-linguistic influence from the majority language. While Dutch exhibits a widespread definiteness effect on word order that is similar to that of Spanish, this effect is much less pervasive in English. It is suggested that the bigger structural difference between English and Spanish may explain the observed difference between the two heritage speaker groups.

The discussion chapter summarizes the findings from the different studies presented in this dissertation and reflects on seemingly contradictory findings...
between the different chapters. For instance, the fact that sensitivity to focus was attested in the heritage speakers in chapters 5 and 6, but not in chapter 7 is explained by differences regarding the design of the tasks in the different studies. The aural presentation of the target sentences in chapters 5 and 6 may have obscured an additional effect of prosody in the narrow focus condition. The SV sentences in the narrow focus condition were pronounced with slight stress on the verb, suggesting focus on the verb instead of the subject. If heritage speakers are sensitive to prosodic cues to express focus, this could have been an additional reason for them to reject these sentences. An analysis of the production data confirms that heritage speakers indeed use prosodic stress on the preverbal subject, instead of word order, to express narrow focus.

Another discrepancy between chapters 5 and 6 on the one hand, and chapter 7 on the other is explained by alluding to differences with respect to the socio-linguistic profiles of the participants tested in the two studies. The heritage speakers from chapter 7 converged with monolingual speakers with respect to word order preferences and the definiteness effect, while the ones in chapters 5 and 6 did not. It is suggested that this is related to differences in the amount of input. While the heritage speakers from chapters 5 and 6 grew up in mixed marriages, the ones tested in chapter 7 were predominantly raised in all-Spanish speaking families, and had thus been exposed to considerably more input in Spanish in childhood.

Based on the data presented in chapters 2 to 6, it is concluded that linguistic interfaces, and particularly the external interface between syntax and discourse–pragmatics, are indeed vulnerable in heritage language acquisition. Several possible accounts for this vulnerability at the interfaces are discussed and compared in terms of their explanatory potential.

However, apart from interface vulnerability, it is clear that several other factors, external to the heritage language itself, also contribute to vulnerability. It matters which task is used, as does the type of knowledge that a task taps into (implicit vs. explicit). Moreover, the type of knowledge differs between heritage speakers and L2 speakers of Spanish. It also matters where the heritage speaker grew up, given that the specific socio-linguistic circumstances of the host country play a decisive role, as does the majority language spoken there. Finally, the amount of input also bears on the degree of vulnerability. Given that input is a dynamic construct that can vary between life stages, vulnerability can even change throughout the lifespan of a single speaker.

These findings thus emphasize the complex nature of heritage languages and their speakers. Many factors, both language-internal and -external, need be taken into consideration to be able to arrive at an exhaustive and sophisticated theory about heritage language acquisition.
Summary
Samenvatting

Kwetsbaarheid in het Spaans als erftaal in Nederland: Een wisselwerking tussen taal-interne en taal-externe factoren

Erftaalsprekers zijn tweetalige sprekers die zowel de meerderheidstaal spreken van de regio waar zij wonen, als een minderheidstaal die thuis wordt gesproken en zo op natuurlijk wijze wordt verworven. Volwassen erftaalsprekers zijn meestal dominant in de meerderheidstaal van de maatschappij. De vaardigheid in de erfkaal daarentegen verschilt aanzienlijk per spreker: terwijl sommige sprekers alleen passieve kennis van hun erfkaal vertonen, maar de taal niet of nauwelijks spreken (Au, Knightly, Jun, & Oh, 2002), zijn andere bijna niet te onderscheiden van mensen die dezelfde taal hebben geleerd in een meerderheidscontext (bijv. Kupisch, 2013). In het afgelopen decennium is de verwerving van erftalen een erg populair onderzoeksthema geworden, vanwege zowel de praktische relevantie van het onderwerp voor de hedendaagse globaliserende wereld als de implicaties voor theorieën over de rol van de leeftijd waarop men begint een taal te verwerven en de hoeveelheid blootstelling die nodig is om een taal te leren.

Er is al veel onderzoek gedaan naar het Spaans als erfkaal in de Verenigde Staten (bijv. Silva-Corvalán, 1994; Montrul, 2009; Lynch, 2013), maar er is veel minder bekend over het Spaans in andere landen, zoals Nederland. Dit proefschrift richt zich specifiek op erfkaalsprekers van het Spaans in Nederland, met als doel meer inzicht te krijgen in de mogelijke invloed van maatschappelijke omstandigheden en van verschillende meerderheidstalen.

Hoewel eerder onderzoek over het algemeen laat zien dat erfkaalsprekers afwijken van eentalige sprekers van dezelfde taal, zien we ook aanzienlijke variatie tussen sprekers. Ook binnen sprekers is er variatie: sommige onderdelen van taal zijn kwetsbaarder dan andere (bijv. Benmamoun et al., 2013). Dit proefschrift onderzoekt verschillende factoren die een rol spelen in de kwetsbaarheid van de erfkaal. Zowel factoren inherent aan de erfkaal als externe factoren worden onder de loep genomen. De taal-interne component betreft het verschil in kwetsbaarheid tussen de verschillende taalmodules. De Interface Hypothese (Sorace & Filiaci, 2006; Sorace, 2011), voorspelt kwetsbaarheid op de interface (het raakvlak) tussen syntaxis en ander modules van taal. In het bijzonder de externe interface tussen syntaxis en discourse-pragmatiek is kwetsbaar volgens deze hypothese, omdat daar integratie van verschillende soorten informatie plaatsvindt.

De taal-externe factoren die worden besproken zijn 1) het type taak, en hiermee samenhangend, het soort kennis dat getest wordt (expliciete vs. impliciete kennis), 2) de leeftijd waarop men begint de minderheidstaal te leren (dit wordt getest door middel van een vergelijking tussen erfkaalsprekers en tweedetaalsprekers van het Spaans), 3) de rol van de sociolinguïstische eigenschappen van het land waar het Spaans de erfkaal is (Nederland vs. de Verenigde Staten), 4) de invloed van de meerderheidstaal (het Nederlands vs. het Engels), en 5) de leeftijd van de
erftaal sprekers op het moment van testen (kinderen, adolescenten en volwassen erftaal sprekers worden met elkaar vergeleken). Ook wordt in de discussie besproken of het uitmaakt hoeveel input in de erftaal een spreker krijgt.
Het effect van het domein van taal (de taal-interne component) wordt onderzocht door te kijken naar twee verschijnselen die op meerdere interfaces liggen, namelijk 1) modus en 2) de plaatsing van het subject. Deze twee verschijnselen hebben verschillende functies, die elk tot een ander domein van taal behoren. Op die manier kunnen verschillende (interne en externe) interfaces met elkaar worden vergeleken binnen één verschijnsel, en kunnen eventuele andere variabelen constant worden gehouden.

De hoofdstukken 2, 3, en 4 gaan over modus in het Spaans. Met modus wordt het verschil tussen de indicatief (aantonende wijs) en de subjunctief (aanvoegende wijs) bedoeld in het Spaans. De indicatief wordt over het algemeen gebruikt om over feitelijke informatie te praten, terwijl de subjunctief voornamelijk wordt gebruikt voor niet-feitelijke informatie, zoals gebeurtenissen die (nog) niet hebben plaatsgevonden.
Drie verschillende contexten waarin modus een rol speelt worden met elkaar vergeleken. Elk van deze contexten behoort tot een ander linguïstisch domein, namelijk 1) syntax, 2) de interne interface tussen syntax en semantiek, en 3) de externe interface tussen syntax en pragmatiek. De syntactische context betreft zinnen waarin het predicaat van de hoofdzin de modus van het werkwoord in de complementzinnen bepaalt. Sommige werkwoorden, zoals ‘weten’ selecteren de indicatief, en andere werkwoorden, zoals ‘willen’, combineren met de subjunctief. In deze context resulteert de verkeerde modus in een ongrammaticale uiting, zoals geillustreerd wordt in voorbeelden (1) en (2):

(1) Sé que *vas / *vayas conmigo.
Hebt.1SG.PRES.IND dat gaan.2SG.PRES.IND / gaan.2SG.PRES.SUbject met me
‘Ik weet dat je met me mee gaat.’

(2) Quiero que *vas/ *vayas conmigo.
Wil.1SG.PRES.IND dat gaan.2SG.PRES.IND / gaan.2SG.PRES.SUbject met me
‘Ik wil dat je met me mee gaat.’

De syntaxis-semantiek (interne) interface context betreft zinnen waarin de modus in de relatieve bijzin afhankt van de specificiteit (een semantische eigenschap) van het antecedent in de hoofdzin. Dit wordt geillustreerd in voorbeelden (3) en (4).

(3) Buscamos un hotel que tiene una piscina.
Zoeken.1PL.PRES.IND een hotel dat hebben.3SG.PRES.IND een zwembad
‘We zoeken een hotel dat een zwembad heeft.’ (en ik weet dat het bestaat)

(4) Buscamos un hotel que tenga una piscina.
Zoeken.1PL.PRES.IND een hotel dat hebben.3SG.PRES.SUbject een zwembad
‘We zoeken een hotel dat een zwembad heeft.’ (maar ik weet niet of er een bestaat)
De laatste context vertegenwoordigt de externe interface tussen syntaxis en pragmatiek. Deze context betreft ontkennende zinnen met epistemische werkwoorden (bijv. ‘geloven’), communicatie-werkwoorden (bijv. ‘zeggen’) en perceptiewerkwoorden (bijv. ‘zien’). In dit soort zinnen hangt de modus in de complementzinnen af van het standpunt van de spreker ten opzichte van de waarheid van de propositie in die zin. Een voorbeeld wordt gegeven in (5) en (6).

(5) Pedro no dice que es su culpa.
Pedro NEG zeggen.3SG.PRES.IND dat zijn.3SG.PRES.IND zijn schuld
‘Pedro zegt niet dat het zijn schuld is.’ (maar ik denk van wel / # en ik denk ook van niet)

(6) Pedro no dice que sea su culpa.
Pedro NEG zeggen.3SG.PRES.IND dat zijn.3SG.PRES.SUBJ zijn schuld
‘Pedro zegt niet dat het zijn schuld is.’ (maar ik denk van wel / en ik denk ook van niet)

Aangezien dit onderscheid te maken heeft met de overtuiging van de spreker behoort het tot het raakvlak tussen syntaxis en pragmatiek.

In hoofdstuk 2 worden de resultaten gepresenteerd van een gecontextualiseerde beoordelingstaak met volwassen erfstaalsprekers van het Spaans in Nederland en een controlegroep van moedertaalsprekers van het Spaans. In deze taak kregen de participanten een verhaaltje te lezen (en tegelijkertijd te horen), dat gevolgd werd door 2 zinnen, één met het werkwoord in de indicatief, en één met het werkwoord in de subjunctief. Beide zinnen moesten worden beoordeeld op een schaal van -2 tot 2. De data laten zien dat de erfstaalsprekers meer verschillen van de eentalige sprekers in de condities waar de subjunctief verwacht werd dan in de condities waarin de indicatief verwacht werd. Het verschil tussen de groepen was verder groter in de twee interface condities dan in de syntaxis conditie, en het was het grootst in de externe interface conditie, waar de erfstaalsprekers geen significant verschil maakten tussen de twee zinnen. Deze bevindingen duiden op een drietalrapshierarchie met syntaxis als minst kwetsbare domein en externe syntaxis-pragmatiek interface als meest kwetsbare domein. De data van de individuele sprekers bevestigden dit patroon.

In hoofdstuk 3 worden deze resultaten aangevuld met data van een productietaak, om het effect van het type taak te onderzoeken. De productietaak bestond uit geschreven en auditief gepresenteerde verhaaltjes, gevolgd door het begin van een zin, die de participanten hardop moesten afmaken. Deze taak verschilt van de evaluatietaak op meerdere punten: ten eerste is er meer tijdsgewenst, ten tweede ligt de nadruk op de betekenis, in plaats van de vorm, en ten derde waren de participanten minder bewust van het onderwerp waarop zij getest werden. Deze verschillen maken dat deze taak waarschijnlijk meer impliciete kennis test, terwijl de evaluatietaak meer expliciete kennis test. Hoewel de data van de productietaak hetzelfde patroon laten zien als de evaluatietaak, namelijk een groter verschil tussen
Samenvatting

de erftaalsprekers en de controlegroep in de subjunctief-conditie en in de interface condities, is het verschil tussen de twee groepen nog groter in deze taak dan in de evaluatietaak. Dit resultaat wijkt af van studies met erftaalsprekers van het Spaans in de VS, die juist meer afwijking laten zien in evaluatietaken dan in productietaken (bijv. Montrul, Foote, & Perpiñán, 2008). De verklaring die hiervoor wordt gegeven is het verschil in sociolinguïstische eigenschappen tussen Nederland en de VS. Aangezien de Spaanse gemeenschap in de VS groter is dan die in Nederland, hebben erftaalsprekers daar waarschijnlijk meer toegang tot auditieve input. Ook hebben ze meer mogelijkheden om de taal te spreken, en met meer verschillende gesprekspartners.

Dit zou kunnen verklaren waarom Amerikaanse erftaalsprekers relatief minder moeite hebben met productietaken, terwijl dit niet opgaat voor de Nederlandse erftaalsprekers in dit proefschrift. Een ander verschil tussen Nederland en Amerika is dat vrome talen in Nederland een belangrijkere rol spelen in het onderwijs en de media. Het feit dat Nederlanders veel verschillende vreme talen om zich heen horen, en er ook instructie in krijgen, zou ertoe kunnen leiden dat ze een hoger meta-linguïstisch bewustzijn hebben. Dit zou weer kunnen verklaren waarom de Nederlandse erftaalsprekers in dit proefschrift relatief minder moeite hadden met de expliciete evaluatietaak.

In hoofdstuk 4 wordt dezelfde groep erftaalsprekers vergeleken met een groep volwassen tweedetaalsprekers van het Spaans. Het doel van deze studie was om te onderzoeken of deze twee groepen van elkaar verschillen wat betreft het type kennis dat ze bezitten over de subjunctief. De twee groepen werden op elkaar afgestemd wat betreft hun algemene taalvaardigheidsniveau in het Spaans, dat werd gemeten door middel van zowel een expliciete taalvaardigheidstaak (de DELE, Diploma de Español como Lengua Extranjera) als een impliciete lexicale decisietaak met auditieve stimuli. De twee groepen maakten verder dezelfde twee taken als hierboven omschreven: de expliciete evaluatietaak en de impliciete productietak. Overeenkomstig eerder onderzoek (bijv. Bowles, 2011; Montrul, 2011), werden er taakgerelateerde verschillen gevonden tussen de twee groepen in de syntaxis en de syntaxis-pragmatiek condities: in deze condities presteerden de erftaalsprekers relatief beter op de impliciete taak en tweedetaalsprekers op de expliciete taak. In dit hoofdstuk wordt verder onderzocht of dit verschil tussen de twee groepen beter verklaard kan worden door het verschil in leeftijd waarop zij begonnen met het verwerven van het Spaans (vroeg voor de erftaalsprekers — laat voor de tweedetaalsprekers), of door de manier waarop ze de taal hebben geleerd (door alleen blootstelling in het geval van de erftaalsprekers en door instructie in het geval van de tweedetaalsprekers). Het feit dat de hoeveelheid blootstelling en instructie geen significante voorspeller was voor de mate waarin de subjunctief werd gekozen, pleit voor een verklaring op basis van leeftijd in plaats van de manier waarop de taal geleerd wordt.

Het tweede interface-verschijnsel dat onderzocht wordt in dit proefschrift is de positie van het subject in intransitieve zinnen. Dit onderwerp wordt besproken in de hoofdstukken 5, 6, en 7. In het Spaans kan het subject van de zin zowel vóór als achter het werkwoord staan. Beide opties zijn grammaticaal, maar er zijn verscheidene talige
factoren die bepalen welke van de twee het meest acceptabel is in een bepaalde context. Drie van deze factoren worden onderzocht in dit proefschrift, zijnde 1) het type werkwoord, 3) het type focus, en 3) de bepaaldheid van het subject. Met werkwoordstype wordt het semantisch onderscheid tussen ergatieve en onergatieve werkwoorden bedoeld. Onergatieve werkwoorden, die over het algemeen atelisch en agentief zijn, staan meestal achter het subject, en onergatieve werkwoorden, die meestal telisch en minder agentief zijn, staan er vaker vóór, zoals voorbeelden (7) en (8) laten zien:

(7) Juan gritó. (onergatief)
    Juan schreeuwen.3SG.IND.PRET
    ‘Juan schreeuwde.’

(8) Llegó Juan. (ergatief)
    aankomen.3SG.IND.PRET Juan
    ‘Juan kwam aan.’

De tweede factor is gerelateerd aan de focus van de zin. Wanneer de gehele zin in presentationele focus staat (oftewel: brede focus), bijvoorbeeld na de vraag ‘Wat gebeurde er?’, is de voorkeursvolgorde subject-werkwoord. Als de focus op het subject ligt, daarentegen, zoals na de vraag ‘Wie schreeuwde er?’ komt het subject meestal na het werkwoord, zoals geïllustreerd in voorbeelden (9) en (10).

(9) ¿Qué pasó? El niño gritó. (brede focus)
    wat gebeuren.3SG.PRET? de jongen schreeuwen.3SG.PRET
    ‘Wat gebeurde er? De jongen schreeuwde.’

(10) ¿Quién gritó? Gritó el niño. (subject focus)
    wie schreeuwen.3SG.PRET? schreeuwen.3SG.PRET de jongen
    ‘Wie schreeuwde er? De jongen schreeuwde.’

Tot slot maakt de bepaaldheid van het subject uit voor de woordvolgorde: bepaalde subjecten staan vaker vóór het werkwoord, terwijl onbepaalde subjecten er meestal achter staan. Aangezien bepaaldheid ook te maken heeft met topicaliteit, wordt het in dit proefschrift beschouwd als een discourse-pragmatische factor. Het effect van bepaaldheid op woordvolgorde wordt geïllustreerd in voorbeelden (11) en (12).

(11) El niño llegó. (bepaald subject)
    de jongen aankomen.3SG.PRET
    ‘De jongen kwam aan.’

(12) Llegó un niño. (onbepaald subject)
    aankomen.3SG.PRET een jongen
    ‘Er kwam een jongen aan.’
Samenvatting

Deze drie factoren vertegenwoordigen dus twee verschillende interfaces: type werkwoord behoort tot de interne interface tussen syntaxis en semantiek, en focus en bepaaldheid behoren tot de externe interface tussen syntaxis en discourse-pragmatiek. Aangezien kwetsbaarheid vooral voorspeld wordt door de externe interface, verwachten we dat erftaalsprekers meer afwijken van eentalige sprekers als het gaat om focus en bepaaldheid, dan om werkwoordstype. Deze hypothese wordt getest in de hoofdstukken 5, 6, en 7. De bevindingen van deze drie hoofdstukken suggereren dat focus en bepaaldheid inderdaad kwetsbaarder zijn dan werkwoordstype. De kennis van het effect van werkwoordstype of woordvolgorde is robuust in alle drie de hoofdstukken, maar de resultaten voor focus en bepaaldheid zijn minder eenduidig: deze hangen af van verschillende externe factoren zoals het soort taak, de leeftijd van de erftaalsprekers en de specifieke meerderheidstaal. Deze drie factoren worden besproken in respectievelijk hoofdstuk 5, 6, en 7.

In hoofdstuk 5 worden de resultaten gerapporteerd van een evaluatietaak met dezelfde erftaalsprekers en eentalige sprekers die ook deel uitmaakten van de studies in de hoofdstukken 2, 3, en 4. De data laten zien dat volwassen erftaalsprekers in Nederland gevoelig zijn voor werkwoordstype en focus, maar niet voor bepaaldheid, hetgeen de Interface Hypothese ten dele ondersteunt. Het gebrek aan gevoeligheid voor bepaaldheid bevestigt de verwachte kwetsbaarheid van de externe interface, maar het feit dat dezelfde sprekers wel gevoelig waren voor focus spreekt dat tegen. Dezelfde data laten ook zien dat de volwassen erftaalsprekers een algehele significante voorkeur hebben voor postverbale subjecten, terwijl de eentalige controlegroep geen verschil maakt tussen de twee woordvolgordes. Deze bevinding contrasteert met eerder onderzoek uit de VS dat laat zien dat Amerikaanse erftaalsprekers van het Spaans juist preverbale subjecten overgeneraliseren als gevolg van invloed van het Engels (bijv. Silva-Corvalán, 2001; Hinch Nava, 2007). De verklaring die wordt gegeven voor dit contrast, is dat postverbale subjecten vaker voorkomen in het Nederlands dan in het Engels vanwege de V2 regel.

In hoofdstuk 6 wordt de ontwikkeling van de erftaal onderzocht door middel van een cross-sectionele studie waarin erftaalsprekers van verschillende leeftijden met elkaar worden vergeleken. (Een subset van) de data van de volwassen erftaalsprekers uit hoofdstuk 5 worden aangevuld met data van 5-jarige, 9-jarige en 13-jarige erftaalsprekers. De voor de volwassenen gebruikte evaluatietaak werd ingekort en inhoudelijk meer geschikt gemaakt voor kinderen. De resultaten van deze vier leeftijdsgroepen impliceren dat werkwoordstype al vroeg deel uitmaakt van de grammatica van Spaanse erftaalsprekers; al op 9-jarige leeftijd vertoonen kinderen deze kennis, en deze bleef robuust in alle latere leeftijdsgroepen. Kennis van het effect van focus wordt later verworven: alleen de volwassen erftaalsprekers, maar geen enkele van de jongere groepen lieten deze kennis zien. Evidentie voor kennis van het effect van bepaaldheid werd gevonden in de 9-jarige en de 13-jarige kinderen, maar niet in de volwassen erftaalsprekers, hetgeen taalverlies impliceert. De voorkeur voor postverbale subjecten was al aanwezig in de jongste erftaalsprekers maar was nog sterker in de oudere groepen. Deze bevindingen tonen aan dat veranderingen in de blootstelling aan de erftaal gedurende de jeugd en adolescentie kunnen resulteren
Samenvatting

In hoofdstuk 7 wordt een nieuwe groep volwassen erftaalsprekers in Nederland en een groep volwassen erftaalsprekers in de VS getest, met als doel de invloed van de dominante taal te onderzoeken. Deze twee groepen erftaalsprekers en een controlegroep van eentalige sprekers van het Spaans werden getest door middel van een evaluatietaak die vergelijkbaar (maar niet identiek) was aan de taak die werd gebruikt in hoofdstuk 5 en 6. Ook hun productie werd getest door middel van een geëliciteerde productietaak. De twee taken lieten eenzelfde patroon zien: terwijl de Nederlandse erftaalsprekers gevoeliger waren voor de effecten van werkwoordstype en bepaaldheid, maar niet voor het effect van focus op woordvolgorde, waren hun Amerikaanse tegenhangers alleen gevoelig voor werkwoordstype. Geen van de twee groepen erftaalsprekers verschilde van de controlegroep wat betreft hun algehele voorkeur voor één van de twee woordvolgordes. Het feit dat alleen de Amerikaanse groep afweek van de controlegroep met betrekking tot het effect van bepaaldheid wordt verklaard door invloed van de meerderheidstaal: in het Nederlands is er een duidelijke relatie tussen bepaaldheid en woordvolgorde (net als in het Spaans), maar in het Engels is deze relatie veel minder sterk. De grotere structurele afstand tussen het Engels en het Spaans zou dus het verschil tussen de twee groepen erftaalsprekers kunnen verklaren.

De discussie van het proefschrift biedt een samenvatting van de bevindingen van de gepresenteerde studies en reflecteert op bevindingen die met elkaar lijken te contrasteren. Zo wordt het feit dat er een effect voor focus werd gevonden in de volwassen erftaalsprekers in hoofdstuk 5 en 6, maar niet in hoofdstuk 7, verklaard door verschillen tussen de twee taken die werden gebruikt in die studies. In hoofdstuk 5 en 6 werden de zinnen namelijk auditief gepresenteerd, en in hoofdstuk 7 niet. Het zou kunnen zijn dat deze auditieve presentatie van de zinnen de resultaten in de subject focus-conditie heeft beïnvloed. De zinnen met woordvolgorde subject-werkwoord werden namelijk uitgesproken met een lichte prosodische nadruk op het werkwoord, hetgeen suggereert dat het werkwoord, en niet het subject, in focus is. Als erftaalsprekers gevoeliger zijn voor prosodie bij het uitdrukken van focus, kan dit een extra reden zijn geweest voor hen om deze zinnen af te keuren in de subject focus-conditie. Een analyse van de productiedata bevestigt dat erftaalsprekers inderdaad focus uitdrukken door prosodische nadruk op het preverbale subject in plaats van door inversie van het werkwoord en het subject te gebruiken.

Een ander verschil tussen hoofdstuk 5 en 6 aan de ene kant, en hoofdstuk 7 aan de andere kant, is dat de erftaalsprekers van hoofdstuk 7 vergelijkbaar waren met de controlegroep wat betreft hun gebrek aan voorkeur voor één van de twee woordvolgorde en ook wat betreft hun kennis van het effect van bepaaldheid op woordvolgorde, terwijl de erftaalsprekers in hoofdstuk 5 en 6 dat niet waren. Dit verschil wordt verklaard door de hoeveelheid input in het Spaans die de verschillende groepen hebben gehad. De erftaalsprekers in hoofdstuk 5 en 6 waren opgegroeid in gemengd huwelijken met maar één Spaanstalige ouder, terwijl de erftaalsprekers in

in zowel vertraagde verwerving als taalverlies (zelfs binnen één en hetzelfde verschijnsel) en benadrukken het belang van kindertaaldata in erftaalonderzoek om deze en mogelijk andere processen van elkaar te kunnen onderscheiden.
hoofdstuk 7 voornamelijk waren opgegroeid in volledig Spaanstalige gezinnen en dus aanzienlijk meer Spaans hadden gehoord in hun jeugd.

De conclusie gebaseerd op de data van hoofdstuk 2 tot 6 is dat interfaces tussen modules, en in het bijzonder de externe interface tussen syntaxis en discourse-pragmatiek, inderdaad extra kwetsbaar zijn in erftaalsprekers van het Spaans. Verschillende mogelijke verklaringen voor deze kwetsbaarheid worden besproken en vergeleken. Echter, de data laten tevens zien dat verscheidene andere factoren die extern zijn aan de erftaal zelf, ook bijdragen aan kwetsbaarheid. Ten eerste maakt het uit welke taak wordt gebruikt, alsned het soort kennis dat wordt getest in die taak (impliciet vs. expliciet). Het soort kennis verschilt bovendien tussen erftaalsprekers en tweedetaalsprekers van het Spaans. Het maakt verder uit waar de erftaalsprekers zijn opgegroeid, gezien de invloed van zowel de specifieke sociolinguïstische eigenschappen van het land als de meerderheidstaal die er gesproken wordt. Tot slot heeft de hoeveelheid input ook een effect op de mate van kwetsbaarheid, en aangezien input een dynamisch gegeven is, kan kwetsbaarheid dus ook variëren van de ene tot de andere levensfase. Deze bevindingen benadrukken de complexe aard van erftalen en hun sprekers. Voor een alomvattende en diepgaande theorie over erftaalverwerving moeten daarom veel verschillende factoren, zowel inherent aan de erftaal als daarbuiten, in acht worden genomen.
Curriculum Vitae

Brechje van Osch was born on April 30th 1986 in Boxtel, The Netherlands. After graduating from the Jacob Roelandslyceum in 2004, she travelled around the Mediterranean and became fascinated by the Spanish language. In 2005 she started a Bachelor in Spanish Language and Culture at the University of Amsterdam, including a minor at the Universidad de las Américas in Puebla, Mexico. Throughout the course of her BA, from which she graduated cum laude in 2009, Brechje developed a passion for linguistics, which drove her to register for a pre-master (2010) and a Research Master in Linguistics (2011), also at the University of Amsterdam. It was during this RMA that Brechje decided to pursue a career in research. For her RMA thesis she carried out an internship at Radboud University Nijmegen in a project on Spanish as a heritage language, which awoke a particular interest in this population. After graduating cum laude from the RMA in 2013, Brechje obtained a PhD grant from the Netherlands Graduate School of Linguistics (LOT), which was funded by the Netherlands Organization for Scientific Research (NWO). During her PhD, supervised by Aafke Hulk, Petra Sleeman and Suzanne Aalberse, she published five papers in various journals, among which the prestigious International Journal of Bilingualism, presented her work at 32 conferences and workshops in ten different countries, and spent two months as a guest researcher at Rutgers University Newark, New Jersey. She also taught several courses and supervised theses at the BA and the MA level, both at the University of Amsterdam and at Leiden University.