Predictive variables in lifelong bilingualism:
An exploratory study probing the effects of L2 English on L1 Afrikaans syntax

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Declaration

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Date: December 2022

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Abstract

This exploratory study is concerned with effects of the second language on the first (EotSLotF). It specifically aims to probe the extent to which it is possible to establish whether and, if so, how the morphosyntactic system of Afrikaans as a first language (L1) changes under the influence of English as a second language (L2) as a result of language exposure and use across the lifespan.

Research focussing on EotSLotF is typically concerned with either heritage language (HL) development or L1 attrition. The present study investigates variables typical of both HL development (i.e. exposure/use in childhood/adolescence) and L1 attrition (i.e. exposure/use in adulthood), thus bringing these two sub-fields together in an attempt to deepen our understanding of how L1 Afrikaans develops under the influence of L2 English across the lifespan.

Tsimpli (2014) argues for a three-way distinction in L1 grammatical development between early, late and very late properties: early properties turn on narrow syntax, while late and very late properties require syntax- and potentially language-external mapping. Similarly, studies of L1 attrition show crucial differences between early/narrow-syntax and late/interface-driven properties: the former are suggested to be less vulnerable to attrition as they incur fewer processing-related challenges. This observation is central to the so-called *Interface Hypothesis* (IH; Sorace & Filiaci, 2006 *et seq.*). This study tests the early-acquired/interface-internal versus late-acquired/interface-external asymmetry in Afrikaans-English bilinguals, a language combination and population not previously investigated within the IH framework.

166 participants in South Africa and the diaspora completed (i) a language background questionnaire, (ii) an acceptability judgement task (AJT), and (iii) a contextualised acceptability judgement task (CAJT). Five syntactic properties of Afrikaans, which differ with respect to their sensitive periods and their relationship to the interfaces, were investigated: (i) Verb Second (V2), (ii) basic sentential negation, (iii) double negation (DN), (iv) pronominal scrambling, and (v) discourse-driven scrambling. The study also takes into account sociolinguistic variation: both what is prescriptively sanctioned in Standard Afrikaans (StdA) *and* what is permissible in Modern Spoken Afrikaans (MsA) is investigated.

The results reveal that, overall, variation indicative of EotSLotF appears to be minimal in the population under investigation. The earlier-acquired properties of the narrow syntax/internal interfaces, while not impervious to the effects of differing amounts of L1/L2 exposure and use, in particular exhibit remarkable stability. The MsA judgement patterns suggest that more frequent exposure to and use of Afrikaans is facilitative in predicting "target-like" behaviour. Where variation indicative of EotSLotF is evidenced, the patterns are, in some cases, similar to those seen in traditional HS populations. The results also suggest, however, that language-specific sociolinguistic and language-internal factors may be centrally relevant.

The picture that emerges is that the IH is a useful framework for probing L1 (in)stability under the influence of an L2 in populations resembling the Afrikaans-English type. However, beyond sensitive-period and interface considerations, language-specific factors appear to play a non-trivial role in the more fine-grained shaping of the L1 grammar. These factors therefore appear to warrant special attention in research concerned with EotSLotF.

Opsomming

Hierdie verkennende studie is gemoeid met uitwerkings van die tweedetaal op die eerste (UvdTTodE). Die doel is spesifiek om te ondersoek tot watter mate dit moontlik is om vas te stel of en, indien wel, hoe die morfosintaktiese sisteem van Afrikaans as 'n eerstetaal (T1) verander onder die invloed van Engels as 'n tweedetaal (T2) as gevolg van taalblootstelling en -gebruik oor die lewenslange.

Navorsing wat fokus op UvdTTodE is tipies gemoeid met óf erfenistaal- (ET-) ontwikkeling of T1-verswakking. Die huidige studie ondersoek veranderlikes wat kenmerkend is van beide ET-ontwikkeling (m.a.w. blootstelling/gebruik tydens kinderjare/adolessensie) en T1-verswakking (m.a.w. blootstelling/gebruik tydens volwassenheid), en bring dus hierdie twee sub-velde saam in 'n poging om ons kennis te verdiep van hoe T1-Afrikaans ontwikkel onder die invloed van T2-Engels oor die lewenslange.

Tsimpli (2014) argumenteer vir 'n drieledige onderskeid in T1- grammatikale ontwikkeling tussen vroeë, laat en baie laat kenmerke: vroeë kenmerke skakel met noue sintaksis, terwyl laat en baie laat kenmerke sintaksis- en moontlik taal-eksterne- kartering benodig. Op 'n soortgelyke wyse toon studies van T1-verswakking belangrike verskille tussen vroeë/noue sintaksis- en laat/koppelvlak-gedrewe- kenmerke: daar word voorgestel dat eersgenoemde minder kwesbaar is vir verswakking aangesien hulle minder prosesseringverwante uitdagings aangaan. Hierdie waarneming is sentraal tot die sogenaamde *Koppelvlak-Hipotese* (KH; Sorace & Filiaci, 2006 *et seq.*). Hierdie studie toets die vroeg-verwerfde/koppelvlak-interne versus laat-verwerfde/koppelvlak-eksterne asimmetrie in Afrikaans-Engels tweetaliges, 'n taal-kombinasie en -gemeenskap wat nog nie voorheen ondersoek is binne die KH-raamwerk nie.

166 deelnemers in Suid-Afrika en die diaspora gebiede het die volgende voltooi: (i) 'n taalagtergrondvraelys, (ii) 'n aanvaarbaarheidsoordeeltaak (AOT), en (iii) 'n gekontekstualiseerde gepastheidsoordeeltaak (GGT). Vyf sintaktiese kenmerke van Afrikaans, wat verskil m.b.t. hul sensitiewe periodes en hul verhouding met die koppelvlakke, is ondersoek: (i) Werkwoord in die Tweede Posisie (V2), (ii) basiese sinsnegativering, (iii) dubbele negativering (DN), (iv) pronominale "scrambling", en (v) diskoers-gedrewe "scrambling".

Die studie neem ook sosiolinguistiese variasie in ag: sowel strukture wat preskriptief goedgekeur word in Standaardafrikaans (StdA) *en* as die wat toelaatbaar is in Moderne Gesproke Afrikaans (MsA), word ondersoek.

Die resultate toon dat, oor die algemeen, die variasie van UvdTTodE spreek, in die gemeenskap wat ondersoek word, minimaal blyk te wees. Terwyl die vroeg-verwerfde kenmerke van die noue sintaksis/interne koppelvlakke nie immuun is teen die effekte van wisselende hoeveelhede T1/T2-blootstelling en –gebruik nie, toon dit veral besondere stabiliteit. Die MsA-oordeelpatrone stel voor dat meer gereelde blootstelling aan en gebruik van Afrikaans fasiliterend is by die voorspel van "teikenagtige" gedrag. Waar variasie wat aanduidend is van UvdTTodE wel voorkom, is die patrone, in sommige gevalle, soortgelyk aan dié wat in tradisionele ET-gemeenskappe aangetref word. Die resultate wys egter ook daarop dat taal-spesifieke sosiolinguistiese en taal-interne faktore van sentrale belang mag wees.

Die konklusie hier is dus dat die KH 'n nuttige raamwerk vir die ondersoek van T1-(on)stabiliteit onder die invloed van 'n T2 in gemeenskappe wat ooreenkomste toon met die Afrikaans-Engels-tipe. Nietemin, bo en behalwe sensitiewe periode- en koppelvlak-oorwegings, blyk dit dat taal-spesifieke faktore 'n nie-onbenullige rol speel in die fyner vorming van die T1-grammatika. Hierdie faktore regverdig dus spesiale aandag in navorsing rondom UvdTTodE.

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For my family

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2L1 = Simultaneous bilingual

ADV = Adverb

AfrE = Afrikaans English

AJT = Acceptability judgement task

AoO = Age of onset

ARC = Age of reduced contact

ATH = Activation Threshold Hypothesis

AUX = Auxiliary

BP = Bare pronoun

BSAfE = Black South African English

CAJT = Contextualised acceptability judgement task

CDA = Confirmatory data analysis

CE/CFE = Coloured/Cape Flats Afrikaans

CLI = Crosslinguistic influence

CLO = Crosslinguistic overcorrection

COP = Copula

CP = Complementiser phrase

CPH = Critical period hypothesis

DEM = Demonstrative pronoun

DN = Double negation

DP = Determiner Phrase

DOM = Differential object marker

EC = Embedded clause

EDA = Exploratory data analysis

EotSLotF = Effects of the second language on the first

ERPs = Event related brain potentials

GEE = Generalized Estimating Equations

GJT = Grammaticality judgement task

HL = Heritage language

HS = Heritage speaker

IH = Interface Hypothesis

IndSAfE = Indian South African English

L1 = First language

L2 = Second language

LBQ = Language background questionnaire

LF = Logical form

L*n* = third/fourth/additional language

LoLT = Language of learning and teaching

LoR = Length of residence

LSD = Least Significant Difference

LTRCU = Length of time of reduced contact or use

MC = Main clause

MOD = Modal

MsA = Modern Spoken Afrikaans

MSG = Moundridge Schweitzer German

NEG = negation

NP = Noun phrase

NC = Negative concord

O = Object

OM = Object Marker

OVS = Object-Verb-Subject

PART = Participle

PF = Phonological form

PP = Prepositional phrase

POL = Polarity

S = Subject

SABC = South African Broadcasting Association

SAE = South African English

SLA = Second Language Acquisition

SOV = Subject-Object-Verb

StdA = Standard Afrikaans

SVO = Subject-Verb-Object

TP = Tense phrase

V = Verb

V2 = Verb Second

V3 = Verb Third

VP = Verb phrase

WMT = Word monitoring task

WSAfE = White South African English

Chapter 1

Introduction

1.1   Overview and orientation of study

This dissertation is concerned with *effects of the second language on the first* (EotSLotF; Cook, 2003). This is the first study to investigate EotSLotF in L1 Afrikaans L2 English bilinguals. This study should therefore be seen as *exploratory* and not confirmatory in nature. Specifically, this exploratory study endeavours to probe whether and, if so, how the morphosyntactic system of the first language (L1) changes under the influence of a second language (L2) as a result of language use and exposure across the lifespan. Following Cook (1999; 2003), the present study takes a holistic view of language competence in bi/multilingualism. Such a view is captured by the term *multi-competence*, which Cook (1999) coined to refer to the knowledge of two (or more) languages in one mind. A multi-competence approach to bilingualism emphasises that the languages in a speaker's mind, be they established or newly acquired, do not exist as linguistic silos. As a consequence, the linguistic knowledge that bilinguals possess cannot be measured against a monolingual yardstick (see Chapter 2, §2.2.1 for discussion). In the present study, I further extend this view of multi-competence to the knowledge that language users have of different varieties that exist within their languages.

The language combination investigated is Afrikaans and (South African) English[1], and the population under investigation are L1 Afrikaans-L2 English bilinguals in South Africa and in English-speaking countries abroad. Bilinguals' judgements of both Standard Afrikaans (StdA) structures, as well as Modern Spoken Afrikaans (MsA) structures are investigated in order to gain insight into the multi-competence they exhibit in relation to their L1. Note that MsA is not a specific dialectal variety of Afrikaans. Rather, the term designates non-dialectal *spoken* Afrikaans, which includes options that are unavailable in prescriptively sanctioned StdA.

The decision to look at both StdA and MsA was taken because in studies concerned with EotSLotF, spoken variation in the L1 is often not taken into account (Jutronić, 2014). The danger therefore is that normal variation in the L1 grammar may masquerade as an EotSLotF in the eyes of the researcher (see Flores & Rinke, 2020). Schmid & Köpke (2007), when addressing issues concerned with sociolinguistic factors in L1 attrition, ask the following

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[1] See §1.3.2 for a discussion of the different varieties of South African English.

question: "To what degree do we have to allow for dialectal and sociolectal variation among our attriters, and how do we control for that?". The answer, surely, should be that variation should be fully "allowed for". It is undoubtedly as important to understand how EotSLotF are evidenced in actual spoken varieties as it is in relation to what is prescriptively sanctioned. As Flores & Rinke (2020: p.26) point out in this connection, if we are to understand how the L1 develops and/or changes under the influence of an L2, a predictive model "has to be able to account for language-internal, variable phenomena and to distinguish variation from deviation". The challenge, however, is that the rules of non-standard varieties have generally not been studied to the same extent as the rules of standard varieties. Therefore, before attempting to look for EotSLotF, we need to establish how L1 speakers in fact judge options available in the spoken variety of interest; and furthermore, whether L1 speakers distinguish between what is prescriptively sanctioned in their language in comparison to what is commonly occurring in the non-standard spoken variety. If L1 speakers possess this kind of language-internal multi-competence, a change in these judgements, or the loss of these distinctions, may in fact be one of the ways in which EoSLotF manifest (see §2.2.6 for further discussion).

Research concerned with EotSLotF is broadly categorised as concerning either heritage language (HL) development or L1 attrition. Simplifying grossly, and according to how the two terms are currently understood in the literature: heritage speakers (HSs) are simultaneous bilinguals (2L1) or early child bilinguals who experience a reduction of L1 input *before* the close of the sensitive periods of language acquisition, while L1 attriters are bilinguals with an AoO of bilingualism that occurs *after* the close of the sensitive periods for language acquisition (between the ages of 12 and 17 depending on the source; see Chapter 2, §2.2). In spite of this distinction, Schmid & Karayayla (2020) argue that the two fields are "artificially separated". Furthermore, Putnam & Sanchez (2013: p.32) argue that L1 attrition and HL development are "epiphenomenal instances of the same process, albeit at different ends of the spectrum". In determining L2 induced variation in the L1 grammar of lifelong bilinguals, insights from both sub-fields are therefore likely to be revealing. Accordingly, the variables investigated in the present study are those typically thought to be predictive in *both* L1 attrition and HL development.

To gain insight into whether EotSLotF are evidenced in the grammar of Afrikaans-English bilinguals, 166 L1 Afrikaans L2 English bilinguals in South Africa ($n = 80$) and the diaspora ($n = 86$) completed a battery of on-line tests. By including participants in South Africa and abroad, the present study aims to single out the role of linguistic environment in

determining EotSLotF. This variable is largely untestable in the "typical" L1 attrition or HL contexts.

Participants first completed a language background questionnaire (LBQ). The information obtained in the LBQ provided the basis for the extralinguistic variables under investigation. The two linguistic tasks were: an acceptability judgement task (AJT) and a contextualised acceptability judgement task (CAJT). While the specific details of the Afrikaans properties of interest will be described in detail in Chapter 3, the three syntactic domains of interest are given here. They are as follows:

(i)   verb placement;

(ii)   negation;

(iii)   and scrambling (which in West Germanic involves leftward movement of sentence constituents, particularly direct and indirect objects, within the clause (see §3.5.1 of Chapter 3)).

The present study avoids an "apples versus oranges" methodological comparison of a baseline group that is monolingual and an experimental group that is bilingual. Rather, bilinguals with differing language exposure and usage patterns are compared with one another. There are both practical and theoretical reasons that this approach was taken. From a practical perspective, a monolingual Afrikaans reference group would be virtually impossible to come by (see §1.3.2 for discussion). Theoretically speaking, although such a methodological approach is fairly novel across the fields of Bilingualism, Attrition, and Heritage Language studies, there is an ever increasing awareness that in order to understand how the languages in a bilingual's mind interact, monolingual systems cannot serve as the yardstick against which we measure bi/multilinguals' multi-competence (see Grosjean, 1989; Cook, 1999, 2001, 2016; Sankoff, 2002; Ortega, 2007).

As such, prior to the data analysis, and based on the 166 participants' responses to the LBQ, a group of participants was identified as those which would serve as the "reference group" (rather than the "control group"; Chapter 4, §4.4.2)[2]. Across the extralinguistic variables under investigation (to be presented in Chapter 4, §4.4.1), these participants use (almost) exclusively Afrikaans and are thus as homogenous as possible given the multilingual context of the present investigation. By chance, of the 166 participants, only 10 met the criteria to be included in this reference group.

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[2] It is acknowledged that this is not the typical way to identify what is typically referred to as a "control group". What this group tries to address is the problem of a "baseline" in studies concerned with bi/multilingualism. Chapter 4 (§4.4.2) will discuss in detail why this approach was taken.

The following sub-sections will provide an overview of the practical and theoretical aspects of relevance to the present investigation. The chapter ends with an outline of the dissertation.

1.2   Afrikaans

Afrikaans is an indigenous language of South Africa which has its roots in varieties of Dutch brought to the Cape in the 17th century (van der Wouden & Muysken, 2012). Although Afrikaans is typically characterised as a West Germanic language (see Ponelis, 1993; Roberge, 1994; Deumert, 2004), the influence of local contact languages at various historical periods is evident in the language's makeup. Creole Portuguese, Malay, Khoi languages, Arabic, English, isiXhosa, and other Southern Bantu languages have all, to varying degrees, contributed to the characteristics of modern-day Afrikaans (see again Ponelis 1993, and the work of den Besten, collected in van de Wouden, 2012, for illustrative discussion).

Deumert (2004: p.1) notes that "Afrikaans is the only language with pidgin/creole ancestry[3] that has been fully standardized, and which has succeeded in replacing its lexifier (Dutch) in all domains [of both private and public life in South Africa - MV]". In 1875 the *Genootskap van Regte Afrikaners* (GRA; "Society of Real Afrikaners") was established, and by 1876 the first grammar of (pre-standardised) Afrikaans was published. In 1925, Afrikaans was granted official status alongside English and Dutch, and by the 1930's a formal and codified standard was being promoted by various South African institutions (Deumert, 2004: p.1). Van Den Berg (2011: p.146) notes that there is a strong link between linguistic purism and the "cultivation, codification and planning of standard language", and that this is particularly true of languages like Afrikaans which were consciously developed at a time when no written tradition existed for the language. This is an important observation to keep in mind in the context of the present study, as Afrikaans does indeed have a strong tradition of prescriptivism, enforced not only in formal or academic contexts, but often in social contexts too.

Afrikaans is one of South Africa's 11 official languages, and it is one of the provincial languages in six out of the nine provinces in South Africa: The Western Cape, Northern Cape,

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[3] As noted above, however, given the variety of languages that fed into StdA (see Roberge, 1994, 2000), it is not the case that modern Afrikaans can be attributed to *just* pidgin/creole ancestry. See Deumert (2005) on the complex nature of the standardization process that gave rise to this system.

North West, Free State, Eastern Cape, and Gauteng. It is, however, predominantly spoken as an L1 in the Western and Northern Cape provinces, as well as in the Free State. The map below indicates the percentage of L1 Afrikaans speakers across South Africa.
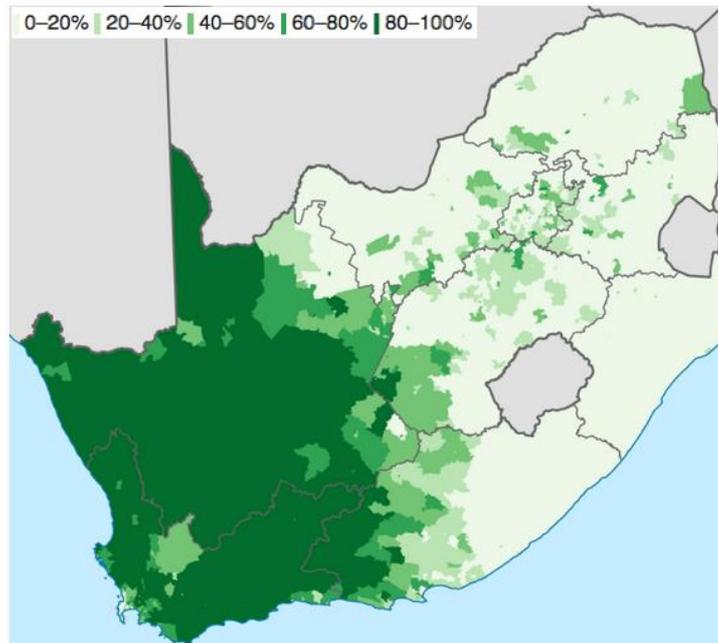
Figure 1.1 Proportion of the population that speaks Afrikaans as an L1
Source: Statistics South Africa's Census 2011

A notable typological feature of Afrikaans in contrast to Dutch is its morphological impoverishment: the verbal morphology is highly impoverished, and there is no gender or case marking in the nominal domain, with a reduction of case distinctions in the pronominal system. Despite these vast morphological reductions, Afrikaans has, at least superficially, maintained the general syntax of continental West Germanic. However, as we will see in a discussion of the properties under investigation (see Chapter 3), Afrikaans also exhibits some uniquely un-Dutch syntactic patterns.

1.3   Afrikaans and English in South Africa

This section considers the use of Afrikaans and English in South Africa, both within and outside of the home (§1.3.1); briefly discusses the different varieties of South African English (SAE) (§1.3.2); discusses language policy and practice in South African schools (§1.3.3); considers language use in the South African media (§1.3.4); and highlights important

sociolinguistic and ideological factors in the study of EotSLotF in relation to the Afrikaans-English language combination under investigation (§1.3.5).

1.3.1 Speaker distribution

English is the universal lingua franca of South Africa, i.e. it is the only language which receives official provincial status in all nine provinces. It is worth noting, however, that according to van Rooy & Coetzee-Van Rooy (2020: p.3), South Africa "remains intensely multilingual, and language shift to English occurs only in a small proportion of homes and only in some communities" (although cf. De Klerk, 2000; Kamwangamalu, 2003). Although only certain L2 English-speaking communities may in fact shift to predominantly using English, it does not necessarily mean that those who do not shift escape EotSLotF under the influence of English. According to the Statistics South Africa census data of 2011 (the last census conducted in South Africa), the four most spoken first languages in South Africa are isiZulu (24%), isiXhosa (16%), Afrikaans (16%) and English (10%). Although English is only spoken as an L1 by approximately 10% of the population, it is widely used as a second language across the country. Consider the maps in Figure 1.2 below, which illustrate the L1 (top map) and L2 (bottom map) distribution in South Africa (Census, 2011).
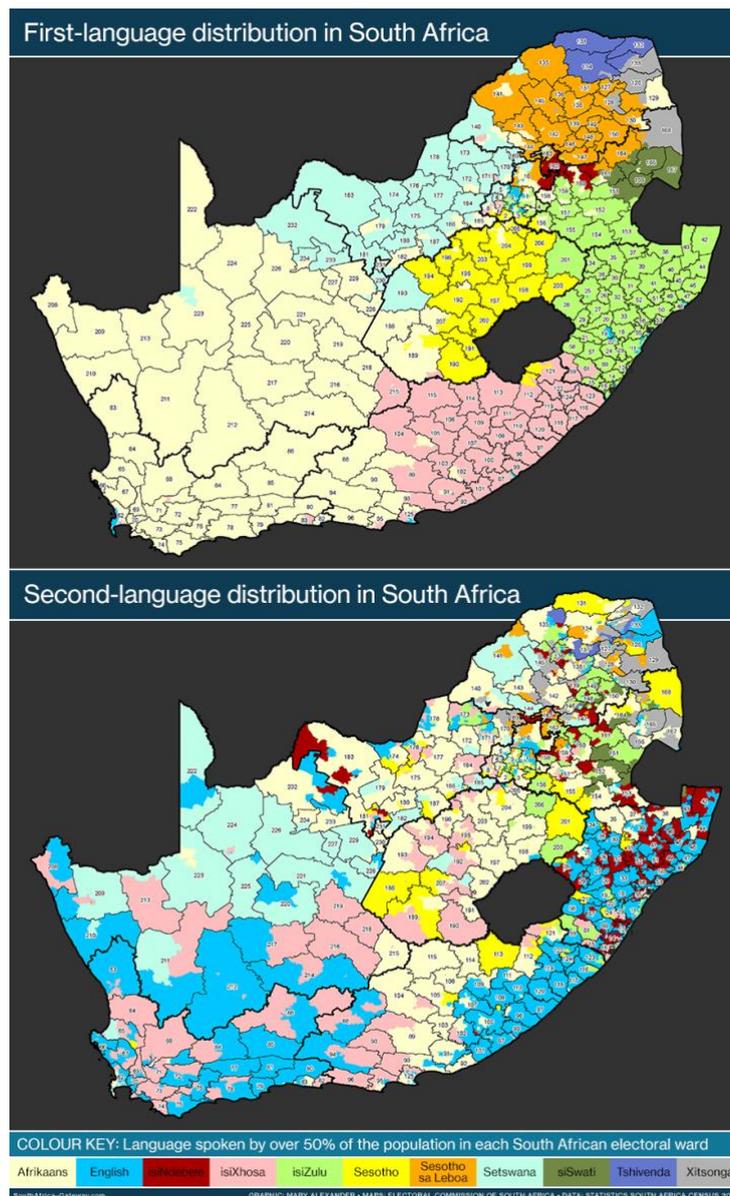
Figure 1. 2 L1 and L2 distribution in South Africa

The second map clearly illustrates, firstly, how few South Africans are in fact monolingual; and secondly, reveals how widely English is spoken as an L2 in South Africa. Given the fact that English is the universal lingua franca and the dominant language in South African government and the media, this is not at all surprising. It is also unsurprising, then, that when concerned with EotSLotF in the South African context, English is often the L2 in question (see Bylund, 2014 for a study concerned with EotSLotF in relation to L1 isiXhosa and L2 English in the Western Cape).

1.3.2 English in South Africa

Although the other 10 official languages are influenced by English in many ways, the influence is, of course, bidirectional. Botha et al. (2020: p.3) note that the 11 official languages influence one another in various ways "within the communicative ecology of the country". SAE is therefore frequently differentiated into a number of varieties, the different grammatical and phonological properties of which have been defined ethnically: White South African English (WSAfE; Lass, 2002); Black South African English (BSAfE; De Klerk & Gough, 2002; Van Rooy, 2014); Indian South African English (IndSAfE; Mesthrie, 1992, 2015); Afrikaans English (AfrE; Lanham & MacDonald, 1979; Jeffrey & Van Rooy, 2004); and Coloured[4]/Cape Flats English (CE/CFE; McCormick, 2002). Together, these varieties have become known as "South African Englishes". Botha et al. (2020) note that the classification is based in part on South Africa's history of Apartheid. However, apart from the role that the spatial separation of Apartheid played in the development of these varieties, differing amounts of language contact and cultural factors are the primary role players.

It was not practicable to determine which variety/varieties of South African English the 166 participants speak. To do so would entail having to collect data on speakers' day-to-day English language usage patterns, as well as conducting a detailed analysis thereof. However, given the fact that WSAfE and AfrE are the two varieties typically spoken by L1 Afrikaans speakers who do not speak the heavily contact-influenced variety of Afrikaans spoken on the Cape Peninsula, *Kaaps* (see Dyers, 2008; Blignaut & Lesch, 2014), these are the two varieties under consideration in the present study. Accordingly, and because it was not determined precisely which varieties participants in the present study speak, I will henceforth use the umbrella term "South African English" (SAE).

Furthermore, note that in terms of what is prescriptively sanctioned in SAE, South Africa generally follows a conservative version of British English in teaching English grammar. In fact, the English Academy of Southern Africa (1992) stated that "the official standard of English in South Africa should be standard British English" (Webb, 1996: p.176).

It is important to note that although SAE is influenced in various ways by the other national languages, L1 English speakers generally find themselves in a very different position

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[4] The population group formally identified as so-called "Coloured" in South Africa refers to individuals of mixed ethnic origin. It is thought that this mixed ancestry has roots in a combination of two or more of the following areas: Europe, Asia and regions home to various indigenous Khoisan and Bantu tribes (Potgieter, 2014). Race labels, and in particular the term "Coloured" are, of course, extremely problematic, and even more so in the South African context. I use the term here only because there is no agreed upon alternative.

to those who are, for example, L1 Afrikaans speakers (or L1 speakers of any other official South African language). While adult L1 Afrikaans speakers are typically also proficient L2 English speakers, the same is often not true of L1 English speakers in South Africa. In the case of the latter, their proficiency in Afrikaans (or any of the other nine official languages) is often limited to what they acquired at school, with little to no use beyond the schooling years.

To this end, English-dominant Afrikaans-English bilinguals are generally accommodated by L1 Afrikaans speakers, who readily speak English if it is apparent that their interlocutor is more comfortable speaking English. A further possibility in such a context, and one which is in fact quite common, is that the interlocutors will engage in *translanguaging*. Translanguaging is the term used to capture bi/multilinguals' flexible use of the languages that they are either proficient in or have comprehension of. The concept is typically associated with educational contexts (see Makalela, 2015 for discussion); however, it is in fact used to explain "mixed and alternate use of languages and to valorize speakers' complex linguistic repertoires that embed and interweave languages into one another" (Makalela, 2015; p.116). In terms of the latter option, it is not uncommon for one Afrikaans-English bilingual to speak exclusively Afrikaans, while the other speaks exclusively English.[5] This observation is made only to illustrate that although surrounded by Afrikaans, L1 English speakers, and even English-dominant bilinguals need not in fact *speak* Afrikaans.

Let us now consider the language policy and practices in South African schools, as well as what the implications of these are for Afrikaans-English bilinguals.

1.3.3   Language(s) of learning and teaching in South Africa

South African schools are required to select a *language or languages of learning and teaching* (LoLT). According to the 2014 nationwide audit of Early Child Development (ECD) Provisioning in South Africa, ECD centres (i.e. preschools) appear to teach in both the dominant language of the area and English. Although this suggests that the centres are aware of the importance of L1 education in the preschool years, it also indicates the emphasis that is placed on ensuring children acquire English from an early age.

In primary school, a distinction is drawn between the foundation phase (Grades 1-3) and the intermediate phase (Grades 4-7). In the case of the former, as with preschools, the LoLT is often the dominant language of the area. It is worth noting that in almost all instances

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[5] I personally engage in this kind of language practice with a number of Afrikaans-English bilingual friends.

where an African language is used as the LoLT in the foundation phase, a switch is made to English as students enter the intermediate phase (i.e. Grade 4). Importantly, however, if the LoLT in the foundation phase is Afrikaans, this switch does not typically happen.

In secondary school, of the 11 official languages in South Africa, most schools choose English, and to a lesser degree Afrikaans – although this is largely determined geographically (see Heugh, 2013 for discussion). Recall that Afrikaans is one of the official provincial languages in six of the nine provinces (see §1.2 above). In certain geographical pockets within these provinces – for example in the Cape Winelands of the Western Cape – Afrikaans (and not English) is typically the LoLT.

Additionally, many schools (primary and secondary) opt for a dual-medium mode of delivery, whereby both English and Afrikaans are selected as the LoLT. In such scenarios, students are streamed into either an English or Afrikaans stream, and then receive all their tuition (with the exception of language classes) in the language of their choice. For those L1 Afrikaans students who attend schools whose LoLT is English, or those who opt for the English stream, it is important to understand that exposure to Afrikaans in an educational context does not disappear entirely. South African students are required to take one language at "Home Language" level and a second "First Additional Language". A third language can additionally be taken as a "Second Additional Language" (see Stein, 2017 for discussion). Students are also permitted to take two languages at Home Language level. Importantly, this is a choice that many Afrikaans L1 English L2 bilinguals opt for (the reverse is very significantly less common).

The primary difference between a language offering at Home Language level and First Additional Language level relates to: the amount of time allocated to written activities (quantitatively more time in the case of the former); the kind of grammatical constructions explicitly taught (more complex at Home Language level); and the complexity of the prescribed texts and the degree to which complexities of the literary themes are explored (again, more complex at Home Language level; see the South African Curriculum Assessment Policy Statements (CAPS)). [6] Overall, however, regardless of students' LoLT or Home/First Additional Language subject selection, Afrikaans-English bilinguals are still (generally) exposed to explicit Afrikaans instruction in a formal educational context.[7]

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[6] https://www.education.gov.za/Curriculum/CurriculumAssessmentPolicyStatements(CAPS).aspx
[7] Unless, of course, the student opts for English at HL level, and isiXhosa, for example, at FAL level. Such a scenario, although possible, is not typical of Afrikaans-English bilinguals in South Africa. It is more likely that isiXhosa would be taken as a third and SAL. In other words, Afrikaans exposure in a formal classroom setting would persist.

This is quite different to the experience of many HSs who typically have no formal tuition in their L1. In spite of the continued exposure to Afrikaans throughout school, it is additionally important to note that in the case of those students whose LoLT is English, their exposure to Afrikaans in the classroom will be no more than 50 minutes a day. This is (quantitatively) in stark contrast to those whose LoLT is Afrikaans, who are exposed to Afrikaans in the classroom for approximately six hours a day. In the case of these children, their exposure to Afrikaans could potentially also continue during extramural activities offered by the school (e.g. music lessons, sport, art classes, etc.), as most schools' extramural activities are also offered in the language specified as the LoLT.

Furthermore, and most importantly in the context of the present study, it is necessary to consider whether an individual's LoLT is Afrikaans only, English only or both Afrikaans and English (dual-medium schools). This is one of the specific variables probed in the present investigation and speaks to the school's linguistic culture as well as the amount of exposure to Afrikaans, both within the classroom and outside of the classroom (with peers). In Afrikaans and dual-medium institutions, Afrikaans is promoted, and the use of Afrikaans is encouraged in all spheres of school life. Naturally, Afrikaans is additionally spoken in the playground and all formal communication is then either in Afrikaans or both in Afrikaans and English (in dual-medium contexts). If this is a student's experience, then, cumulatively, over their schooling years, their exposure to Afrikaans in the school context far exceeds that of students in English-medium schools. The latter will only receive Afrikaans input during their Afrikaans language classes. Furthermore, in English-medium schools it is generally the case that L1 Afrikaans speaking students will speak English to their L1 English-speaking peers; speak English to their L1 Afrikaans-speaking peers in the company of their English-speaking peers; and only speak Afrikaans to their L1 Afrikaans-speaking peers when there are no English-speaking students in the vicinity (personal experience and personal communication with L1 Afrikaans-L2 English bilinguals who attended English-medium schools).

Let us now briefly consider exposure to English and Afrikaans in non-school contexts, by focussing specifically on language in the media and popular culture.

1.3.4   English and Afrikaans in the South African media

As noted in §1.2 above, English is the dominant language of the South African media. Although South Africans' linguistic landscape is dominated by English, the other 10 official languages are, to varying degrees, represented in the media.

The public broadcaster in South Africa, the South Africa Broadcasting Corporation (SABC), provides 18 radio stations and six television broadcasts to the South African public. Of the 18 radio stations and looking specifically at the English-Afrikaans broadcasting distribution, four radio stations broadcast in exclusively English, three broadcast in English and another South African language/language spoken in South Africa (Afrikaans, isiXhosa, Hindi[8]), and one broadcasts in exclusively Afrikaans. Furthermore, 17 community-run radio stations, and four student-run radio stations broadcast in Afrikaans.

Of the six television broadcasts, all broadcast in English and (an)other official South African language(s). Afrikaans shares dual status with English as one of the languages broadcasted in on one of these six television stations. English subtitles are provided across the other 10 official languages, but no subtitles are provided in any other language when broadcasting occurs in English.

In terms of films and based on data captured in 2017 (NFVF database; https://www.nfvf.co.za), the South African box office continues to be dominated by English films produced in the United States of America (USA). Of the 222 films released in 2017, 153 were produced in either the USA or the UK (all English films), and only 23 were produced in South Africa. Of the 23 films produced in South Africa, 13 of those were Afrikaans films. In terms of the popularity of South African films, the market share remained consistent at approximately 6% between 2011-2017. In comparison to (English) foreign-produced films then, the popularity of South Africa-produced films pales in comparison.

In the publishing sector, Afrikaans is the second most commonly used language after English. According to the Audit Bureau of Circulations of South Africa (https://abc.org.za/), the consumer-magazine circulation statistics for the period October-December 2019 revealed that of the top 10 magazines circulated during that period (retail and on-line), four were Afrikaans, four were English, and two were magazines printed in both Afrikaans and English. Additionally, the two magazines with the highest circulation rate were both Afrikaans (*Huisgenoot,* i.e. "Housemate*"*; *Kuier,* i.e. "Visit"). When it comes to newspaper circulation, the picture is slightly different: of the top 10 newspapers circulated during that same period, five were printed in English, two Afrikaans, and three were printed in isiZulu.

Turning to popular culture, it is worth noting that according to van der Merwe (2015: p.229), contrary to what many claim in terms of the future of Afrikaans and "Afrikaner culture"

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[8] Hindi is not awarded official status in South Africa, with most South African Indians speaking English as an L1 (see Mesthrie, 1992). However, with approximately 250,292 speakers, it is recognised as a minority language in South Africa ((https://www.worldatlas.com).

in a post-Apartheid era, "[p]opular Afrikaans music has thrived in [the post-Apartheid – MV] context". Furthermore, van der Merwe (2017), notes that although actual figures are difficult to come by, commercial Afrikaans pop music accounts for approximately 30% to 40% of all locally produced music sales, making it one of the biggest selling music genres in the South African market.

Overall, English is undoubtedly the dominant language of the South African media. It is additionally a language that, through globalisation and increased access to social media, wins out in terms of on-line access and exposure. However, in the South African context, it is certainly not the case that exposure to Afrikaans ceases for individuals beyond the school years.

With the practical exposure- and use-related considerations for Afrikaans-English bilinguals outlined above, the following section further discusses important sociolinguistic aspects related South Africa's political and historical past that need to be taken into consideration.

1.3.5   Understanding EotSLotF in relation to L1 Afrikaans-L2 English bilinguals

The dominant role of English in South African society has been extensively written about (e.g. Ridge, 2000; Webb, 2002; Alexander, 2004), as has the fact that for many L2 English speakers there appears to be a shift towards English dominance at the expense of their L1 (see De Klerk, 2000; Kamwangamalu, 2003). To further understand some of the complex factors at play in L1 Afrikaans L2 English-dominant speakers, it is important to consider the various sociolinguistic and historical factors at play.

Afrikaans is a language shrouded in historical notoriety. It endures the dichotomous distinction between sociocultural identity and Afrikaner pride on the one hand, and its association and stigmatisation as the language of apartheid [9] ("apartness") on the other. As expressed by Deumert (2004):

> The history of standard Afrikaans is closely linked to racist nationalism, the rise of Afrikaner hegemony in South Africa and the politics of apartheid. The early standardisation history created the foundations of this development by establishing Afrikaans as a *witmanstaal* ('white man's language'), an unambiguous marker of white Afrikaner nationalism and ethnicity.

(Deumert, 2004: p.4)

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[9] Apartheid was a system of legislation that racially segregated South African citizens.

In studying EotSLotF in L1 Afrikaans-L2 English bilinguals, particularly when a shift to L2 dominance occurs in the L1 environment, these sociolinguistic and ideological dimensions of Afrikaans (see Roberge 1990) are crucial to understand. These factors are more complex than in the immigrant contexts where EotSLotF are typically studied, namely, L1 attrition in immigrants or language contact situations where the L1 is defined as a "heritage language" (HL). With regard to the latter, "[h]eritage speakers are viewed as a subset of bilinguals, namely, unbalanced bilinguals for whom the stronger language is often the dominant language of their society and whose home language, the one that is referred to as heritage language…corresponds to the minority language of their society" (Polinsky & Scontras, 2020: p.1; although see Chapter 2, §2.2.4, for a discussion centring on why this definition is problematic in multilingual contexts). Importantly then, both are thought of as phenomena that typically occur as a result of immigration (first-generation immigrants in the case of L1 attriters, and second-generation immigrants in the case of HSs).

The present study is concerned with EotSLotF in early bilinguals residing in both the L2 *and* the L1 environment. The former group is more typical of research concerned with EotSLotF (e.g. L1 attrition and HL development) and does thus not immediately raise any terminological issues (although see Chapter 2, §2.2.5). However, the latter group immediately raises a terminological issue: that is, how do we define the more English-dominant bilinguals still located in the *L1 environment*? Rothman (2009) defines a HL as follows (own emphasis added):

(1.3)

> 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* …] [A]n individual … qualifies as a heritage speaker if and only if he or she has some command of the heritage language acquired naturalistically, although it is equally … expected that such *competence will differ from that of native* monolinguals of comparable age.
>
> (p. 156)

As with most HL definitions (see Chapter 2, §2.2.4), the above definition takes as a starting point that the L1 is not a societally dominant/majority language. This is not a straightforward

matter in the context of Afrikaans in South Africa. Secondly, it assumes a monolingual baseline, which is problematic in any study concerned with bilingualism. Both of these aspects highlight the extent to which the field of HL research is largely Western-centric.

A further consideration in the South African context (and other multilingual contexts), pertains to the question of how it is in fact possible for an L2-dominance shift to occur to a language that is spoken as an L1 by less than 10% of the population. In addressing this point, it should first be noted that, very practically, multilingual societies require lingua francas. In all nine provinces of South Africa, English is one of the official languages and it is a lingua franca in almost all urban areas. Secondly, English is often seen as the language which will facilitate economic advancement (Romain, 2000; Farmer 2008;): it is often thought of as a marker of superior education (Dyers, 2005) as well as status in South Africa (Anthonissen, 2009; Mydans, 2009). All of the above facilitate the likelihood of English L2 dominance in bilinguals. A further crucial point to take into consideration, and one that was mentioned at the outset of this sub-section, is Afrikaans's historical association to apartheid. Afrikaans was labelled as the "language of the oppressor" (Archbishop Desmond Tutu, 1976).[10] Accordingly, for many L1 Afrikaans speakers, and particularly for those who lived through or were born during the apartheid era, it either carries with it a burden of shame (this is often true for White L1 Afrikaans speakers) or a source of resentment (this often holds for Coloured[11] or Black speakers).[12]

Ntombana & Bubulu (2017) observe that research has shown that South Africa is still far from a unified country. Racial, cultural and linguistic differences persist and permeate most aspects of South Africans lives (see also Dyers, 1997; Gibson & McDonald, 2001; Vincent, 2008; Goga, 2010; Msimang, 2018; Nyamnjoh et al., 2020). Although this is the case, it should be acknowledged that as we move further from the abolition of apartheid in 1994, there appears to be a revival of Afrikaner pride in the younger generation, particularly those born after 1994. The younger generation, as Ntombana & Bubulu (2017: p.1) point out, "are able to carve out their own identity in which they are able to shift racial space boundaries" because, unlike the previous generations, their identities are drawn from a more (albeit not entirely) integrated society.

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[10] Archbishop Desmond Tutu won the Nobel Peace Prize in 1984 for his efforts in resolving and ending apartheid.

[11] See footnote 4 (§1.3.2 above).

[12] Anecdotally, as an L1 Afrikaans-L2 English (English-dominant) speaker (born in 1986), I recall it being very "uncool" to be Afrikaans in my adolescent years. In fact, quite remarkably, many of my peers were of the opinion that the worse your Afrikaans was, the better. In this regard Afrikaans proficiency (or lack thereof) was almost taken as a marker of (dis)association of apartheid, as well as Afrikaaner culture more generally.

This final point illustrates the kind of sociocultural and sociolinguistic changes that occur over time in multicultural and multilingual communities. These factors are directly related to the linguistic ebb and flow in bi/multilinguals' language repertoires across the lifespan and bring to light the fact that language development and change is neither linear nor uni-directional. As linguistic associations and perceptions change, language exposure and usage patterns change too. This is why it is necessary to consider the effects of exposure and usage across the *lifespan* of a bilingual.

That the L1-L2 push and pull is continuous and ever-changing has implications for what we in fact define as *bilingualism,* particularly in multilingual contexts. This will be discussed below.

1.4   Defining bilingualism

In the introduction to *The Handbook of Bilingualism and Multilingualism*, it is noted that, in the study of bilingualism and multilingualism, one is immediately confronted with a terminological issue (Bhatia & Ritchie, 2013: p.3). *Bilingualism* specifically refers to the type of language user who uses two languages, while *multilingualism* refers to the type of language user who uses more than two languages (e.g. trilinguals). Butler (2013) emphasises the importance of differentiating between the terms, as in the psycholinguistic domain the distinction between the two has implications for language acquisition (Hoffman, 2001; De Angelis, 2007; Jessner, 2008). This in turn has consequences for how languages change as a result of L1/L2/L*n*[13] influence. As the present study is concerned with language users of two languages, I will refer to the participants of the present study as *bilinguals* and will thus use the term *bilingual* more generally. However, where a distinction between bi- and multilingualism is necessary (e.g. in the discussion that follows), I will differentiate between the two.

Furthermore, following the general practice in the field of linguistics, the distinction between the terms *first language* (L1) and *second language* (L2) is taken to be based on the order in which the languages were acquired. This terminological distinction has no correlation to language dominance, which can vary over the lifespan of a bilingual. At this point, however, we must consider who is regarded as having bi/multilingual ability in the first place. In other

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[13] I use "L*n*" to refer to third/fourth/additional language knowledge.

words, what constitutes *enough* knowledge of the other language(s) to claim bilingualism or multilingualism? And furthermore, is *knowledge* enough, or is language *ability* what matters?

Wei (2000) presents 37 different definitions of *bilingualism*. These definitions, ultimately, differ in degree. That such a vast number of definitions exists indicates that as a collective, bilinguals are heterogenous, and that attempting to place them all in one box is a near impossible task. Accordingly, Valdés (2001) argues that we should think of bilingualism as a continuum of varying degrees of L1-L2 knowledge. This continuum is represented in Figure 1.3 below (Valdes, 2001: p.41).

Real Bilinguals: A Continuum

Monolingual   Monolingual
Language A   Language B

A A𝚋 A𝚋 A𝚋 A𝚋 A𝚋 a𝐁 B𝚊 B𝚊 B𝚊 B𝚊 B𝚊 B

⟵————⟶

Figure 1.3 Valdes' Bilingual continuum

The relative size of the letters in Figure 1.3 above, represents the degree of proficiency in each language, with capitals denoting the L1. Note crucially, that the letters are never the same – illustrating the impossibility of being equally proficient in both languages. Valdés (2001: p.40) points out although it is *theoretically* possible to be equally proficient in both languages, something Valdés refers to as "the mythical bilingual", it is in reality never realised. While Valdés' (2001) continuum is useful in highlighting that bilingual ability varies from speaker to speaker, all the while allowing for a more inclusive view of who we can regard as bilingual, such a continuum runs the risk of perhaps being *too* inclusive.

On the other hand, definitions of bilingualism can be too narrow (e.g. Bloomfield, 1933): where only those approaching the abilities of Valdés' "mythical bilingual" qualify as *bilingual* (Edwards, 2013: p.12). The narrow definitions are too exclusionary, and would thus exclude highly proficient L2 users, HSs and L1 attriters (see Chapter 2, §2.2 for a detailed discussion of the associated terminology), while the broader definitions (at the furthest ends of Valdés' continuum) would include the foreign-national tourist who has mastered the ability to ask for directions, but lacks any systematic knowledge of the given language. Both are problematic.

Grosjean's (2013: p.5) definition, which defines bi/multilingualism "as the use of two or more languages (or dialects) in everyday life", seems to better capture what is most commonly regarded as bi/multilingual ability. This too might be too inclusionary, however: the term *dialect* suggests that even a monolingual English speaker who uses more than one register or dialect is "bi/multilingual". As all natural languages exhibit, at the very least, a distinction between what is prescriptively sanctioned in the "standard" variety on the one hand, and what occurs in the spoken language on the other, such a definition is reminiscent of Edwards (2006: p.7) quote that "[e]veryone is bilingual".[14] Additionally, as the below discussion will make apparent, in a multilingual context like South Africa, Grosjean's definition is further complicated.

Many Afrikaans-English bilinguals may know at least a few words or phrases in one or more of the other nine official languages, enough to constitute a "complete and meaningful utterance" – a greeting, for example. Additionally, this rote-learned phrase may be used daily in certain contexts. It is, however, highly unlikely that these individuals would regard themselves as *multilingual* based solely on this ability – and referring to them as such is probably misleading. Furthermore, and of specific relevance to the present study, where does a definition of bilingualism that requires that the languages be used in "everyday life" leave the HS or L1 attriter? As it is necessary to attempt to capture what I intend with the use of the word *bilingualism,* my proposed working definition makes the following assumptions:

(i)   those with minimal and rote-learned context-specific Ln[15] knowledge, even if the Ln is used daily, are excluded; and

(ii)   Grosjean's definition is adapted to exclude the term *dialect* and include language users who are still highly proficient language users, in spite of the infrequency with which they use one of their languages (in this case, the L1).

Thus, in the present study, and in an attempt to capture the ebb and flow involved in bilingual language use across the lifespan, I define bilingualism as:

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[14] The full quote reads: "*Everyone is bilingual. That is, there is no one in the world (no adult, anyway) who does not know at least a few words in languages other than the maternal variety ... The question, of course, is one of degree*" (Edwards, 2006: p.7). Edwards (2013) notes that this is *not* generally referred to as bi/multilingual ability.

[15] Recall that "Ln" refers to third/fourth/additional language knowledge (see footnote 13). In some cases, L3/L4 does not capture the fact that certain language users in South Africa might, in addition to their L1 and L2, have limited knowledge of more than two of the other nine official languages (or other foreign languages).

(1.4)

> *The use of two languages, at various stages across the lifespan of a language user,*
> *in which receptive and communicative competence has been achieved in both*
> *languages across a number of varied contexts.*

The following sub-section considers predictive variables in the two sub-fields of the broader field concerned with the study of EotSLotF, L1 attrition and HL development.

1.5   Predictive variables in research concerned with EotSLotF

As already noted, the study of EotSLotF typically involves a binary, and somewhat artificial, split between research concerned with L1 attrition on the one hand, and HL development on the other (see Schmid & Karayayla, 2020). Although factors researched in the two sub-fields do exhibit overlap, for example: attitudinal factors (e.g. Schuman, 1994; Schmid, 2002; Schmid & Dusseldorp, 2010; Schmid & Karayayla, 2020), as well as factors concerned with level of education and age (e.g. Yağmur, 1997; Schmid & Dusseldorp, 2010), the two sub-fields are typically divided based on age of onset of L2 exposure (AoO-E), and are thus often concerned with which language exposure and use factors in adulthood (L1 attrition) and childhood (HL development) are predictive in determining L1 outcomes.

Research concerned with L1 attrition has focussed on factors such as the length of time since the onset of attrition/length of residence in the L2 environment, as well as factors related to continued L1 exposure and use in *adulthood*. Research on HL development has, on the other hand, been largely concerned with the amount and type of input in *childhood* (see Polinsky, 2018 for an overview). While there is certainly an overlap of the predictive factors thought to be of importance in the two fields, there are crucial differences that require different approaches. For example, although factors associated with the length of time since reduced contact/use (LTRCU) are crucial to HL development, HSs don't necessarily undergo a break in L1 contact from a given point in time. Rather, as noted in §1.4, there are often periods of more or less language use and exposure across the lifespan that need to be taken into account.

With regard to the *type* of input HSs receive, an additional point of consideration is whether the input is itself "divergent". In this regard, immigrant communities (the context in which HSs have typically been studied) may speak different, and often contact-induced, L1 varieties compared to that spoken in the country where the language is dominant (and often

spoken by monolinguals) (see Polinsky, 2018; Polinsky & Scontras, 2020 for an overview). This final observation is particularly important in the context of multilingual environments (where the monolingual yardstick doesn't exist) and raises issues around the terminology used to describe "native" speaker proficiency, as well as who is used as the benchmark of L1 "native-speaker proficiency" (to be discussed in detail in Chapter 2, §2.2.1, to follow).

Lastly, as pointed out in §1.3.5, research focussed on EotSLotF, both L1 attrition and HL development, has primarily focussed on the developing and/or changing L1 in the L2 environment. To this end, Sharwood Smith & van Buren (1991: p.23) hypothesise that it may be that "the L1 changes not because of a lack of use but because of lack of confirming evidence that the L1 is the way it is in a community of L1 speakers". The reason, they suggest, is that native speakers may not only need evidenced for a developing L1 system (L1 acquirers), but additionally that L1 evidence may also be required for L1 maintenance. As noted in §1.1 above, teasing apart the respective roles of L1 use versus L1 exposure is largely untestable in typical L1 attrition or HL contexts. This specific population group therefore makes for a unique testing ground in this respect.

Given that there is considerable overlap in the factors that researchers in both sub-fields consider worthy of investigation, it is not surprising that Putnam & Sanchez (2013: p.32) argue "that both are epiphenomenal instances of the same process, albeit at different ends of the spectrum". By considering predictive factors typical of *both* HL development and L1 attrition (e.g. predictive variables in childhood *and* adulthood), a more comprehensive understanding of predictive variables in lifelong bilingualism can be achieved. In doing so, instead of research that pursues either one of these two sub-fields, research concerned more generally with EotSLotF could potentially bring these two largely artificially separated fields together (see Schmid & Karayayla, 2020 and Chapter 2, §2.6.2).

1.6   EotSLotF in the morphosyntactic domain

As the above discussion has shown, EotSLotF (i.e. both HL development and L1 attrition) have been extensively studied in relation to numerous contexts and extralinguistic factors. The question of how the linguistic character of properties determines structural (in)stability has also been a focus of research interest in recent years. Prominent among this is research which has focussed on so-called "interface status" (see i.a. Tsimpli et al. 2004; Sorace, 2011, 2016; Grabitzky, 2014; Chamorro, Sorace & Sturt, 2016). Simply put, "interface status" refers to the

degree to which a linguistic structure or property interacts with language-external factors, e.g. pragmatic or discourse considerations (Chapter 2, §2.3.1).

How interface status affects the acquirability or vulnerability of the morphosyntactic properties of one language under the influence of another language has been investigated in the context of the so-called *Interface Hypothesis* (IH) (Sorace & Filiaci, 2006; Rothman & Slabakova, 2011 for an overview). The IH was originally proposed by Sorace & Filiaci (2006) to account for the non-convergence and optionality evidenced in some, but not all aspects of advanced L2 adult acquirers' grammars. The IH has subsequently been extended to virtually all aspects of bilingualism, and in particular, L1 attrition (see Chamorro & Sorace, 2019 for an overview). In the case of bilingual language acquisition, the same proposal has been said to hold: that linguistic properties that interface with external considerations are later-acquired and, as such, more likely to be incompletely acquired than properties which do not (Chapter 2, §2.3.1). In L1 attrition, the former are also predicted to be more likely to undergo attrition than the latter (see Chapter 2, §2.4.2).

As already signalled in passing above, interface status may also be linked to timing differences in language acquisition. While the details of this will be explored in Chapter 2 (§2.3.2), it has been observed that early acquired properties are often those that either do not interface with language-external considerations, or do so to a lesser degree than later acquired linguistic properties (Tsimpli, 2014). In studying an L1 grammar that has suffered from a reduction of L1 input as a result of the influence of an L2 in later childhood or adolescence, earlier acquired properties are expected to exhibit more stability and less variability than later acquired properties (Montrul, 2010).

As noted in §1.1, the details of the properties under investigation in this study will be presented in in Chapter 3. However, it is important to note here that these properties were in part chosen with a specific goal in mind, namely to allow us to compare how EotSLotF manifest in:

(i)   syntactic properties thought to be earlier acquired and which map to LF in a simple way, and

(ii)   syntactic properties thought to be later acquired, which interface with discourse considerations and therefore map to LF in a more complicated way.

The former are, for example, properties at the syntax-semantics interfaces – the more "internal interface" properties. The latter are properties at the syntax-discourse interface, the more "external interface" properties; see §2.3.1 for a detailed discussion.

As I will show in Chapter 2, §2.4.2.2, the properties of interest also allow us, to some extent, to consider the role of L1-L2 structural overlap, allowing us to gain further insight into how EotSLotF manifest themselves in the L1 grammar.

In terms of whether EotSLotF are evidenced in the L1 judgements of Afrikaans-English bilinguals with differing language usage profiles, the present study is thus concerned with the following three linguistic factors:

(i)   the role of sensitive period considerations in language acquisition,

(ii)   interface considerations,

(iii)   and L1-L2 structural overlap.

1.7   Research questions

This exploratory research study is conducted within the framework of modern Generative Syntax (Chomsky, 2005; see Boskovic, 2020 for an overview) and focusses on three syntactic domains: verb placement, negation and scrambling. As noted above, the morphosyntactic properties under investigation differ with respect to their sensitive periods, their relation to the interfaces, and their degree of L1-L2 structural overlap. The experimental design probed participants' acceptability judgements of (i) prescriptively sanctioned structures in StdA, (ii) options that are only available in MsA, but not StdA, and (iii) structures that are ungrammatical and therefore highly unlikely to occur in either StdA or MsA.

EotSLotF have not been researched in relation to the Afrikaans-English language combination, nor have the kinds of distinctions that Afrikaans-English bilinguals actually make between StdA and MsA. As a result of the unique multilingual situation in South Africa, and by including bilinguals in South Africa as well as the diaspora, the present study is well situated to probe the role of linguistic environment. As already noted, this variable is largely untestable in typical L1 attrition or HL contexts (see §1.1). Within the context of this specific language combination and with regard to the three syntactic domains identified above, this exploratory study endeavours to gain insight into three primary research questions, which potentially give rise to further sub-questions. The three research questions (with associated sub-questions) guiding this study are as follows:

(i) Research Question I:

Do bilinguals' acceptability judgements of their L1 Afrikaans differ according to whether they are in South Africa or the diaspora? If so,

(a) How are these differences evidenced in the acceptability judgements of bilinguals?

(b) Are the effects limited to the later acquired and more external interface-oriented properties, or are earlier acquired properties associated with narrow syntax/internal interfaces also subject to this variation?

(ii) Research Question II:

Do bilinguals' acceptability judgements of what is prescriptively sanctioned and/or ungrammatical in their L1 Afrikaans exhibit evidence of EotSLotF as a result of differing language exposure and use in childhood and adulthood? If so,

(a) How are EotSLotF evidenced in the acceptability judgements of bilinguals?

(b) Are EotSLotF limited to the later acquired and more external interface-oriented properties, or are earlier acquired properties associated with narrow syntax/internal interfaces also vulnerable to EotSLotF?

(c) Which extralinguistic variables in childhood and adulthood appear to be predictive in determining how EotSLotF are evidenced?

(iii) Research Question III:

Do the acceptability judgements of bilinguals show evidence of a specific L1 language-internal multi-competence that is indicative of their ability to distinguish between what is prescriptively sanctioned in StdA, in comparison to what is permissible in MsA? If so,

(a) Are the distinctions bilinguals make between StdA and MsA subject to EotSLotF?

(b) Which extralinguistic variables in childhood and adulthood appear to be predictive in determining whether this distinction is subject to EotSLotF?

It is acknowledged that if the answers to the primary research questions were to have all been negative, the sub-questions would have fallen away. However, as the results revealed the answers to the second and third primary questions to be positive, the sub-questions did warrant

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close attention. Although this was not the case for the first research question, for uniformity sake, they are all presented in full from the outset.

1.8   Outline of dissertation

The dissertation is organised as follows: In Chapter 2 the wide range of literature relevant to the present study is reviewed. Chapter 3 introduces and presents the details of the Afrikaans morphosyntactic properties under investigation. Chapter 4 describes the study and the methodology employed in the present investigation. Chapter 5 presents the statistical procedures used and outlines the approach adopted in the analysis of the results. Following this, Chapters 6, 7 and 8 present and discuss the results. Specifically, Chapter 6 presents and discusses the verb placement results; Chapter 7 presents and discusses the negation results; and Chapter 8 presents and discusses the scrambling results. These results are summarised in Chapter 9, which addresses how the findings answer the research questions above and discusses the predictive power of the extralinguistic variables under consideration. Chapter 10 concludes the dissertation and outlines the strengths and limitations of the study, offering suggestions for future research.

Chapter 2
Literature review

2.1   Introduction

This chapter provides an overview of literature that describes the predictive power that the different aspects of language acquisition, grammatical make-up, as well as language exposure and use in childhood, adolescence and adulthood may have in shaping the L1 morphosyntax of bilinguals. The population group tested, as well as the variables probed in the present study make it necessary to consider multiple research veins that often remain largely independent from one another, despite all pursuing different aspects of bilingual language development. One of the aims of this literature review, and, by extension, the present study more generally is to demonstrate the importance of marrying these different research areas in an attempt to create a more comprehensive picture of the L1 development of a bilingual than is typically taken into account in bilingualism-oriented research. The multilingual context of South Africa, I contend, makes it necessary to adopt such an approach.

The literature review begins with an in-depth discussion of the key areas that are taken into account across the multiple research veins considered in the present study. Two important aspects of bilingualism are discussed first: the conceptualisation of the bilingual mind (§2.2.1), and age of onset (AoO) of bilingualism (§2.2.2). Thereafter, terminological issues related to the broader field of EotSLotF (§2.2.3 - §2.2.5), as well as terminological considerations in manifestations of EotSLotF in the grammar itself are discussed (§2.2.6). Section 2.3 addresses key theoretical considerations in L1 acquisition which are relevant in the study of EotSLotF. Section 2.4 provides an overview of select theoretical perspectives related to the broader field of EotSLotF; it concludes with the findings of two studies concerned with (in)stability at the interfaces. Section 2.5 is concerned with extralinguistic variables that are predictive in determining EotSLotF, both in terms of HL development and L1 attrition, and discusses findings from two key studies that are of relevance to the present investigation.

To narrow the focus to the present context and population under investigation, two studies of relevance are discussed in §2.6. The final section, §2.7, serves as a summary of the most crucial aspects considered in the literature review. Furthermore, it addresses the need to think critically about past assumptions and move forward with new perspectives in the study of EotSLotF in a Global South context.

2.2   EotSLotF: Setting the stage

This section provides an overview of the broader field concerned with bilingualism and EotSLotF and introduces and discusses important concepts and terminological considerations in the field. Section 2.2.1 presents Cook's (1999) *multi-competence* approach to the conceptualisation of the bilingual mind – a perspective adopted in the present study. Following this in §2.2.2, age considerations relating to the onset of bilingualism are considered from both a terminological and an empirical angle. Section 2.2.3 and §2.2.4 differentiate between what has typically been called "first language attrition" and "heritage language (HL) development" respectively. Section 2.2.5 considers how the definitions in the fields of *L1 attrition* and *HL development* relate to the bilingual population in the present study. Furthermore, important issues in studying EotSLotF in languages where the L1 environment is a multilingual setting are considered. Finally, manifestations of EotSLotF are discussed in §2.2.6.

2.2.1   The bilingual mind

Grosjean (1989: p.6) famously stated that "the bilingual is NOT the sum of two complete or incomplete monolinguals; rather, he or she has a unique and specific linguistic configuration" (emphasis in original text). Recall, that this holistic view of language competence in bi- and multilingualism is captured by the term *multi-competence* (Cook, 1999; Chapter 1, §1.1). Knowledge of the L1 and L2 exist in the same mind; consequently, they cannot be isolated linguistic systems. Bilingualism cannot therefore be measured against the same yardstick of monolingualism.

Grosjean (1999: p.258) refers to the bilingual as "a specific and fully competent speaker/hearer who has developed a communicative competence that is equal, but different in nature, to that of the monolingual". The linguistic knowledge of bilinguals, multilinguals and monolinguals may therefore differ in nature, but not necessarily in quality. This perspective is, however, seemingly at odds with the Chomskyan notion of the "ideal speaker-hearer". Chomsky (1965) states that:

Linguistic theory is concerned primarily with an ideal speaker-listener, in a completely homogeneous speech-community, who knows it's (the speech community's) language perfectly and is unaffected by such grammatically

irrelevant conditions as memory limitations, distractions, shifts of attention and interest, and errors (random or characteristic) in applying his knowledge of this language in actual performance.

(p.3)

The ideal speaker-hearer is, however, exactly that, an *idealisation*. Chomsky (2000: p.59) concedes that "everyone grows up in a multilingual environment". In accounting for why formal approaches to grammar have been primarily concerned with monolingualism, Chomsky (quoted in Grosjean, 2013) is quoted as saying "[t]he only way to deal with the complexities of the real world is by studying *pure cases* and trying to determine from them the principles that interact in the complex cases" (emphasis added – MV). In reality, there are no "pure cases". These idealisations are *models*, quite separate from reality, pursued to uncover something that would otherwise be obscured. The point, of course, is that in order to unravel what is central to language development, interaction, (in)stability and change, one needs to start with the basics – and that has largely been the monolingual "native speaker". A consequence of this, however, is that the concept of language proficiency has been one modelled on the grammar of monolinguals, which, in turn, is traditionally thought to correlate with "native proficiency" (see §2.7 for further discussion as to why we need to rethink the use of the term *native speaker* or *native proficiency*). As most language users the world over are in fact bi/multilinguals, and not monolinguals (Butler, 2013), the study of bi/multilingualism "is not a fringe discipline but concerns central aspects of human life for individuals and for communication in the 21st century" (Cook, 2016: p.26).

One of the ways bilinguals and monolinguals differ is that the former use their languages in different contexts and with different speakers, at different stages of their lives. It is not, however, only bilinguals' language *usage patterns* that change across the lifespan, but also speakers' *proficiency* in and *knowledge* of their respective languages (Sankoff, 2002). That generative linguistics is concerned with answering the question of what a possible mental grammar is, makes data from bi/multilingual speakers "essential since these speakers have grammars that often interact in ways that a theory of possible mental grammars needs to incorporate" (Alexiadou & Lohndal, 2016: p.1). What we have learnt about the "idealised monolingual speaker" needs therefore to be suitably refined and applied to bi/multilinguals who are in possession of a specific multi-competence that does not equate to two monolingual grammars.

A second nontrivial aspect to take into consideration is age of onset (AoO) of bilingualism. Timing differences in AoO of bilingualism differentiate between 2L1, early and late bilingualism, and may have further consequences for a bilingual's multi-competence. AoO of bilingualism is discussed below.

2.2.2   Age of onset of bilingualism

AoO of bilingualism, firstly, brings into question the distinction between child and adult language acquisition. That the two are fundamentally different is not disputed; why they differ is, however, a matter of debate. While the theoretical debate as to why these differences exist will not be explored here (see White 2003 for a comprehensive overview of the different perspectives), what has emerged is that biologically scheduled changes in brain plasticity may underlie the differences between child and adult language acquirers (Bylund, Abrahamsson & Hyltenstam, 2020).

Since Lennenberg's (1967) formulation of the Critical Period Hypothesis (CPH), numerous researchers have pursued research which endeavours to probe this pre- and post-critical period cut-off. Traditionally, this was thought to be around the onset of puberty. The onset of puberty corresponds with a biological age of approximately 11 and 13 years in girls and boys respectively, continuing to completion by approximately age 16 with a delay in the process of about a year in boys (Rogol, Roemmich & Clark, 2002).

For morphosyntax specifically, the age of offset of the sensitive period for morphosyntactic acquisition has recently been suggested to be much later than the period previously speculated: a gradual offset around age 17 was the conclusion of the largest study to date (Hartshorne, Tenenbaum & Pinker 2018). It may be, then, that the close of the sensitive period for morphosyntax is closer to the completion of puberty, and not the onset. Furthermore, different morphosyntactic properties rather clearly have different sensitive periods. There is therefore not one critical period, but rather multiple sensitive periods (see Tsimpli, 2014 for an overview of the literature; and §2.3.2). Language exposure and use during these periods would then be expected to impact different properties differently, rather than affecting the morphosyntactic system as a whole.

Before considering the various acquisition trajectories of the phenomena under investigation in Chapter 3, it is important to define the three broad categories that differentiate bilinguals based on their AoO of bilingualism. Simultaneous bilinguals (2L1) acquire two languages from birth and have typically been thought to proceed through essentially the same

developmental sequence as monolingual acquirers (see Meisel, 2004, 2009). Early sequential bilinguals – or learners who are said to undergo child Second Language Acquisition (SLA) – acquire an L2 with initial exposure around age four, but prior to the age of eight years (Unsworth, 2005; Meisel, 2009;). Late sequential child bilinguals are typically bilinguals whose acquisition of a second and, potentially, further languages, commences after the age of eight years (Unsworth, 2005). What this tripartite classification emphasises is that the distinction is not only between "child" and "adult" language acquisition, but that there are, by hypothesis, fundamental differences between whether a language is acquired from birth or in early childhood or later on in childhood or beyond.

What is important is that the acquisition of subsequent languages, even during early childhood, occurs once the brain has been altered from the birth state; as such, the exact process of L1 acquisition (from birth) cannot be repeated (see Herschensohn 2009: p.267). As a consequence, because the bilinguals in the present study have AoOs of bilingualism between birth and adolescence, the role played by AoO of bilingualism in these early years, prior to the close of the sensitive period for morphosyntax (approximately age 17), can be probed.

The following two sub-sections (§2.2.3 and §2.2.4) deal with terminological considerations in the broader field of EotSLotF.

2.2.3   Attrition

Attrition has traditionally been defined as the non-pathological loss of previously acquired linguistic proficiency (Andersen, 1982; Köpke & Schmid, 2004). It is important to acknowledge that L1 attrition is not the result of a lack of L1 use *alone*, a scenario which would equate to Sharwood Smith & Van Buren's (1991: p.22) "purest attrition situation": the hypothetical desert island situation. In such a scenario it is hypothesised that the L1 may or may not develop in such a way that it diverges from L1 norms as a result of the L1 user being "left alone with no opportunity to read or hear the L1, no opportunity to use it to communicate with other (present) native speakers, and finally, [as a result of - MV] making no effort to write or speak aloud". Such a scenario is, however, hypothetical, and as De Bot & Hulsen (2002: p.262) state "languages are never lost in isolation".

As a consequence, a definition such as Gürel & Yilmaz's (2011: p.222) specifies the *necessity of L2 contact* and defines attrition as "an unconscious rearrangement or restructuring of the L1 grammar due to L2 contact". Hicks & Domínguez's (2019: p.1) definition draws attention to the idea that L1 attrition affects *established adult grammars*, whereby attrition is

defined as "a potentially enduring modification to morphosyntactic properties of an end-state grammar under linguistic pressure". Lastly, Schmid & Köpke (2017b), who for the purpose of their discussion, subsume attrition under the blanket term of EotSLotF, define attrition according to the two ways in which EotSLotF are known to manifest themselves:

(2.1)

[]…the process by which a) pre-existing linguistic knowledge becomes less accessible or is modified to some extent as a result of the acquisition of a new language, and b) L1 production, processing or comprehension are affected by the presence of this other language.

(p.764)

The issue in defining attrition is a complicated one, which excites much debate in the field. The definition of attrition one assumes has consequences for what you regard as "attrition" in the first place. There is an ongoing debate as to whether EotSLotF that affect the level of *grammatical representation* are the only ones that should be regarded as attrition, or if EotSLotF that affect *processing* should also be regarded as attrition (see Schmid & Köpke, 2017a, 2017b). Schmid & Köpke (2017a: p.641), as is apparent from their definition, argue that both phenomena be considered *attrition*, and that the two phenomena represent "developmental stages on one and the same continuum". In this regard, processing effects can be viewed as "attrition" (see Sorace, 2011; Flores, 2010; Kasparian & Steinhauer's, 2017a), and, in fact, it has been called into question whether changes at the level of grammatical representation are even possible (Sorace, 2019).

If we consider the definitions above, what becomes apparent is that none of them in fact refer to L1 grammatical attrition as "loss" or "erosion". The emerging picture is in fact that attrition should be regarded as "change" (Sorace, 2019: p.203). Sorace (2011) maintains that attrition does not affect the grammar itself, but rather how the grammar is accessed, i.e. attrition effects are at the level of processing and not at the level of grammatical representation. In this sense, then, "individual attrition involves no 'erosion' or 'permanent loss', but rather fluctuations and increasing optionality" (Sorace, 2019: p.203). This is also Kasparian & Steinhauer's (2017a) position (see Kasparian, 2015; Kasparian, Vespignani & Steinhauer, 2016; Kasparian & Steinhauer, 2017b):

(2.2)

[A]ttrition can be conceptualized as less efficient L1 processing, increased L2-
to-L1 influence and decreased L1-to-L2-influence (i.e. decreased L1 co-
activation) and may include effects of increased attention, monitoring (second-
thoughts) and motivation to perform well (self-consciousness).

(Kasparian & Steinhauer, 2017a: p710)

The view that grammatical attrition is only evidenced at the level of processing receives
supporting evidence from a study conducted by Chamorro, Sorace & Sturt (2016). The study
investigates whether null pronominal subjects (a structure including components that interact
with discourse considerations; see Sorace 2000, 2003, 2005; Filiaci, 2003; Belletti & Sorace,
2007) are vulnerable to attrition in L1 Spanish-L2 English bilinguals (n = 24). Spanish allows
for either a null or overt subject to appear as the subject in the sentence, their distribution being
pragmatically determined. Broadly, when referring to a referent that has previously been
introduced, a null subject is used. However, if there is a change of referent or additional new
information is introduced, then the subject must be overt (Chamorro et al., 2016). Consider the
examples in (2.3) below, whereby both options (although pragmatically determined) are
grammatical in Spanish (2.3-a); whereas the use of a null subject in English is usually
ungrammatical (2.3-b):

(2.3)   (a)   *Pedro/ø salió del restaurente.*

Pedro/ø left   the restaurant

"Pedro left the restaurant".

(b)   Peter/ø * left the restaurant

(Chamorro, Sorace & Sturt, 2016: p.5)

The researchers used both an on-line eye-tracking-while-reading test and an off-line
naturalness judgement task. Both tasks were included to determine whether potential attrition
effects would be evidenced only at the processing level, or if speakers' grammatical
representations had undergone restructuring, which, according to the authors, would be

evidenced by their off-line judgements. The study revealed that the use of pronominal subjects was vulnerable to attrition effects, but it was argued that this was only at the level of processing. The justification for this was that the effects were evidenced in participants' lack of on-line sensitivity to divergent structures, but not their off-line judgements. [16] To determine the permanence of the attrition effects, a second group of L1 attrited Spanish L2 English bilinguals were tested. This group was exposed exclusively to Spanish in Spain for a minimum of one week prior to testing. It was investigated if the attrition effects evidenced in the on-line task would show signs of reversal after this recent L1 exposure. Results revealed that L1 re-exposure does result in a decrease of attrition effects (see also Köpke & Genevska-Hanke, 2018, among others). Thus, according to these authors, L1 attrition does not affect linguistic knowledge, but only bilinguals' access to it (see also Flores, 2010 with respect to L2 attrition in bilingual returnees).

In isolating which aspects of the grammar become less accessible or affected by these processing constraints, Schmid (2002: p.1) observes that "the single most astonishing feature of first language attrition is how minimal and localised it usually appears to be", and specifically, how stable L1 grammatical knowledge remains (Schmid, 2008). [17] As the present study is concerned with L1 morphosyntactic (in)stability, this is of particular importance. Schmid (2002: p.1) further points out that it is the remarkable stability of the L1 grammar that is of such interest in the field of L1 attrition. It allows us insights into which areas of the grammar are most vulnerable to change in contact situations (theoretical perspectives and predictions of L1 (in)stability are discussed in §2.4).

For the purpose of the present discussion it is important to understand how *attrition*, as described above, is differentiated from *heritage language development*. As stated above, L1 attrition is said to affect *established adult grammars* (Hicks & Domínguez, 2019). Thus, attrition is typically differentiated from HL development based on AoO of bilingualism and/or reduced contact. Accordingly, the former is said to occur *after* the close of all sensitive periods in L1 acquisition, while the latter pertains to the effect that extralinguistic variables have on the L1 grammar *prior* to the close the various sensitive periods in L1 acquisition (see §2.3.2 for discussion). To better understand why the broad field of study concerned with EotSLotF has been divided into these two (largely artificially separated) sub-fields, aspects central to the field of HL research are considered below.

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[16] Although, see the discussion in Chapter 4, §4.5, pertaining to the fact that on-line and off-line tasks do not map neatly onto competence versus performance.

[17] Note, however, that in the case of lexical access, L1 attrition effects are more pervasive (Schmid, 2002).

2.2.4   Heritage languages and their speakers

The study of HLs is still relatively new in comparison to other subfields concerned with bilingualism. Meisel (2019) in fact points out that the field of HL research has not yet reached a consensus as to what exactly constitutes a HL or a Heritage Speaker (HS). For example, there is no real consensus as to what kind of proficiency levels qualify a speaker for HS status. Some in the field maintain that the HL is the weaker language (Polinsky, 2011, 2018; Benmamoun et al., 2013; Meisel, 2019), while other authors do not commit to whether low proficiency levels are a necessary marker of a HL/HS (Flores, 2015; Lohndal, Rothman & Kupisch, 2019).

Additionally, although there is a general consensus that a HL has to be spoken from birth (i.e. that it is the L1) in order to be labelled a HL, the HS label has previously been restricted to speakers who grow up in homes where only the minority language is spoken (e.g. Polinsky & Kagan, 2007), but not both the minority and majority languages. Kupisch (2019), however, extends the HS label to additionally include 2L1 bilinguals (see also Meisel, 2014; Kupisch & Rothman, 2018).

One terminological aspect that most definitions converge on is that the HL is *not* regarded as the dominant language of the society[18]. Consider the definitions below (own emphasis in *italics*):

(2.4)

    (a)   "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*…"

<div align="right">(Rothman, 2009: p. 156)</div>

    (b)   "The term heritage speaker typically refers to second generation immigrants…living in a bilingual/multilingual environment from an early age. *Unlike heritage speakers who are dominant in the language of the host country*, first generation immigrants are dominant in their native language."

<div align="right">(Benmamoun et al., 2013: p.132)</div>

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[18] See also the discussion in Chapter 1, §1.3.5, where the definition in (2.4-d) is first presented.

(c)   "A heritage language speaker is an individual who acquired an L1 grammar (to some degree) of a language that is *not the socially dominant language in a given geographical area*."

(Putnam & Sánchez, 2013: p478)

(d)   "Heritage speakers are viewed as a subset of bilinguals, namely, unbalanced bilinguals for whom *the stronger language is often the dominant language of their society and whose home language, the one that is referred to as heritage language…corresponds to the minority language of their society.*

(Polinsky & Scontras, 2020: p.1)

Where there is less agreement pertains to the *type* of minority language that constitutes a HL: immigrant (Flores, 2015) or non-immigrant (Rothman, 2009; Polinsky, 2011, 2018; Montrul, 2016; Rothman & Kupisch, 2016). Accordingly, Meisel (2019: p.33) states that in defining a HL, "…[t]he only uncontroversial point is that it is the weaker language of bilinguals *whose stronger one is the societal language*, *recognized as a cultural heritage when it is in danger of being lost*" (emphasis added – MV). However, in multilingual societies, and other non-WEIRD (Western, European, Industrialised, Rich and Democratic) societies more generally, this "uncontroversial" point *is* rather controversial and highlights the extent to which the field of HL research is largely Western-centric.

In the South African context, the existing HL and HS definitions reveal their "WEIRDness". As noted in Chapter 1 (§1.3.2), although English has a dominant presence in South African society, it is not numerically (one of) the dominant L1(s) in South Africa. However, given its status and prevalence in urban South African society, it often becomes the stronger language of many bi/multilinguals. This problematises the "uncontroversial" aspect of the existing HL/HS definitions and introduces a further challenge to the study of HLs.

If we are concerned with EotSLotF in the majority of the world's population (and not only the mere 12% that make up the WEIRD societies typically studied), then it is necessary to acknowledge that the issues related to official national languages and societal language dominance are not quite as simple as they are in many of the contexts where HLs have typically been studied. We need to therefore think critically about the terminology we use to describe

bilinguals with differing degrees of L1/L2 dominance.[19] To elaborate on this point, numerous African languages, still spoken in the primary geographical linguistic environment are *not* dominant languages of the "larger (national) society". They are, however, acquired as L1s and spoken daily by a vibrant speech community (i.e. they are not in danger of being lost), in spite of their lower status in comparison to official, or national languages of that region (Kigamwa, 2018: p.598).

Furthermore, in many contexts, monolingualism is an impossibility, with almost all speakers acquiring their L1 and a number of other local or national varieties. In such a scenario, no "monolingual baseline" exists against which these speakers can be measured, which is unfortunately the kind of measure typical of HL studies. These factors clearly need to be taken into account when thinking about L2-dominant bilinguals and heritage languages in non-Western contexts, similar to that which is at stake here.

In the context of the present study, two points need to be made explicit: the first is that by the definitions cited above, Afrikaans in many parts of South Africa cannot be a HL in the strict sense. The Western Cape is a case in point: where approximately 49.7% of the Western Cape's inhabitants speak Afrikaans as an L1 (Census, 2011). If we consider the use of Afrikaans at the provincial level, then there will be certain provinces in which Afrikaans is more likely to be considered a HL than it is in others (e.g. in Kwazulu Natal – where only 5% of the province's inhabitants speak Afrikaans as an L1; see Broeder, Extra & Martins (2002) & Chapter 1, §1.3.1). While Afrikaans in the diaspora is a HL in the usual sense, in South Africa as a whole, the HL definition above is problematic. The second issue is that L1 Afrikaans-L2 dominant English bilinguals in South Africa would not, in accordance with most HL definitions, be considered HSs. Recall that, as pointed out in Chapter 1, although not a universal lingua franca in South Africa, Afrikaans is spoken by society at large, with the number of L1 Afrikaans speakers substantially outweighing the number of L1 English speakers (see Chapter 1, §1.3.2.). Furthermore, unlike most "typical" HL contexts, Afrikaans is spoken as an L2 by 19.3% of the population (Census 2011).

When it comes to AoO considerations in HLs, there is a general agreement in field of HL research that in order to qualify as an HS (and not "attriter"), AoO of bilingualism must occur prior to the close of the sensitive periods for language acquisition (see also §2.2.3 above). Thus, as already stated, HL development is typically differentiated from attrition based on the

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[19] Although not of relevance to the present study, none of the HL definitions take into account multilingualism in the sense that some multilinguals may exhibit language dominance in two or more of the languages that are not their L1.

fact that HSs experience a reduction in L1 input prior to the end of all sensitive periods in L1 acquisition. As a consequence, the possibility exists that during childhood certain aspects of HSs grammar that are associated with later acquisition will not be acquired, either typically or at all. The result is a HL grammar that is different to the grammar of a speaker who did not suffer any reduction in L1 input in childhood (see i.a. Montrul, 2002, 2006, 2008, 2010; Polinsky, 2006, 2008; Pires & Rothman, 2009; Polinsky, 2018).

The participants in the present study all have an AoO of bilingualism prior to the offset of the sensitive periods in L1 acquisition (see §2.2.2). It is worth noting that this will be the case for most Afrikaans-English bilinguals, as the acquisition of English generally commences (at the very latest) by the time they enter the primary schooling system (age 6-7). Thus, in the broader field of study concerned with EotSLotF, the "HS label" would be the one that most readily fits the more English-dominant bilinguals in this cohort. However, in the case of the present population group, the situation is not quite so straightforward. Recall that typically, EotSLotF are studied in the L2 environment (e.g. de Bot, Gommans & Rossing, 1991; Silva Corvalán, 1994; Håkansson, 1995; Pavlenko, 2003; Schmid, 2002; Guardado, 2002; Ben-Rafael & Schmid, 2007; Prescher, 2007; Hyltenstam, Bylund & Abrahamsson, 2009; Schmid & Keijzer, 2009; Zhou, 2010). In the L2 context, AoO of bilingualism marks the beginning of a dominance shift to that language. However, in the case of the present study, and with regard to bilinguals who made a dominance shift to English, most participants only underwent a dominance shift after the age of 16, despite their early AoO of bilingualism. Thus, their linguistic profiles complicate the perhaps overly simplified, classifications of HS versus attriter.

These dichotomous distinctions are discussed further in §2.2.5 below.

2.2.5   Studying EotSLotF in a multilingual context

In studies concerned with L1 attrition, age at emigration is often regarded as the point which marks the age of onset of attrition (see Pallier, 2007; Bylund, 2009, 2013, 2019; Schmid, 2013). It is therefore unsurprising that the L2 environment is the obvious linguistic context for the study of EotSLotF. Recall Sharwood Smith & van Buren's (1991) proposal that a lack of L1 exposure, and not a lack of L1 *use*, may, theoretically, be the primary driving force behind L1 change (see Chapter 1, §1.5). However, from a multi-competence perspective (and a generative perspective more generally), the L1 changes because it is in contact with the L2 *in the mind of the bilingual*, regardless of whether there is confirmatory evidence from the community or not

(see §2.2.1). Therefore, whether or not the L1 is spoken by the greater community becomes a secondary issue – granted a nontrivial one, but a secondary issue nonetheless.

Language contact is broadly defined in two theoretically different ways. The first is psycholinguistic in nature, which situates language contact in the brain of the bi/multilingual speaker (Riehl, 2019). Weinreich's (1953: p.1) definition makes this explicit: "two or more languages will be said to be *in contact* if they are used alternatively by the same persons. The language-using individuals are thus the locus of the contact" (emphasis in original). The second interpretation is a sociolinguistic one, with the focus being on language contact between social groups, where more than one language is used in one setting (Thomason, 2001). The two are of course inextricably linked, but note that from a generative perspective, languages only exist in society as a consequence of their presence in the minds of the speakers. Consequently, the mind, and not the linguistic environment, is always the locus of contact and change. Thus, it would not be unexpected if, even in the L1 context where input persists, variation indicative of EotSLotF is evidenced. While a rupture in L1 contact makes for the most obvious scenario in which EotSLotF are evidenced, it may not necessarily be a requirement for L1 change and instability; it may merely be one possibility.

As pointed out above, L1 Afrikaans-L2 English bilinguals do not, based on the definitions presented above, fit the typical HS profile as it is presently described in the literature. In spite of this, the experiential profile usually ascribed to HSs aligns, more or less, with that of many L1 Afrikaans-L2 English bilinguals in South Africa, and abroad. From an exposure perspective, HSs receive the majority of their exposure to the HL in childhood, typically from their primary caretakers. As they enter the schooling system, and then subsequently in adulthood, they become more immersed in the dominant language of society, in this case, English. Schooling, however, is one area where the L1 Afrikaans-L2 dominant English speakers in the present study are likely to differ significantly from the majority of HSs.

Recall that in South Africa all primary-school children receive tuition in two of the country's 11 official languages. With regard to the LoLT of the participants, the primary LoLT was either Afrikaans, English or both, which is the case in dual- or parallel-medium schools (see Chapter 1, §1.3.3). However, even if the LoLT was English, Afrikaans would have been offered as an obligatory school subject.[20] Schooling in HLs by contrast, is typically not a

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[20] It should be noted that given the age-group of the participants in the study, Afrikaans would have obligatorily been one of their school subjects. However, this is no longer the case in South Africa. The current instantiation of South Africa's educational language policy stipulates only that *any* two of the 11 official languages must be taken as school subjects. Thus, the picture of Afrikaans HSs is likely to change in the future.

possibility. For participants whose LoLT was English at primary school, we do, however, need to acknowledge that tuition in Afrikaans, which is more or less equivalent to that of the foreign language classroom, is not at all the same as naturalistic L1 input (Alptekin, 2007). And furthermore, even with this tuition, the amount of input is dramatically reduced: there is typically in the vicinity of 45 minutes a day of Afrikaans tuition in an English schooling environment. In schools where the LoLT is Afrikaans, or both Afrikaans and English, with an average of seven (45 minute) classes during the school day, the amount of Afrikaans input increases significantly.

As to whether the HS label can in fact be applied to the L2-dominant participants in the present study, recall that Kupisch (2019) allows for 2L1 bilinguals to also be referred to as HSs, as long as the language combination in question conforms to the minority-majority ascription stipulated by the definitions in (2.4) of §2.2.4 above. In considering where this leaves the more English-dominant participants in present study who have remained in South Africa, where Afrikaans *is* one of the dominant languages of the South African society, I refer to a study conducted by Puig-Mayenco, Cunnings, Bayrem, Miller, Tubau & Rothman (2018).

Puig-Mayenco et al. (2018) examine the role of language dominance in L1 Spanish-L2 Catalan, and L1 Catalan-L2 Spanish bilinguals. It is observed that while most HL studies are concerned with HSs immersed in the L2 environment, this should not necessarily preclude the acceptability of the term HS in a different linguistic environment. The unique situation in Catalonia allows for the possibility of either Spanish or Catalan dominance and the authors explicitly address the issue of whether the L1 Spanish-L2 Catalan speakers in their study can be referred to as HSs. Puig-Mayenco et al. (2018) assert that although the specific environment supports successful bilingualism, and although it is easier for these speakers to maintain Spanish than it would be for other HSs in the L2 environment, the majority language is still not their home language. While the situation in South Africa is, of course, slightly different, the authors' sentiment is applicable to the population under investigation in the present study. That is, they maintain that "[t]he increased opportunity to conserve dominance in Spanish does not disqualify our HSs from being HSs, it merely naturally creates an environment in which we can observe the relative weight of key variables that are different from Spanish HS situations in other environments [that] could not otherwise be teased apart" (Puig-Mayenco et al., 2018: p.14).

Puig-Mayenco et al.'s (2018) study will not be discussed in detail. However, the results reveal that although remaining dominant in the L1 is facilitative in the maintenance of L1 target-like behaviour, there is still evidence of what seems to be L2-induced variation. This

suggests that even in linguistic environments that facilitate language maintenance, the L1 can change under the influence of an L2 just as HS – and all bilingual – grammars do (and similarly in ways that reflect what is seen in attrition contexts too). The authors conclude with the following rhetorical question: "[W]hy should our population not reflect a sub-type of HS?" (2018: p.14).

Like the situation in Catalonia, South Africa too allows for the possibility of either Afrikaans or English dominance in Afrikaans-English bilinguals. Furthermore, it is also the case that the South African context supports successful bilingualism of both languages. While there may be more L1 Afrikaans than L1 English speakers, English and not Afrikaans is the country's universal lingua franca, resulting in its societal dominance (although not numerical dominance as an L1; as discussed in Chapter 1, §1.3.1).

While the L1 Afrikaans L2 English-dominant bilinguals' experiential language profile in childhood is different to that of most HSs, there are more similarities than there are differences. In studies concerned with both L1 attrition and HL development, AoO of bilingualism and AoO of L2-dominance are generally conflated. However, in the present cohort of bilinguals, all but one participant acquired English prior to the age of 13 (with the latest AoO of bilingualism specified as age 16; this is somewhat surprising given that English is taught as a school subject from the age of six years). On the other hand, participants in the present study have an AoO of L2-dominanace between the ages of seven and 50 years of age. As the present study compares bilinguals with bilinguals, and not with monolinguals, it may well be that in such a population, the variable AoO of L2-dominance (and not bilingualism), corresponds with the variable AoO of bilingualism in other population groups. This is important, because Schmid & Köpke (2017b) note that most studies concerned with HL development invariably include participants with AoOs of bilingualism of <6, whereas most studies concerned with L1 attrition consider bilinguals with AoOs of bilingualism of >15. The result is that there is a "blindspot" between the two fields, one that, Schmid & Köpke (2017b) note may be the precise period during which linguistic representations stabilise (see also Flores, 2010; Montrul & Polinsky, 2019; and also the discussion to follow in §2.5.1.2).

The fact that the present study considers bilinguals with a wide range of AoOs of L2-dominanace therefore means that it has the potential to probe the importance of this "blindspot". Furthermore, as bilinguals with such varied AoOs of L2-dominance are included in the study, it is argued that insights from *both* the field of HL research as well as L1 attrition may be predictive in determining the current state of these lifelong bilinguals' L1 grammar.

2.2.6 Manifestations of EotSLotF

As discussed above, the present study is concerned with extralinguistic factors typical of L1 attrition and HL development. For this reason, the influence the L2, through exposure and use across the lifespan, has on the L1 will be referred to as *EotSLotF*. From a multi-competence perspective, the L1 of *all* bilinguals will be subject to EotSLotF. The reasoning, as Schmid & Köpke (2017b: p.763) note, is that "the acquisition and use of other languages…have immediate, *tangible and measurable* ramifications for the first one (L1)…[t]hese ramifications, or EotSLotF, will change over time, modulated by a wide range of external factors…in ways that are, to date, poorly understood" (emphasis added – MV). As the present study does not include a group of monolingual "controls", it is acknowledged that from this perspective *all* the participants' L1 will, in theory, be subject to EotSLotF. Flores (2017), however, points out that simultaneous and early sequential bilinguals may challenge the view that EotSLotF are *always* evidenced in the L1 grammar. Specifically, Flores (2017: p.694) states that divergent performance in a language "is the outcome of interrupted contact…and does not occur in cases of continued use of both native languages".

This exploratory study probes whether continued use of both languages is in fact enough to stave off variation indicative of EotSLotF; or whether there is a tipping point in bilinguals' L1/L2 exposure/usage patterns that results in "divergent performance". In other words, at what point, if at all, do we see variation indicative of EotSLotF in the L1 grammar as a result of shifting L1/L2 exposure and usage patterns. As such, what is at stake in the present study pertains to the circumstances under which, if at all, EotSLotF become "tangible and measurable" in the L1 under the influence of the L2.

What is generally agreed upon is that, as pointed out in (2.1) of §2.2.3 and repeated here for convenience, there are two ways in which EotSLotF can manifest themselves: (a) pre-existing linguistic knowledge becomes less accessible or is modified to some extent as a result of the acquisition of a new language, and b) L1 production, processing or comprehension are affected by the presence of this other language (Schmid & Köpke, 2017a: p. 638). However, *how* these manifestations are described differs based on the ways in which the variation is evidenced in the L1.

Two different phenomena that are used to describe the ways in which EotSLotF manifest in the L1 are detailed below: *crosslinguistic influence* (CLI; §2.2.6.1) and *crosslinguistic overcorrection* (CLO; §2.2.6.2). Importantly, the discussion that follows in the sub-sections below makes explicit why the latter, but not the former term is used to identify

possible (tangible and measurable) manifestations of EotSLotF in the present study. Two further manifestations of EotSLotF, relevant to HS populations specifically, are discussed in §2.2.6.3 and §2.2.6.4: the "*yes*-bias" phenomenon in HSs' judgements (Polinsky, 2018; §2.2.6.3), and a language-internal phenomenon which occurs as a result of decreased L1 use/exposure and increased L2 use/exposure (§2.2.6.4).

2.2.6.1 Crosslinguistic influence

The familiar phenomenon of CLI is said to refer to the array of language-related phenomena that occur in a multilingual's interlanguages. The term was introduced by Kellerman and Sharwood Smith (1986) to provide a more comprehensive umbrella term than *transfer*[21] to refer to the effect that one language (or multiple languages) has on another language (in either direction).

CLI has been claimed to occur under conditions of language dominance (Serratrice, 2013; Unsworth, 2013), structural similarity (Döpke, 1998), linguistic complexity (Jakubowicz, 2002), and interfacing[22] (Hulk & Müller, 2000; Müller & Hulk, 2001). However, Kupisch (2014: p.222) notes that studies concerned with the three qualitative factors found to be predictive in CLI – *structural similarity* (Döpke, 1998; Muller, 1998; Grabitzky, 2014), *interfacing* (Hulk & Müller, 2000; Tsimpli et al., 2004; Sorace & Serratrice, 2009; Sorace, 2011, 2016; Chamorro, Sorace & Sturt, 2016) and *syntactic complexity* (Jakubowicz, 2002; Strik & Pérez-Lerox, 2011) – have not yet been able to address whether these three factors are in fact "necessary or sufficient in order for CLI to occur".

What is most problematic, however, is that 35 years after Kellerman and Sharwood Smith (1986) first introduced the term, there is still no definition of what exactly CLI is, and specifically what the *influence* refers to. If we are to make meaningful predictions, based on language-, property- and even structure-specific expectations, then we need to be able to define the influence we are predicting.

At present, the general application of the term is such that there is a commitment to the idea that the L1-L2/L2-L1 *influence* has to be traceable to the specifics of the two interacting

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[21] Kellerman and Sharwood Smith (1986) argue that "transfer" specifically refers to borrowing and restructuring.

[22] This pertains to syntactic structures that interface with syntax-external (e.g. semantics) or language-external (e.g. discourse) conditions (see §2.3.1 & §2.4.1 below).

systems. For example, consider the following sources in (2.5) below where CLI is used to describe this kind of interaction (emphasis added):

(2.5)

    (a)   "More recently the research focus has shifted to issues of crosslinguistic influence, i.e. to instances in which, despite an assumption of language separation, *the two systems interact at some level*."

                                  (Serratrice, Sorace & Paoli, 2004: p.183)

    (b)   "Over the past two decades considerable attention has been devoted to the question of whether bilingual children's *two languages influence each other*, and if so, under what circumstances this cross-linguistic influence (CLI) takes place."

                                    (Bosch & Unsworth, 2020: p.1)

Most recently, Westergaard, Lohndal & Lunquist (2021) have been very specific with respect to what the *influence* in CLI has the potential to refer to:

    (c)   "…crosslinguistic influence does not simply replace V2[23] by non-V2, but is argued to *operate more indirectly*, affecting (a) the *distribution of contexts* for V2 word order, and (b) *introducing two new distinctions* into the heritage language, one (indirectly) based on a *similar distinction in the dominant language* (a difference between adverbs and negation with respect to verb movement), the other based on frequency of initial elements triggering V2 in non-subject-initial declaratives."

                                    (Westergaard et al., 2021: p.1)

The influence described by Westergaard et al. (2021) is very clearly both language- and property specific. Such a precise account certainly allows for fine-grained predictions of L2-induced L1 (in)stability. However, the above exposition does introduce a further complication.

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[23] In a verb second (V2) language, the finite verb is in a clause-second position. See Chapter 3, §3.3.1 for the classic West Germanic pattern.

That is, as noted above, CLI is typically thought to work *directly,* with effects that are traceable to the languages in question. The proposal that CLI can affect a property indirectly moves us further away from arriving at a *definition* of the phenomenon and back to the very general description that CLI refers to "any other kind of effect that one language may have on the other" (Pavlenko (2003: p.32), with reference to Kellerman and Sharwood Smith, 1986).

Part of the difficultly in arriving at a suitable definition of CLI is probably related to the fact that EotSLotF often defy easy categorisation. In some cases, the effects are direct. In others, they are indeed indirect, and in others still, they are the result of reduced L1 exposure, and not necessarily *L2 influence* at all (see §2.2.6.3 and §2.2.6.4 to follow and Chapter 3, §3.3.5). However, to characterise *any* direct or indirect effect as CLI does not meaningfully identify what the effect is, but simply identifies that there is one. To facilitate a more precise account of *how* EotSLotF are evidenced in the L1 judgements of bilinguals, I will refrain from using the term "CLI", and endeavour to describe the effects in question.

2.2.6.2 Crosslinguistic overcorrection

Crosslinguistic overcorrection (CLO) is a term introduced by Kupisch (2014), and, unlike CLI, is very precise in its formulation and predictions. CLO describes a phenomenon that occurs in the adult L1 grammar under the influence of the L2, whereby unlike bilingual children, adult "bilinguals exaggerate the contrasts rather than the similarities between their two languages" (Kupisch, 2014: p.231). In other words, adult bilinguals who overcorrect exhibit variation in their L1 grammar that, while not deviant in terms of what is prescriptively correct in the L1, does also not align with the performance of monolinguals. Their divergent behaviour is in fact either more conservative than the monolinguals, with *less* within-group variation, or there is an "overacceptance and overuse" of certain L1 structures not found in the L2 (Kupisch, 2014: p.23). Let us now consider the circumstances under which CLO is said occur.

Like CLI (although see the discussion above), CLO is claimed to occur when two languages exhibit a partial structural overlap. For a prediction of CLO, a particular linguistic property has to be expressed differently in the two languages or be present in the one language but not in the another. In other words, CLO is thought to be the result of linguistic *difference.*

This "overcorrection" was observed in Kupisch & Barton (2013), the details of which will be briefly presented to illustrate how CLO presents. Kupisch & Barton's (2013) study is concerned with subject nominals in German, with a focus on plural and mass nouns with a definite article. Participants included 2L1 German-Italian and 2L1 German-French adult

bilinguals. The linguistic difference lies in the fact the definite nominals have a specific interpretation in written German, but are ambiguous in both Italian and French, where both specific and generic interpretations are possible. Participants completed a truth value judgement task and an acceptability judgement task (AJT). The results revealed that, in comparison to the monolingual German speakers, the bilinguals were less likely to accept generic DPs as subjects in German and interpret them as such. Kupisch & Barton (2013: p.23) state that the results show that "the 2L1 speakers do not *exactly* mirror the variation found in monolingual German speakers. However, in *not* doing so, they tend to be more conservative than monolinguals, i.e. closer to the written standard, allowing for *less* variation".

Since Kupisch & Barton's (2013) study, Kupisch (2014) has formally proposed and described a notion of "CLO" as a phenomenon separate to CLI. Kupisch's (2014) study is concerned with the judgement of adjectival placement in Italian by 2L1 Italian-German adult bilinguals. The results from Kupisch's (2014) study reveal that CLO was only evidenced for the experimental data (AJT), and not the naturalistic data. Subsequently, CLO has also been proposed to account for the patterns evidenced in the grammars of HSs of Norwegian who are dominant in English (Anderssen, Lundquist, Westergaard, 2018 for postnominal possessives; Lundquist, Anderssen, Lohndal & Westergaard, 2020 for V2). In these cases, CLO was in fact evidenced in spontaneous speech production.

Given its precise formulation, as well as its focus on *adult* grammars specifically, in the present study the term CLO will be used. Where appropriate, it will be specified where a prediction of CLO could reasonably be proposed.

Let us now consider two further possible ways in which variation indicative of EotSLotF can manifest in the L1 grammar under increased exposure to and use of the L2.

2.2.6.3 The "*yes*-bias" phenomenon

As the above discussion has shown, variation cannot always be directly traced back to the L2 (e.g. CLI); some bilinguals "overcorrect" with judgements that more closely represent the L1 standard when compared to the judgements of monolinguals (e.g. CLO). A further way which EotSLotF have been shown to manifest in the L1 grammar, pertains to what Polinsky (2018) refers to as a "*yes*-bias" in the judgements of HSs when assessing the status of structures in their L1 (see i.a. Polinsky, 2006; Sherkina-Lieber, 2011; Rinke & Flores, 2014). Polinsky (2018) notes that "as a rule, heritage speakers are reluctant to reject or give a low rating to whatever structures they are asked to evaluate" (Polinsky, 2018: p.68). Thus, although

grammatical sentences tend to be accepted at target-like rates by HSs in judgement tasks, sentences which violate a grammatical norm (e.g. spoken variation) and ungrammatical sentences are more likely to be incorrectly rated as grammatical. According to Rinke & Flores (2014) this pattern may be indicative of language uncertainty. The reason, as explained by Polinsky (2018: p.100), is that the rejection of ungrammatical structures/grammatical-norm violations requires a "certain confidence in one's own knowledge" – a confidence which is often lacking for HSs with respect to their L1.

Another factor to consider with regard to these kinds of judgement patterns pertains to processing-related considerations (Orfitelli & Polinsky, 2017). Polinsky (2018) notes that even for monolingual speakers there is a link between working memory and judgement tasks, and that processing limitations may be to blame (see also Sorace & Serratrice, 2009; §2.4.2.2). It has been observed that under "substantial working-memory strain…native speakers can be induced to provide incorrect judgements on sentences containing agreement violation, omissions, and even word-order errors" (Polinsky, 2018: p.99). It follows then that, if, under certain circumstances which induce working-memory strain, monolinguals can suffer from processing-related problems, we may expect HSs to face similar processing-related issues even *without* additional working-memory stressors.

In the case of HSs then, the population group most relevant to the L1 Afrikaans-L2 English bilinguals under investigation, there appears to be a heightened uncertainty with respect to the status of ungrammatical structures/grammatical-norm violations in their L1. The result is that HSs tend to incorrectly retain them as grammatical – an uncertainty that may, in part, be accounted for on the basis of processing-related considerations.

With respect to what is permissible in colloquial language specifically, let us consider a further possible explanation which may account for these more tolerant judgement patterns.

2.2.6.4 Variation as a language-internal phenomenon

Section 2.2.6.2 and §2.2.6.3 have illustrated that variation in the L1 under the influence of an L2, is not in fact always traceable to the grammatical make-up of the L2; i.e. we are not always dealing with CLI. However, things become even less straightforward when we consider how variation indicative of EotSLotF manifests in bilinguals' judgements of *spoken* language. In these instances, it may not be as simple as assuming a *yes*-bias based on speaker uncertainty and/or processing-related considerations (as may be the case in judgements of *ungrammatical* structures). That is, variation indicative of EotSLotF can be the result of a language-internal

phenomenon – one that is, crucially, only applicable to bilinguals' judgements of *spoken variation*. What is important to note is that, in such instances, the variation does *not* mirror the L2 pattern (i.e. it is not externally-driven CLI), supporting the hypothesis that the variation is internally-driven.

To clarify the distinction between language-external and language-internal variation, let us consider how the two are understood in the study of language change in contact situations. The former is thought to be the result of social considerations, while the latter can be traced to language-specific structural considerations (Hickey, 2020a: p.2). Typically, externally and internally driven change is associated with adults and children respectively, with the latter group being L1 acquirers constructing their L1 based on the available input (Yang, 2000). Hickey (2020a: p.3), however, notes that in high-contact contexts language-internal factors can drive change in adult grammars too, "particularly if they are engaged in language shift in an unguided, non-prescriptive situation" (see Hickey, 2007). Importantly, however, as internal changes in contact situations are often the result of external drivers, Hickey (2020a) concludes that language change cannot be understood as an either (externally driven) or (internally driven) phenomenon, but rather that both factors need to be taken into account.

This is true of EotSLotF too, where external factors, such as an increase in L2 use/exposure and a decrease in L1 use/exposure, can trigger language-internal variation. This is highlighted by Flores & Rinke (2020) who discuss the phenomena of language-internal variation not often taken into account in studies concerned with HSs. Flores and Rinke (2020) note that HSs often exhibit variation typical of colloquial varieties, and that, as such, they "boost and further develop the tendencies of language (internal) evolution inherent to variable phenomena" (Flores & Rinke, 2020: p.4). One possible reason for this is said to be because HSs are predominantly exposed to colloquial registers (Flores & Rinke, 2020: p.4).

This language-internal variation is also evidenced by Hopp & Putnam (2015) in the study of word order variation in L1 Moundridge Schweitzer German (MSG) L2 English speakers (see §3.3.5, Chapter 3 for a detailed discussion). Hopp & Putnam (2015: p.2) conclude that extensive L2 contact does not lead to the adoption of the L2 word order, but rather "occasions restructuring of German word order within the constraints of German syntax".

More recently, the same language-internal phenomenon is observed by Shah, Biberauer & Herrmann (in press) in their study of Kroondal German in contact with Afrikaans and English. Shah et al. (in press) note that:

Where variation is attested, it appears to be grammatically restricted in ways that necessarily require consideration not only of the wider contact situation in which KG speakers find themselves (i.e. so-called external factors), but also of the grammatical make-up of their language (i.e. so-called internal factors).

(p.31)

To understand what this variation may look like, let us consider how the patterns typical of colloquial varieties are "boosted" by HSs/L2-dominant bilinguals. Heine & Kuteva (2005) describe the process in terms of *minor* and *major patterns*; whereby the former is expanded "beyond its originally more limited domain", becoming a major pattern (Shah, et al., in press). For example, a minor pattern only permissible in colloquial speech may be overused by HSs/L2-dominant bilinguals and accepted as typical of the standard variety (becoming a major pattern). This is demonstrated in the Table below, whereby the ✓ indicates that speakers accept the pattern as permissible in a given variety, whereas the X indicates that speakers do not.

	Pattern permissible in colloquial variety	Pattern permissible in Standard variety
L1-dominant bilinguals/monolinguals	✓	X
HSs/L2-dominant bilinguals	✓	✓

Table 2. 1 Depiction of a minor to major change in language

The crucial point is that while L2 contact may occasion this expansion, it is not a *direct* EotSLotF. Rather, the variation is the result of the elaboration of an already-present language-internal phenomenon. In other words, divergence from L1-dominant bilinguals'/monolinguals' L1 usage patterns is evidenced through the expansion of a pattern already present in the L1. Unlike CLI, this pattern is constrained by the L1's structure, and not the L2's.

This language-internal phenomenon highlights the importance of considering both the standard and the non-standard variety/varieties used by L1 speakers (e.g. MsA in the case of the present study). To this end, and with respect to HSs specifically, Flores & Rinke (2020) note that:

HLs should be compared not only to the standard, but also to *vernacular* non-contact varieties. A predictive model for HL development has to able to account for language-internal, variable phenomena and to distinguish variation from deviation.

(p.26; emphasis in original)

This is, however, not without its challenges. As already noted in Chapter 1 (§1.1), standard varieties are often relatively well described in the literature; it is not, however, typically the case for colloquial varieties. In spite of this, in order to probe why bilinguals make the L1 judgements that they do, it is necessary to at least acknowledge that language users' L1 knowledge is not constrained to the standard variety, and that we therefore need to seriously take internal variability into account.

The above sub-sections have illustrated the importance of considering variation indicative of EotSLotF in ways that are not directly linked to the structure of the L2 (e.g. CLI). In other words, although L1 variation under the influence of an L2 may be the result of a reduction in L1 exposure/use and an increase in L2 exposure/use, it is necessary to consider factors other than those directly related to the structure of the L2 under consideration.

2.3 Theoretical perspectives in first language acquisition

The following section discusses theoretical aspects related to language acquisition that are of relevance to the study of EotSLotF – and specifically the consequences thereof for morphosyntactic (in)stability. As the present study is concerned with syntactic properties that differ with regard to their sensitive periods and their syntactic realisation at the interfaces, morphosyntactic (in)stability will be considered in relation timing effects in L1 acquisition as well as interface status. As a starting point, §2.3.1 introduces and describes how a linguistic interface is conceptualised, and then considers acquisition at the interfaces. Section 2.3.2 introduces the idea of multiple sensitive periods in language acquisition and illustrates that property-specific timing differences and interface status are not mutually exclusive. Section 2.3.3 is concerned with the acquisition of sociolinguistic variation. Additionally, as the present study makes use of tasks which probe metalinguistic ability, it is necessary to consider the age at which metalinguistic skills are thought to emerge; this will be detailed in §2.3.4.

2.3.1 Acquisition at the interfaces

Rothman (2010) notes that while the term *interface* has gained popularity since the turn of the century, the concept itself has been around since the beginning of the Principles and Parameters (P&P) era (Chomsky, 1981). To clarify precisely what an interface is in Generative terms, a

P&P model of linguistic theory is illustrated in Figure 2.1 below (although see also Burhardt, 2005; Reinhart, 2006; Ramchand & Reiss, 2007).

Lexicon

↓

Narrow Syntax

('core' syntactic operations)

↓

Spellout

Phonological form (PF) **Logical form (LF)**

| (conversion from hierarchical syntactic structure to phonologically realised strings – occurring in stages) | (conversion from syntactic operations to: (i) semantic operations, which then form the input to map onto (ii) pragmatic and (iii) discourse operations) |
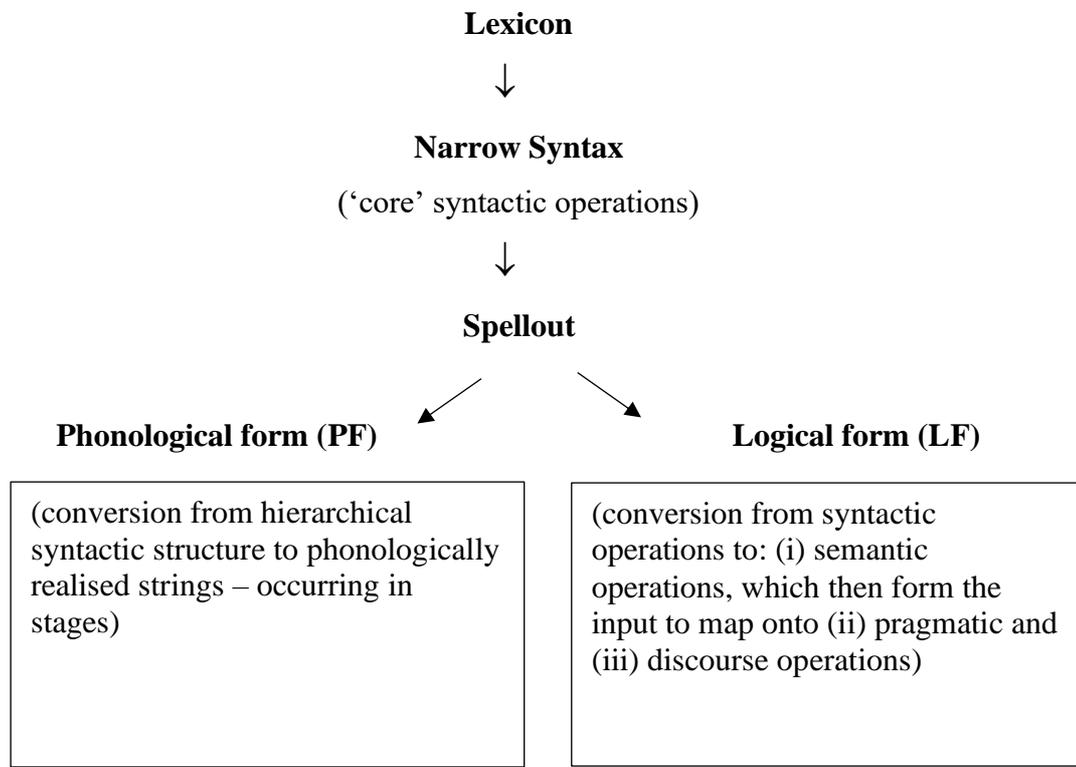
Figure 2. 1 A T-model of linguistic theory

The conceptualisation above, taken forward into the Minimalist Program (Chomsky, 1995), is a model that illustrates how syntactic operations are thought to meet interface conditions that relate to their phonological (PF) and semantic (LF) outputs (see Chomsky, 1995, 2000). As language is always contextually situated, the above representation includes the fact that these semantic operations further map onto pragmatic and discourse operations (not explicit in the original P&P T-model). Sorace (2019: p.205), however, notes that because we are no longer dealing with "a binary split between 'narrow syntax' and 'interfaces'…it seems more appropriate to assume a continuum of conditions on syntactic realization".

In this regard, it is the distinction between the syntax-semantics versus the syntax-discourse mappings that can be broadly understood as being more interface-internal and interface-external respectively (see Tsimpli & Sorace, 2006; Serratrice & Sorace, 2009). The former refers to the interface *between* linguistic modules and the latter between linguistic modules and *other* domains of cognition (Rothman & Slabakova, 2011: p.570).

The distinction between the more internal and external interfaces is necessary because not all interfaces are equal in the sense that syntactic properties map to LF in both simpler or more complex ways (see Montrul, 2011 for discussion). To further clarify the proposed distinction between "more internal" and "more external" properties: external interface conditions are those that rely on the integration of "ever-changing" contextual and pragmatic information; while internal interface conditions involve the integration of semantic and morphological information, which remains unaffected by context (see example (2.3) above; Chamorro & Sorace, 2019: p.23). This distinction can be clearly illustrated by two of the properties investigated by Chamorro and colleagues (in relation to L1 attrition; see §2.4.2.1) – the first already discussed in §2.2.3 above, and the second briefly described below.

Recall that Chamorro, Sorace & Sturt (2016) are concerned with the distribution of null pronominal subjects in Spanish (§2.2.3). Recall again that in Spanish the distribution of null and overt subjects is pragmatically determined: if the referent has been previously introduced, a null subject is used; if not, or if new information is introduced, then the subject must be overt (see example (2.3) in §2.2.3 above). Thus, in Spanish the distribution of null pronominal subjects relies on the integration of contextual and pragmatic information, i.e. it is an external-interface condition.

The second study by Chamorro, Sturt & Sorace (2016) focusses on differential object marking (DOM) in Spanish. Chamorro & Sorace (2019) explain that the distribution of DOM in Spanish, or the personal preposition *a,* is subject to the semantic factors of animacy and specificity of the direct object (i.e. DOM is guided by principles of information structure). Generally, if the direct object is animate and specific, then DOM is obligatory, as in (2.6) below. However, if the direct object is inanimate, regardless of specificity, the direct object cannot be DOM-marked (see (2.7) below). Note that *al* is the contraction of the DOM *a* and the masculine singular definite article *el* (Chamorro & Sorace, 2019: p31). The DOM is underlined in the examples below.

(2.6)   (a)   *María vio   <u>al</u>   niño esta mañana.*
                       María   see.PST   to.the   kid   this   morning
                       "María saw the kid this morning."

              (b)   **María vio   el   niño esta mañana.*
                       María   see.PST   the   kid   this   morning

(2.7) (a) *María vio una película/la película esta mañana.*
María watch.PST a movie the movie this morning
"María watched a/the movie this morning."

(b) **María vio <u>a</u> una película/la película esta mañana.*
María watch.PST to a movie the movie this morning

(Chamorro & Sorace, 2019: p.32)

As illustrated above, although DOM in Spanish interfaces with semantics, it is not context-dependent, i.e. as indicated in Figure 2.2 above, it is an internal-interface condition.

Let us now return to acquisition at the interfaces. The *Interface Hypothesis* (IH) was originally proposed to account for the non-convergence and optionality evidenced in *certain* aspects of advanced L2 adult acquirers' grammars (Sorace & Filiaci, 2006). In the three-way distinction between the narrow syntax, the internal interfaces (e.g. syntax-semantics) and the external interfaces (e.g. syntax-discourse), the IH predicts more stability at the narrow syntax/internal interfaces than it does at the external interfaces.

The prediction is therefore that the acquirer may experience optionality of external-interface conditions, resulting in L2 grammars that reveal "non-native" patterns (Sorace, 2000; 2003; 2005). Two explanations have been proposed to explain this optionality (Sorace & Filiaci, 2006: p.341). The first is that optionality is the result of "un(der)specification" at the level of representational knowledge. The second is that insufficient processing resources are to blame. The latter explanation has received the most support in research exploring optionality in advanced adult L2 acquirers.

It is noted that properties at the syntax-discourse interface, unlike syntactic properties that do not interface with discourse considerations, present delays in L1 acquisition too (Rothman, 2008; Tsimpli, 2014). Furthermore, the work on null and overt pronominal distribution in Spanish and Italian have revealed persistent optionality even in the grammar of adult monolingual speakers (Alonso-Ovalle et al., 2002; Carminati, 2002, 2005; Sorace & Serratrice, 2009; §2.4.2.2). This provides evidence for the proposal that structures at the interface between syntax and discourse are particularly costly in processing terms (Sorace & Serratrice, 2009).

With this in mind, I wish to note that the present study is concerned with:

(i)   verb placement and sentential negation, which are properties of the *narrow syntax*;

(ii)   pronominal scrambling, a property at the *syntax-semantics interface*; and

(iii)   double negation (DN) interpretations and full DP scrambling, which are properties at the *syntax-discourse interface*.

In spite of this three-way distinction, and as noted above in relation to the IH, the present inquiry is concerned with (in)stability of:

(i)   properties of the *narrow syntax/internal interfaces* on the one hand; and

(ii)   (in)stability at the *external interfaces* on the other.

A further, but related, point of consideration pertains to sensitive-period considerations, which I will discuss below.

2.3.2   Timing differences in the acquisition of morphosyntactic properties

Different linguistic domains (e.g. phonology, morphology and syntax) emerge at different times and follow different developmental trajectories (see Meisel, 2009 for an overview). As already noted with respect to morphosyntax (§2.2.2), it is observed that each linguistic domain further exhibits multiple sensitive periods for the emergence of different domain-specific properties (Meisel, 2009: p.8).

As the present study is concerned with the morphosyntactic domain, only this domain will be considered here. As noted in §2.2.2, the sensitive period for morphosyntax appears to continue to develop well into adolescence, with a gradual offset around age 17 (Hartshorne et al., 2018). When exactly certain morphosyntactic properties emerge is thought to be based, in part, on their interface status.

Tsimpli (2014) reports on the acquisition of properties that emerge at different periods along the L1 acquisition trajectory: early (< 3 years of age), late (approximately age 5) and very late (continuing well into adolescence in some cases). Tsimpli (2014) proposes that properties of the narrow syntax are early acquired. The late and very late properties are those that are thought to interface with "syntax-external or even language-external resources too" (Tsimpli, 2014: p.284).

For example, the V2 phenomenon[24], a property of the narrow syntax, is argued to be an early acquired syntactic property (see Chapter 3, §3.3.4 for a detailed discussion). In contrast,

---

[24] The V2 phenomenon is a characteristic of West Germanic languages (but not present-day English), which sees the finite verb situated in clause-second position after a clause-initial constituent/phrase (see §2.4.2.3 below and Chapter3, §3.3 for detailed discussion).

passives[25], a property at the syntax-semantics interface, are thought to be late acquired (Borer & Wexler, 1987; Hyams, Ntelitheos & Manorohanta, 2006; Kirby, 2010). A very late acquired property is that of pronominal reference in Spanish, which necessarily entails mapping to the (external) discourse interface (see again the details presented in §2.2.3 above for Spanish).

Tsimpli's (2014) three-way distinction between early, late or very late acquired properties, is not, however, intended to be universally applicable nor absolute in terms of how timing differences correlate with the three main areas of the architecture of the language faculty (i.e. narrow syntax, internal interfaces and external interfaces). To this end, Tsimpli (2014) notes that passives are acquired earlier in Sesotho than they are in English. In the case of the Sesotho, acquisition is attested by the age of three (see Demuth et al., 2010). Thus, while it is often the case that properties at the syntax-semantics interface (e.g. passives) are acquired later than properties of the narrow syntax (e.g. V2), it is not *always* the case. The same is true of DOM in Spanish, which, recall, is also a property at the syntax-semantics interface (see §2.3.1 above). Rodríguez-Mondoñedo (2008), however, found a 98.38% accuracy rate for the distribution of DOM before the age of three.

It is therefore worth noting that Tsimpli's (2014) proposal is not one that suggests an absolute correlation between various sensitive periods and properties based on their interface status. Rather, it broadly captures the distinction between the observation that syntactic properties that map to LF in a simple way are generally early acquired, while later acquired syntactic properties tend to be those that map to LF in a more complicated way.

Looking at how bilingualism affects the development of properties acquired at different stages of the sensitive period for morphosyntax, Tsimpli (2014) considers two factors: (i) AoO of bilingualism and (ii) the role of input. In Tsimpli's (2014) review of the data, and with regard to the earlier acquired properties, only AoO of bilingualism was found to be predictive. That is, "early phenomena can differentiate between simultaneous and (early) successive bilingualism with an advantage for the former group" (Tsimpli, 2014: p.284). On the other hand, the role of AoO of bilingualism was found to be non-significant in the successful acquisition of the later emerging (more externally) interface-driven phenomena. Rather, it was found that *input*, and not AoO of bilingualism was predictive in the development of these later-emerging aspects of the speakers' grammars.

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[25] In passive constructions, the subject is the recipient of the action denoted by the verb. For example: "The ball was thrown by the boy".

It would therefore appear that prolonged input exposure is required to ensure the successful acquisition of later emerging syntactic properties which involve language-external resources (Tsimpli, 2014; see §2.3.1 above). As a result, and as predicted by the IH (see §2.3.1 and §2.4.2 for a discussion), under circumstances of reduced L1 input under the influence of increased L2 exposure, we may therefore expect later acquired properties at the syntax-discourse interface to be more vulnerable to variation indicative of EotSLotF than earlier acquired properties of the narrow syntax/internal interfaces.

As variation in language is common, a further consideration pertains to *what* input L1 acquirers are in fact exposed to. The acquisition trajectory of sociolinguistic variation is therefore considered below.

2.3.3 The acquisition of sociolinguistic variation

Developmental sociolinguistics is a relatively under-researched field, with Blum-Kulka (2004) noting that "most sociolinguistic studies lack a developmental agenda". Although De Vogelaer, Chevrot, Katerbrow & Nardy (2017) refer to it as an "emergent topic", some exploratory studies were conducted in the 1960's already. Most notable is Labov's (1964) study which attempted to track the development of sociolinguistic variation from childhood through to late adolescence in English speakers in the United States. Based on the results, Labov (1964) proposes a six-stage model in the acquisition of "the full range of spoken English" (De Vogelaer et al., 2017: p8). The model, as presented in De Vogelaer et al. (2017) is set out in (2.8) below:

(2.8)

Stage 1 *The basic grammar (< 5 years):* mastery of the basic rules of grammar

Stage 2 *The vernacular (5-12 years):* use of local dialect consistent with that of the peer group

Sage 3 *Social perception (early adolescence):* awareness of the social significance of the dialect

Stage 4 *Stylistic variation (late adolescence):* speech is modified contextually and appropriately

Stage 5 *The consistent standard:* the ability to switch to a consistent speech style and maintain that style acquired primarily by the middle-class groups.

Stage 6 *The full range of spoken English:* Complete consistency in a range of appropriate styles,

mostly achieved only by college educated persons with a special interest in speech

As the above model illustrates, Labov (1964) proposes a time delay in the acquisition of different varieties. Late childhood is said to mark the onset of the acquisition of the vernacular, with adolescence marking the point where speakers become aware of the social significance of the different varieties. Chambers (2003), however, states that no such time delay exists, with acquirers able to acquire variants simultaneously. This view is supported by Ervin-Tripp (1973) and Roberts (1994), who find that even very young children show signs of sociolinguistic competence. De Vogelaer & Toye (2017: p.117), however, note that "adolescence is well-known to be a key period for the acquisition of vernacular varieties" – an observation which is empirically well supported (Wolfram, 1969; Fasold, 1972; Cheshire, 1982; Eckert, 1989; Eckert, 1997; Rys, 2007; Farrington, Renn & Kohn, 2017; De Vogelaer & Toye, 2017). While adolescence seems to be a key period in the acquisition process of spoken varieties, the importance of this period seems to pertain more to the *development* and not the *emergence* of the vernacular in L1 users' speech. Rys (2007), for example, observes improved dialect proficiency in Flemish adolescents.

Accordingly, the development of sociolinguistic variation seems to follow a non-linear pattern with numerous factors affecting the various shifts which have been observed. Studies have found a reduction in the use of the vernacular in children and pre-adolescents, the cause of which is thought to be prescriptive school norms (Stewart, 1965; Dillard, 1972; Craig & Washington, 2006). However, following this vernacular reduction, Wolfram (1969) and Fasold (1972) find an increase in the use of the vernacular in adolescence, indicating a stronger orientation towards peer language use. This non-linear trajectory is observed in a single cohort of speakers in Van Hofwegen & Wolfram's (2010) longitudinal study, where speakers' vernacularity undergoes an ebb and flow with age. De Vogelaer & Toye (2017: p.118) note that this is likely to "correlate with children's sense of identity within their speech community". In particular, the increased use of the vernacular in adolescent speech is thought to be a reflection of peer group influence.

As the present study is concerned with *judgements* specifically, De Vogelaer & Toye's (2017) study concerned with attitudes to different varieties is of particular importance. De Vogelaer & Toye (2017) investigate the attitudes towards a number a Dutch varieties (Standard Dutch, Brabantic, Kluisbergen, Ghent and West Flemish) in Flemish children between the ages of eight and 18 years. The study employs the speaker evaluation method (Lambert et al. 1960). In this method, informants are asked to listen to speech samples, and then asked a number of

questions based on the audio recordings (e.g. *Where does the speaker come from?*; *Is the speaker suitable as a TV-presenter?*; *Would you like to sound like the speaker*?). Informants are then asked to rate their responses on a five-point Likert scale.

The informant age groups were as follows: 8-10-year-olds (*n* = 37); 11-12-year-olds (*n* = 38); 13-14-year-olds (*n* = 21); and 17-18-year-olds (*n* = 20).[26] The results reveal that the youngest children (8-10-year-olds) distinguish between different varieties of Dutch, but crucially, do not attribute any social significance to the variation. The 11-12-year-olds, on the other hand, show signs of recognising that certain varieties are associated with social prestige. This sociolinguistic awareness develops even further in the 13-14-year-olds, who appear to be sensitive to the covert prestige of the local varieties when compared to Standard Dutch. It is noted that awareness stems from the fact that local varieties are "often used as in-group varieties by Flemish adolescents" (De Vogelaer & Toye, 2017: p.140). The 17-18-year-olds perform fairly comparably to the 13-14-year-olds, but, interestingly, are less favourable in their assessment of the vernacular varieties. De Vogelaer & Toye (2017) note this this aligns with the findings of Van Hofwegen & Wolfram's (2010) study, which also reveals less use of the vernacular towards the end of the secondary school period than in early adolescence.

What these results illustrate, in line with Chambers (2003), is that the youngest children are sensitive to the variation that exists in the language, acquiring these different varieties early. However, their *attitudes* towards the different varieties do not yet show signs of their sociolinguistic status. This is an important difference, and one which correlates with the difference between the emergence, acquisition and mastery of different grammatical properties (see Montrul & Polinsky, 2019 and §2.5.1.2). Of particular importance to the present study, is the fact that these results indicate that there appears to be a correlation between the development and awareness of non-standard varieties and the later years of the sensitive periods for language acquisition (as determined by Hartshorne, et al., 2017).

Although MsA is not a specific dialectal variety, the above insights may prove insightful with respect to how speakers judge structures that, although not prescriptively sanctioned, are permissible in spoken Afrikaans.

As the present study makes use of tasks requiring metalinguistic skills, the sub-section below reviews literature concerned with the age at which metalinguistic skills are thought to emerge.

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[26] There is no mention of adolescents between the ages of 15-16 years of age. As such, it can only be assumed that there were no informants in that age category at the time of testing.

2.3.4   The emergence and development of metalinguistic skills

Metalinguistic awareness requires reflection of the "complex nature of language, its functions, uses, [and] properties" (Benelli, Belacchi, Gini & Lucangeli, 2006: p.75). Benelii et al. (2006) make explicit that metalinguistic awareness refers to lexical awareness (Bowey & Tunmer, 1984), syntactic awareness (Tunmer & Grieve, 1984), and pragmatic awareness (Pratt & Nesdale, 1984). Crucially, however, the ability to reflect on and theorise about these aspects varies based on developmental level.

The emergence of metalinguistic ability correlates with cognitive development, and specifically with metacognition, literacy, oral language skills, as well as schooling (Benelli et al., 2006: p.74; see also see also Janko, Dabrowska & Street, 2019 for an overview). Metalinguistic awareness first manifests around the age of four (Doherty & Perner, 1998; Hakes, 1980). Cekaite (2013), however, reports on findings that reveal the even earlier development of pragmatic awareness before the age of three years. Unlike the acquisition of many linguistic properties which typically have narrower sensitive periods (for example, see Chapter 3, §3.3.4, with regard to verb placement in Afrikaans), the emergence and development of pragmatic awareness is a slow gradual process that is developed and refined throughout childhood and adolescence (Cekaite, 2013: p.1).

Benelli et al. (2006), who investigate how metalinguistic skills differ as a function of age, also find supporting evidence for this slow gradual development of pragmatic metalinguistic awareness. In an investigation of child participants between the ages of five- and 11-years, participants were required to complete a metalinguistic task which integrated knowledge from the following areas: lexical awareness, phonological-semantic awareness, concept of definition[27], relations between words, awareness of literacy and syntactic awareness. Taken together, their performance across all six areas was totalled and participants received a five-point (1-5) metalinguistic scale score.

It was found that the five-year-olds' performance was the poorest (mean score = 2.6; SD 0.18), with improved performance directly correlating to an increase in age, with the 11-year-olds outperforming all the other groups (mean score = 4; SD = 0.20). To illustrate the

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[27] The items included under this category are said to evaluate definitions as "objects of thought". For example, participants might be asked the following: *Do you know what a definition is*? *What does it mean to define a word*? (Benelli et al., 2006: p.82)

difference between responses along the 1-5 continuum for both linguistic form and content, consider the example provided by Benelli et al. (2006) in (2.9) below:

(2.9) **Question:** "*Dogs meow and cats bark*. Is this right or wrong? Can we say this? Why?" (This question requires a consideration of both formal and content aspects before one can acknowledge that the sentence is formally correct, although unrealistic in content.)

Examples of children's responses:
1 = "I don't know."
2 = "It is wrong because dogs don't meow."
3 = "It is right, but just for fun"; "It is right in fairy stories."
4 = "It is right because you can say it that way."
5 = "What is said is not true, but you can say it that way."

(Benelli et al., 2006: p.84)

As the above examples illustrate, only the responses corresponding with ratings "4" and "5" consider the sentence from a formal point of view. In other words, the younger participants, respond purely on the basis of the content of the sentence, while the older participants in fact begin to consider both the content *and* the form of the sentence being analysed.

The second factor to consider with regard to metalinguistic ability is that of bilingualism. With regard to how bilingual children fare in comparison to monolingual children, the results to date are mixed. On the one hand, studies have shown that 2L1 child bilinguals outperform their monolingual peers with respect to metalinguistic awareness (Ben-Zeev, 1977; Cummins,1978; Galambos & Goldin-Meadow, 1990; Galambos & Hakuta, 1988; Ricciardelli, 1992) and executive control (Mezzacappa, 2004; Bialystok & Viswanathan, 2009; Carlson & Meltzoff, 2008; Yang, Yang & Lust, 2011).

On the other hand, research has shown that it may not be as simple as the distinction between bilingualism and monolingualism. Differences may or may not exist based on the language combination under investigation (Serratrice, Sorace, Filiaci & Baldo, 2009), whether or not there is reduced input in one of the bilingual's languages (Gathercole, 2002, 2007; Serratrice, et al., 2009), as well as language dominance (Argyri & Sorace, 2007; Bosch & Unsworth, 2020). Serratrice et al. (2009; see §2.4.2.2) found that, in comparison to their monolingual peers, bilinguals with reduced input in the language under investigation underperformed in tasks that required metalinguistic judgements (e.g.

grammaticality/acceptability judgement tasks). The authors thus state that "the role of input is non-trivial and should therefore be considered as an explanatory variable in future research" (2009: p. 254).

Furthermore, as with children under circumstances of reduced L1 input and L2 dominance, there are numerous studies which have found that HSs underperform in tasks requiring L1 metalinguistic awareness (see i.a. Montrul & Ionin, 2012; Montrul, Davidson, De La Fuente & Foote, 2014; Rinke & Flores, 2014; van Osch & Sleeman, 2018; Sequeros-Valle, Hoot & Cabrelli, 2020). However, in the case of L1 attriters, the results are more mixed (Altenberg & Cairns, 1983; Altenberg, 1991; Grosjean & Py, 1991; Gürel, 2007; Keijzer, 2007; Chamorro et al, 2016; Grabitzky, 2014). This suggests that, in terms of bilinguals' performance on tasks requiring metalinguistic skills, there are qualitative differences between bilinguals with an AoO of bilingualism in childhood in comparison to bilinguals with an AoO in adulthood. It is precisely for this reason that it is important to take the development of metalinguistic skills into account when investigating EotSLotF in simultaneous or early sequential bilinguals.

The sub-sections that follow are concerned with theoretical approaches in the broader field of EotSLotF.

2.4   Theoretical perspectives in the study of EotSLotF

The following section focusses on theoretical aspects related to EotSLotF that are relevant to the present study. Section 2.4.1 is concerned with theories of inhibition and activation; and §2.4.2 discusses the Interface Hypothesis (Sorace, 2005; Sorace & Filiaci, 2006) when applied to EotSLotF, and sets out the details of two relevant studies concerned with L1 (in)stability at the interfaces under the influence of an L2.

2.4.1   Inhibition and activation

Inhibition and activation play a vital role in mental control (Green, 1986) and are linked to models of mono- and bilingual language processing (see Green, 1986 and Paradis, 2004 for bilingual language models). To briefly outline what inhibition entails, it is noted that neural cells associated with inhibitory control inhibit the electrical activity of the neural cells they have established contact with (Fabbro, 1999 in Köpke, 2007). Inhibition plays a central role in

bilingual processing because it is thought that inhibition is required to prevent interference from one language when the other is selected (Köpke, 2004). Inhibitory control is therefore a key mechanism in processes where a high degree of interference is expected, e.g. in the process of L2 acquisition and L1 attrition.

Inhibition is cognitively demanding and "consume[s] resources which will be withdrawn from other levels of processing" (Köpke & Schmid, 2004: p. 22). As data collection tasks often incur processing difficulties (Dussias, 2002), it is perhaps unsurprising that morphosyntactic structures which are particularly prone to errors in free speech result in even more errors during the completion of such tasks (Köpke, 1999; de Bot, 2002). Additionally, in the data collection process, if there is a change in a bilingual's L1-L2 dominance pattern, these L2-dominant bilinguals may find it even more difficult to inhibit the L2 as they try to prevent L2 to L1 interference during these exercises (Köpke & Schmid, 2004: p. 21).

Inhibition of one language, structure or lexical item co-occurs with the activation of another language, structure or item in that language. Additionally, activation is directly correlated with the frequency and recency with which the language or linguistic components are used. This is formalised by Paradis (1993; 2007) as the Activation Threshold Hypothesis (ATH). The ATH posits that the interaction between the two languages is largely determined by the extent to which each language is used, and thus activated, as well as the amount of time since each language's activation. It proposes that the more frequently a language (or a particular item) is used, the lower its activation threshold, making retrieval easier. Conversely, if language use is infrequent, its activation threshold rises, making it difficult to activate and access the given items (Paradis, 2007).

Recall that as outlined in §2.2.3, Chamorro, Sorace & Sturt's (2016) study probed the permanence of attrition effects in L1 attrited Spanish "near-native" L2 English bilinguals. Recall again that a second group of attriters was exposed to and used exclusively Spanish in Spain for a minimum of one week prior to testing. It was then investigated if the attrition effects evidenced in the pronominal domain would show signs of reversal after the recent L1 exposure/use, which they did. As soon as language exposure and use increased, the activation level of Spanish was lowered. This in turn resulted in an improvement in speakers' ability to access the required grammar of their L1 pronominal system. Thus, the proposal that frequency and recency of L1 exposure and use are positively correlated with diminished attrition effects was borne out (see also Flores, 2010 with respect to L2 attrition in bilingual returnees).

The following section discusses important considerations when testing the IH in studies concerned with EotSLotF.

2.4.2   The Interface Hypothesis in the study of EotSLotF

This section presents the IH's predictions of vulnerability in L1 attrition and HL development. Section 2.4.2.1 firstly addresses some theoretical considerations with regard to the IH and EotSLotF. A study concerned with the role of structural overlap at the interfaces will be considered (§2.4.2.2). Following this, §2.4.2.3 reports on a study which tests the IH in relation to the L1 attrition of a West Germanic language (German) under exposure to L2 English.

2.4.2.1 The Interface Hypothesis in L1 attrition and HL development

Section 2.3.1 above introduced the concept of a linguistic interface and presented the IH as it was initially proposed by Sorace & Filiaci (2006). Recall that a binary split between the narrow syntax and interface conditions is no longer assumed. Rather, a continuum of syntactic realisation at the interfaces (e.g. more internal/external) is adopted. Thus, in predicting (in)stability/optionality, the IH draws a broad distinction between the narrow syntax/internal interfaces on the one hand, and external interfaces on the other. In adult L2 acquisition, the IH predicts that processing limitations in bi/multilingualism affect properties of the external interfaces, but not properties of the narrow syntax or the internal interfaces. The result is that even advanced L2 acquirers might be expected to experience optionality in their judgements on, and use of, morphosyntactic structures of properties at the external interfaces.

Research at the interfaces has extended far beyond acquisition, and as Méndez et al. (2015: p.4) observe: "[O]ne of the most appealing facets of the IH is precisely that it uses a principled linguistic distinction that has found support across diverse bilingual populations". The IH has been used as a framework for studying L1 attrition (see i.a. Tsimpli et al. 2004; Sorace, 2011, 2016; Grabitzky, 2014; Chamorro, Sorace & Sturt, 2016). However, Sorace (2011;2012; 2019) has been very clear that as far as EotSLotF are concerned, the IH is applicable to first generation speakers who have fully acquired the L1 prior to the onset of attrition. Sorace (2019: p.26) notes specifically, that the IH's predictions do not extend to "second generation attrition in heritage speakers, for whom the acquisition of the L1 may be incomplete or divergent, depending on the quantity and quality of input received".

Montrul & Polinsky (2011) have argued that because Sorace extends the IH to child bilinguals, it should be extended to HSs too, as HS were once child bilinguals (see also White, 2011). Sorace (2012: p.214) responds that: "Montrul and Polinsky are right in claiming that

heritage speakers are an important testing ground for the IH […], as long as the difference between individual and generational attrition are clear".

Thus, the IH can be applied to HSs as long as the input HSs received (for the property under investigation) has not undergone attrition in the first-generation speakers (Méndez et al., 2015: p.4). Accordingly, with regard to the bilingual population in the present study (some of whom, I argue, should in fact be regarded as sub-type of HS (§2.2.5)), all participants received L1 input in the L1 environment from L1 Afrikaans speakers, allowing us to extend to IH to their L1 grammars.

As with adult L2 acquisition, in L1 attrition, the IH predicts more instability at the external interfaces than it does in properties of the narrow syntax/the internal interfaces. Prior to the formal proposal of the IH, Sorace (2005) formulates the following working hypothesis:

> If the efficiency of L2 syntactic processing is sub-optimal, L2 speakers' ability to integrate syntactic knowledge with information from different domains is likely to be sub-optimal too and may fail with significantly more frequency than in L1 speakers.
>
> (p.73)

This was what was found in Chamorro, Sorace & Sturt's (2016) study investigating the, potentially, attrited grammar of L1 Spanish-L2 English adult bilinguals (§2.2.3). Recall that Chamorro et al. (2016) investigate L1 attrition of two properties at the external and internal interface respectively: the distribution of pronominal subjects in Spanish on the one hand (see §2.2.3 for the distribution of subject pronouns in Spanish), and Spanish DOM on the other hand (see §2.3.1 for a description of DOM in Spanish). Recall that on-line eye-tracking-while-reading tests and off-line naturalness judgement tasks were used. The results of the two studies reveal that the former (a property at the syntax-discourse interface), but not the latter (a property at the syntax-semantics interface) is subject to L1 attrition in the on-line task. Neither property exhibited instability in the off-line tasks.

It is important to note that, as discussed in §2.2.3, the attrition effects evidenced for the distribution of pronominal subject were evidenced in participants' lack of on-line sensitivity to divergent structures, but not their off-line judgements (although, see §2.4.2.2 below for informants' judgements of these structures in an AJT). As a result, Chamorro, Sorace & Sturt (2016) conclude that in L1 attriters (i.e. *adult* L2 acquirers), metalinguistic knowledge is not affected. Rather, it is argued that the bilinguals' ability to access the specific knowledge is

impaired.[28] In sum, as with the optionality evidenced at the interfaces in the grammar of advanced L2 acquirers (§2.3.1), insufficient processing resources are thought to be the source of the problem (see §2.2.3 and also §2.4.1).

As already noted, the IH has been extensively used in the study of L1 attrition and is broadly supported by a large body of research. Importantly however, the vast majority of these studies have focussed on pro-drop languages (see Chamorro & Sorace, 2019 for an overview). As pointed out by Méndez et al., 2015 (see above), the appeal of the IH lies in the fact that it makes a linguistic distinction which is universally applicable. For this reason, it is high time to test the IH more widely to determine whether it finds support in studies concerned with different languages and linguistic domains.

Interface status cannot, however, be considered in a vacuum. The following section therefore presents a study concerned with the role of structural overlap at the interfaces.

2.4.2.2 The role of structural overlap at the interfaces

Sorace & Serratrice (2009) report on two studies (Serratrice, Sorace, Filiaci & Baldo, 2009; Sorace, Serratrice, Filiaci & Baldo, 2009) which test the same participants' ($n = 167$) acceptability judgements of two different structures at the syntax-semantics and syntax-discourse interface respectively. Participants were English-Italian and Spanish-Italian bilingual children, and monolingual English and Italian children, as well as adults. Participants were tested in a grammaticality judgement task on:

(i)   the distribution of overt and null subject pronouns in Italian (which has the same distribution as Spanish described in §2.2.3 above) and English; and

(ii)   their sensitivity to definite articles in specific and generic plural noun phrases in Italian and English.

As already described in §2.2.3 for Spanish, the distribution of pronominal subjects in Spanish and Italian is a property at the syntax-discourse interface. In contrast, the distribution of definite articles in Spanish and Italian is a property at the syntax-semantics interface.

With regard to structural overlap, Spanish and Italian exhibit a complete structural overlap for the distribution of subject pronouns, whereas Italian and English exhibit a partial overlap. The difference lies in the fact that Italian and Spanish are null-subject languages (see

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[28] Although, as already noted, see the discussion in Chapter 4, §4.5.1, pertaining to the fact that on-line and off-line tasks do not map neatly onto competence versus performance.

§2.2.3 for Spanish). Recall that in null-subject languages, when referring to a referent that has previously been introduced, a null subject is used; however, if there is a change of referent or additional new information is introduced, then the subject must be overt (Chamorro et al., 2016). In contrast to this requirement, which is governed by the discourse requirement, pronouns in English are overt, regardless of whether there is a shift in topic or not. This partial overlap therefore creates the possibility of competition in contexts where there is no topic shift, i.e. where the null subject should be used in Italian.

Turning now to plural noun phrases, Italian and Spanish again exhibit a complete structural overlap in that both languages require that the definite article is used for plural noun phrases in subject position. In English, by contrast, the definite article is only permitted in specific, but not generic contexts with plural subjects. In this respect, the generic context is the one where problems are expected to arise. The distribution of definite articles with plural noun phrases in English (2.10) and Italian/Spanish (2.11) is presented below (definite article in bold).

(2.10) English

    (a)   ø Sharks are dangerous animals.   [Generic]

    (b)   **The** sharks at the aquarium are rather small.   [Specific]

(2.11) Italian/Spanish

    (a)   ***Gli*** *squali sono animali pericolosi.*   [Generic]

           the sharks are   animals dangerous

           "Sharks are dangerous animals"

    (b)   ***Gli*** *squali al   acquario   sono piuttosto piccolo.*   [Specific]

           the sharks at.the acquarium are   rather   small

           "The sharks at the aquarium are rather small"

                                (Sorace & Serratrice, 2009: p.204)

The results revealed that all participants, even the monolingual adults, did not perform at ceiling in the task probing overt and null pronouns (this result has been corroborated by Alonso-Ovalle et al., 2002; Carminati, 2002, 2005; see §2.3.1 above). Most notably though,

both the English-Italian[29] and Spanish-Italian bilingual children exhibited more optionality for the distribution of subject pronouns in Italian than the monolingual children. The authors note this result confirms that dealing with two languages, as opposed to one, is associated with higher processing costs, and most notably that this higher processing cost is not mitigated by a complete structural overlap, i.e. the cross-linguistic overlap present in the case of Spanish-Italian bilinguals.

In contrast to the optionality evidenced at the syntax-discourse interface, the performance of all Spanish-Italian bilinguals and monolinguals (children and adults) on the distribution of plural noun phrases was at ceiling. However, the English-Italian children underperformed in comparison, and were more likely to accept ungrammatical instances of bare plural noun phrases in generic contexts in Italian. Contra Chamorro et al. (2016), who maintain that AJTs tap into representational knowledge, Sorace & Serratrice (2009) attribute these divergent patterns to processing issues, which are thought to affect these bilinguals' metalinguistic judgements.

For properties at the syntax-discourse interface, it is here concluded that:

(i)   processing considerations play a non-trivial role in determining participants' judgements; but that

(ii)   structural overlap is *not* predictive.

For properties at the syntax-semantics interface, the conclusion here is that:

(i)   processing factors are less important; but that

(ii)   structural overlap *is* important.

Lastly, to demonstrate the kind of (in)stability evidenced in West Germanic properties of the narrow syntax/at the internal interfaces on the one hand, and properties at external interfaces on the other, a study concerned with EotSLotF in German under the influence of English is presented below.

2.4.2.3 Testing the IH in attriting L1 German: Grabitzky (2014)

Grabitzky's (2014) study is concerned with four grammatical properties of German.

(i)   The V2 phenomenon;

(ii)   *wh*-interpretations in subject/object questions;

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[29] Note that although the conditions for CLO are given, Kupisch's (2014) proposal of CLO only extends to *adult* grammars.

      (iii)   Topic Drop; and

      (iv)   Topicalization.

The former two are properties of the narrow syntax (although see the discussion to follow), while the latter two are properties at the syntax-discourse interface. Let us briefly consider what each of these properties entails.

      The V2 phenomenon, mentioned in §2.3.2 above (see footnote 23, p.52), entails that the finite verb is situated in clause-second position after a clause-initial constituent/phrase (e.g. a subject or adverbial phrase). While the details will be presented in Chapter 3 (§3.3), the examples in (2.12) illustrate the V2 phenomenon in German (first-position element underlined and finite verb in bold):

(2.12) (a)   <u>*Vera*</u> **hat** *die Hunde gefüttert.*   [subject-initial]

               Vera has the dogs   fed.

               "Vera has fed the dogs."

      (b)   <u>*Gestern*</u>   **ist** *Steve Jobs gestorben.*   [adverbial-initial]

               yesterday is Steve Jobs died

               "Yesterday Steve Jobs died."

      (c)   <u>*Nie*</u> **würde** *ich schlecht von dir   sprechen*!   [fronted negation]

               not would I   bad   of   you speak

               "Never would I speak poorly of you!"

                                          (Grabitzky, 2014: p.67)

Although the V2 phenomenon is typically regarded as a purely syntactic operation, for reasons that will become apparent below, I wish to briefly focus on example (2.8-c).

      In this example, a sole negative marker is fronted. In West Germanic languages, this involves contrastive topicalization (Zeijlstra, 2013); and as we will see below, topicalization in German relies on discourse considerations. Furthermore, such structures entail reference to prior discourse in the sense that (2.8-c) is interpreted along the lines of: "Contrary to what you may think/what she said, I would never speak poorly of you!". Thus, V2 in German with a negative first-position element constitutes a syntactic structure that also entails syntax-external considerations. Thus, it is important to keep in mind that there are discourse-neutral and discourse-marked V2 structures; and that negation-fronting structures constitute the latter.

The interpretation of a wh-question in German, as either a subject or object, relies almost exclusively on morphology. Consider the object (a) and subject (b) questions in (2.13) below (nominative & accusative case markers <u>underlined</u>):

(2.13) (a)   *Was beißt <u>der</u>   Hund*?

  What bites the-nom dog

  'What is the dog biting?'   [object question]

  (b)   *Was beißt <u>den</u>   Hund*?

  What bites the-acc dog

  'What bites the dog?'   [subject question]

As the above examples illustrate, the case morphology alone is enough to disambiguate the two, making such structures more interface-internal in their characterisation.

However, if the determiner phrase (DP) is feminine or neuter and not masculine like the DP *Hund* ("dog") above, then an ambiguity arises. Consider the examples in (2.14) below:

(2.14) (a)   *Was jagt <u>die</u>   Katze*?

  What chase the-nom cat

  'What is the cat chasing?'   [object question]

  (b)   *Was jagt <u>die</u>   Katze*?

  What chase the-acc cat

  'What chases the cat?'   [subject question]

  (Grabitzky, 2014: p.84-85)

Grabitzky (2014: p.89) notes that in such an instance, the context or one's common knowledge is required to resolve the ambiguity. It is precisely these ambiguous (neuter or feminine case) structures that were of interest in Grabitzky's (2014) study. Specifically, it was investigated whether in a context that allows for both interpretations, participants would in fact accept both as possible. Grabitzky's (2014) informants were provided with a picture of five animals in a row chasing one another/being chased (modified from Grüter's (2005) version with eight animals). For a structure such as (2.14) above, the following kind of image was provided:
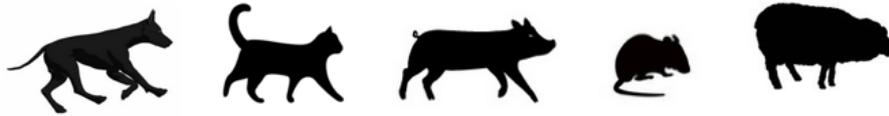
Figure 2. 2 An example of an image similar to those used in Grabitzky's (2014) modified Grüter task

Grabitzky (2014) stipulates that *wh*-interpretation in German is a property of the narrow syntax. However, as the example in Figure 2.2 illustrates, both the subject and object interpretation are possible in the context of the picture; and as a consequence, the context or one's common knowledge is required to resolve the ambiguity. Thus, such structures require syntax-external considerations (e.g. consideration of the associated image) and interface with pragmatic considerations.

Topic drop in German entails the use/lack of an object or subject (topic pronoun). It is, however, a strategy only permitted in colloquial and familiar registers. Subject and object drop (underlined) in German are illustrated in examples (a) and (b) of (2.15) below respectively:

(2.15) (a)   *Veras   Hund ist ganz   schön frech.*
           Vera's dog   is really pretty naughty

           Er/ Ø Hat einfach den frischen Kuchen angefressen!
           it/ Ø has simply the fresh   cake   eaten   [subject drop]
           "Vera's dog is quite brazen. It just ate some of the freshly baked cake!"

         (b)   *Veras neuer Laptop hat einen tollen großen Bildschirm.*
           Vera's new   laptop has a   great big   screen.'

           Den / Ø Hat ihr Hund aber schon   angeknabbert.
           It-acc/ Ø aux her dog   but   already chewed.on.   [object drop]
           "Vera's new laptop has a great big screen. But her dog has already chewed on it."

                                                                    (Grabitzky, 2014: p.77)

Importantly, in the discourse contexts in which it is permitted, topic drop is completely optional and does not affect the meaning of the sentence at all (Grabitzky, 2014: p.77). As an option

that relies on discourse considerations, it is an external-interface property at the syntax-discourse interface.

Topicalization, the last property investigated by Grabitzky (2014), is also a property that interfaces with discourse considerations. Topicalization entails that the object of the sentence is fronted, and crucially, refers back to old or familiar information. Importantly, this is different to *focus-fronting*, which is one of the ways (the other being intonation) that a speaker can emphasise a constituent (see Rizzi, 1997).

Let us now consider how a constituent, through movement to the front of a sentence, functions as a topic. To illustrate, Grabitzky's (2014) English examples are presented in (2.16) below (topicalized object underlined):

(2.16) Vera tried without success to grow vegetables. <u>The tomatoes</u> her dog dug up, and <u>the carrots</u> the rain drowned.

<div align="right">(Grabitzky, 2014: p.97)</div>

To understand the constraints on object topicalization in German, the distinction between a topic constituent and a focus constituent is crucial. As already noted above, the latter pertains to entities already activated in the prior discourse (i.e. old or familiar information). The former, in contrast, introduces new information. This is important because topicalization in German is constrained by focus: German does not permit new information focus. Consider Grabitzky's (2014) examples in (2.17) below, and specifically the infelicitous structure in (2.17-d):

(2.17)

   (a) <u>Subject focus, topic not fronted</u>

   Anna is walking through the department of English, looking for her professor (fem) to discuss her term paper. The professor does not have office hours today, but finally Anna is lucky and spots her professor talking to a colleague in his office. Who sees the professor?

   Die STUDENTIN sieht die Dozentin.
   the student   sees the professor
   "The STUDENT sees the professor."

(b) <u>Subject focus, fronted topic</u>

A little girl and boy and their mother are driving to town by car. Suddenly, the girl hears a strange knocking sound somewhere in the car. She asks her mother, "What is that sound?" Who asks her?

Die Mutter fragt das MÄDCHEN.
the mother asks the girl
"The one who is asking the mother is the GIRL."

(c) <u>Object focus, object not fronted</u>

Prince William and Kate are getting married. After the wedding ceremony, all the famous guests are invited to a reception. This reception party is in the honour of the newlywed couple. Whom does it celebrate?

Die Party feiert   das PAAR.
the party celebrates the couple
"The party celebrates the couple."

(d) <u>Object focus, fronted object (infelicitous)</u>

The Smith family have a dog that guards the house. One night two robbers come and try to break into the house. The good animal jumps up and scares the robbers into a corner until the Smiths have called the police. Whom does it protect?

*Die Familie beschützt das Tier.
 the family protects   the animal
≠ "The FAMILY the dog protects."

<div align="right">(Grabitzky, 2014: p. 206-210)</div>

As the above examples illustrate, the focus and topic constituents are determined by the prior discourse. Furthermore, based on whether the subject or the object is the focus constituent, object fronting is or is not permitted. Topicalization is therefore also a property at the syntax-discourse interface, and thus an external-interface property.

The V2 constraint and topic drop were tested using a bimodal (written & audio) acceptability task; *wh*-question interpretation was tested using a picture judgement task; and topicalization was tested using a contextualised (unimodal – i.e. written only) AJT.

Grabitzky's (2014) findings reveal that of the four properties investigated, only topic drop (one of the two more *external* interface conditions) does *not* reveal group-level attrition. Group-level attrition was found in one condition of the V2 constraint (where the first-position element was a negator; see example (2.12-c)); both conditions of the *wh*-interpretation task; and one condition of the topicalization task (subject focused, fronted object – a grammatical structure). Grabitzky (2014) maintains that because group-level attrition was evidenced for one condition of the V2 constraint and both conditions of the *wh*-question interpretation – both of which Grabitzky characterises as core syntactic properties – the IH is not supported by the findings.

Recall, however, that the particular V2 condition where attrition was evidenced entails fronted negation. It therefore constitutes an instance of contrastive topicalization, and thus interfaces with discourse considerations. Additionally, Grabitzky (2014: p.187) does in fact note that the condition is marked, and postulates that this could result in it being harder to process than its unmarked counterpart.

Furthermore, recall that although the context provided for the *wh*-question interpretations allows for both interpretations, the fact that context is required for the resolution of these interpretations (even if the assessment is that both options are possible) means that these structures do interface with external-considerations, and are therefore structures at the syntax-pragmatics interface.

Thus, Grabitzky's (2014) findings may not in fact refute the IH, but rather underscore two important considerations in interface vulnerability: firstly, because no attrition was revealed for topic drop, as Méndez et al. (2015) observe, there appear to be asymmetries in interface vulnerability – even at the external interfaces. Secondly, as evidenced for V2, it is not feasible to think of V2 as being across-the-board "narrow syntax". Depending on the first-position element, discourse can come into play too. Similarly, for *wh*-interpretations in German: based on the DP in question, context resolution is either required, or it is not. As Montrul (2011) notes, many grammatical properties involve multiple interfaces – some more internal, and some

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more external. What Grabitzky's (2014) study further underscores is that this is true even of properties typically regarded as properties of the "narrow syntax". Some structures are in fact purely syntactic, while others interface with syntax- and language-external considerations. We therefore need to think of linguistic properties in structured terms, entailing more and less fine-grained sub-properties, with the latter necessarily being more complex than the former (see in this connection also more recent work on parameter structure, where distinctions are drawn between macro-, meso-, micro- and nanoparameters; see Biberauer 2019) and apply the IH on a structure-by-structure basis.

Let us now consider extralinguistic factors that have been found to be predictive in shaping the L1 across the lifespan.

2.5 EotSLotF in lifelong bilingualism: insights from heritage language development and first language attrition

Recall that EotSLotF are typically categorised as either related to HL development or L1 attrition based on the age at which there was a reduction in L1 input and use (see §2.2.3). Additionally, as pointed out in §2.2.5 above, insights from both sub-fields are relevant to the present population. Against the background of the theoretical considerations above, the sections that follow present insights from both sub-fields that have been found to be predictive in determining EotSLotF; these may therefore well predict (in)stability in L1 Afrikaans under the influence of English. Section 2.5.1 is concerned with HL development and the associated predictive variables in childhood; and § 2.5.2 considers insights from research on L1 attrition in adults. However, differentiating between the two processes, as we will see below, is far more complex.

2.5.1 Predictive variables in childhood

The sub-sections that follow are concerned with predictive variables in childhood. Thus, insights from HL development are most illuminating. Section 2.5.1.1 considers the importance of taking property-specific sensitive periods into account and discusses the role played by AoO of bilingualism and reduced contact or use. Section 2.5.1.2 is concerned with the role of schooling and societal exposure in HL development, and further illustrates the predictive power of this variable in determining (in)stability in HL grammars.

2.5.1.1 AoO and input considerations

This sub-section begins with a brief discussion of the role of AoO of bilingualism. AoO effects have been extensively considered in SLA, where it has repeatedly been shown that a more successful L2 outcome is associated with an earlier AoO of bilingualism. Kupisch (2019: p.463), however, notes that in the case of the L1, the reverse might hold, with a *later* AoO of SLA potentially being beneficial for the L1. The reasoning is that a later AoO means that acquirers have more time to develop the L1 prior to the additional L2 input. As to whether this prediction has been reflected in the literature, Gagarina & Klassert (2018) observe that studies on child bilingualism have not yielded consistent results. For example:

(i)   Gagarina et al. (2014) tested the L1 lexical and grammatical skills in Russian-German and Russian-Hebrew bilingual children. For the grammatical component, participants were tested in an elicited speech production task and a sentence completion task. The grammatical properties under investigation were prepositions, verb inflections and topicalization. In terms of the sensitive periods for the acquisition of these properties: non-target-like behaviour is evidenced for prepositions persisting until age 7 (Leikin, 1989; Grabovskaya, 2015); verb inflections are only fully acquired around the age of 5 (Gor & Chernigovskaya, 2004). Topicalization on the other hand, which interacts with definiteness and specificity, is thought to be relatively early acquired in Russian, with children showing knowledge of specificity as early as 1;7 (Avrutin & Brun, 2001). The results revealed no correlation between L2 AoO and L1 lexical and grammatical skills in Russian-German and Russian-Hebrew bilingual children respectively.

(ii) Schwartz & Minkov (2014) investigated case-marking in the spontaneous speech of sequential Russian-Hebrew bilingual children. The acquisition of the case system in Russian has a relatively long sensitive period, spanning from around age 1;4 to 6-7 years of age (see Schwartz & Minkov, 2014). The results revealed that an earlier L2 AoO was associated with a higher error rate in L1 Russian case-marking.

(iii) Lein et al. (2017) tested Portuguese-German child bilinguals' performance on productive and receptive lexical and morphosyntactic tasks. The properties

investigated were infinitives; passives and the comparative construction. Infinitives are early acquired in European Portuguese, starting at age 1;1 (Santos, Duarte, Pires & Rothman, 2011). Passives seem to be acquired earlier in Portuguese than they are in English, with evidence of passive interpretations at age 3 to 4 (Rubin, 2009). Lastly, for comparative constructions more generally, children are said to produce comparative structures that differ from adults up until approximately age 6 (Syrett, 2016). Lein et al.'s results indicate that a later L2 AoO significantly correlates with higher L1 performance on productive lexical and morphosyntactic tasks as well as on receptive (lexical, but not morphosyntactic) tasks.

These mixed results, concerned with both earlier and later acquired properties, make it difficult to predict whether AoO of bilingualism will in fact be predictive. In spite of this, the fact that variation is evidenced in two of the three studies based on different AoOs of bilingualism, suggests that L2 AoO effects are worth taking into consideration. It is, however, acknowledged that because the above studies all test children under the age of six years, the long-term effects in adults might be different.

Turning now to input considerations, recall that input needs to be considered in terms of the sensitive periods for L1 acquisition, and specifically in relation to the multiple sensitive periods that exist within a domain (Polinsky, 2018; see the discussion in §2.3.2). Attrition in HL research takes as a priori that the property in question has in fact been acquired in childhood. If a certain property was present in the grammar of a child, but is missing in this same speaker's adult grammar, the property is said to have undergone attrition over the lifespan (Cuza, Pérez-Leroux, & Sánchez 2013; Polinsky 2016; Montrul 2016). This, of course, is impossible to empirically determine retrospectively in a cross-sectional (and not longitudinal) study. Thus, the importance of differentiating between the sensitive periods in L1 child language acquisition again comes to the fore. The specific sensitive periods of the properties under investigation will be detailed in Chapter 3. However, it is important to emphasise again (see §2.2.2) that the timing of bilinguals' AoO of reduced L1 input could mean that certain properties have suffered a reduction in L1 input prior to the close of their specific sensitive period, while others have not.

Taking as a priori that the property in question has been fully acquired prior to the onset of reduced L1 input and use, and departing from the typical definition of attrition as referring to only late bilinguals, it is well attested that attrition effects are more severe when the AoO of attrition occurs in early childhood as opposed to in adolescence or adulthood (see Bylund, 2009 for an overview). The studies that explore these specific age-related differences, typically deal

with the broad distinction between pre- and post-puberty attriters (see e.g., Ammerlaan, 1996; Pelc, 2001; Bylund, 2009; Flores 2010). However, as there exist multiple domain- and property-specific sensitive periods (§2.3.2), and additionally because the offset of the sensitive period for morphosyntax may be later than previously realised (age 17 as concluded by Hartshorne, et al., 2018; §2.2.2), a more fine-grained approach is required. A focus on the period of linguistic development after the onset of puberty is too broad to capture what happens during the later years in the sensitive period for morphosyntax. The present study therefore hopes to isolate these later years in an attempt to probe the importance of this period in predicting variation indicative of EotSLotF.

Finally, it is important to note that Bylund & Diaz (2012) differentiate between attrition that occurs as a result of an *absence* of L1 contact, and *reduced* L1 contact. Bylund & Diaz (2012: p.278) note that the most severe cases of attrition are attested in the former group, and, specifically, those individuals who have lost contact with the L1 in early childhood, for example, international adoptees (Pallier et al., 2003; Ventureyra, Pallier & Yoo, 2004). As already noted, this is not the kind of bilingual profile the present study is concerned with. The emigrant participants in the present study all emigrated after the age of 12. Additionally, only four of the 156 participants (who all happen to be in South Africa) maintain that they shifted to English dominance between the ages of seven and 11. Furthermore, almost all participants in the diaspora still maintain contact with Afrikaans-speaking friends and family members. Thus, theories related to L1 attrition as a result of *reduced* L1 input are relevant to the present study. Under these circumstances, syntactic violations and morphological disintegration (Bylund & Diaz, 2012; Seliger, 1991; Turian & Altenberg, 1991; Vago, 1991) as well as L2 convergence (Montrul, 2004) are often noted; however, so is speech that does not exhibit any apparent signs of attrition (Bylund, 2011). As such, Bylund (2019: p.280) notes that in cases of reduced L1 input, attrition is often less severe and more variable.

In sum, both AoO of bilingualism and AoO of L2 dominance (which, recall, cannot be conflated in the present population group; see §2.2.5) need to be taken into account. The former may prove to be predictive for the properties that are thought to be earlier acquired (see Tsimpli, 2014 and Chapter 3 for an overview), while the latter may be particularly insightful with respect to the later acquired properties as well as the informants' sensitivity to sociolinguistic variation in the L1 (§2.3.3). In terms of input, the present study is concerned with EotSLotF in circumstances of a reduction of L1 input, and not an absence of L1 input. Therefore, any potential effects are expected to be less severe than they would be under circumstances of an absence of L1 input. In spite of the fact that all participants were exposed to Afrikaans in South

Africa during childhood (with age 12 being the earliest age of emigration), based on their differing language usage patterns in childhood and adolescence, variation may still be predicted in those who made an earlier dominance shift to English, and who therefore may have suffered a reduction in L1 input during that period.

The role of schooling is also necessary to take into account when considering L1 input and use in childhood and adolescence. This is therefore discussed in §2.5.1.2 below.

2.5.1.2 The role of schooling and societal language exposure in heritage language development

Montrul & Polinsky (2019: p.423) underscore the importance of understanding the later stages of the language acquisition process, and, in doing so, draw a three-way distinction between *emergence, acquisition,* and *mastery.* The content covered thus far has primarily focused on the former two areas, *emergence* and *acquisition*. This section will briefly discuss this final step, *mastery*, and how this is precisely what is often missing in the grammar of HL speakers. This three-way distinction, and the observation that HL grammars may differ as a result of reduced input during these later stages, is important: as discussed in §2.3.3, the later stages of the L1 acquisition process are also deemed to be a key period in the acquisition of spoken variation in a language.

Montrul & Polinsky (2019: p.423) provide an overview of the important role school plays in the mastery of linguistic development towards the close of the sensitive periods. It is noted that once a grammatical property is acquired, command of the associated linguistic knowledge develops through the process of use, which is further reinforced by literacy skills acquired and practised at school. As noted in §2.3.4, metalinguistic skills, which are crucial for literacy development, emerge around age four, coinciding for many speakers with the commencement of pre-school. When children start school, their peers act as a valuable source of societal input (Jia & Fuse, 2007) and they are also required to engage with different types of discourse. They are exposed to complex syntactic, semantic and pragmatic structures, and thus their linguistic competence expands (Montrul & Polinsky, 2019).

Additionally, school is one of the places where children acquire the knowledge of different registers, as well as the ability to distinguish between when and in which contexts these different registers should be used. Access to different and diverse linguistic registers, styles and dialects, however, requires cognitive maturation, on the one hand, and, on the other, exposure to different native language speakers in different contexts (see §2.3.3 for the

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acquisition sociolinguistic variation). Furthermore, the development of the aspects of language that are later acquired, specifically properties that interface with other cognitive domains and that rely on the integration of pragmatic and discourse considerations, have been shown to continue well into adolescence (Reilly, Zamora & McGivern, 2006; Tsimpli, 2014; see §2.3.2).

Montrul & Polinsky (2019: p.425) note that it is only through "years of experience with different types of speakers and different contexts" that such sensitivity to the variation that exists within one's own language is achieved. Thus, the development of the aspects of HL grammar which rely on societal input and an understanding of the nuances associated with language use in different contexts (which are further facilitated by literacy in the given language) are often deficient in HL speakers' linguistic knowledge. Montrul & Polinsky (2019: p.425) conclude that: "Mature and proficient knowledge and use of the native language requires several years of cognitive and linguistic maturation and experience with literacy-related school based activities".

2.5.2   Predictive variables in adulthood

The following sub-sections focus on L1 exposure and use in adulthood by discussing their predictive power in determining (in)stability in the L1 morphosyntax under the influence of an L2. As the shift in focus is now from childhood to adult language use patterns, insights from research on L1 attrition are most appropriate. Section 2.5.2.1 considers the role played by the length of time since reduced contact by looking at studies that have taken "length of residence" in the L2 environment as a marker of reduced L1 exposure. Section 2.5.2.2 discusses findings that provide insight into the respective roles played by *frequency* and *type* of language use in L1 (in)stability and maintenance.

2.5.2.1 Insights from the impact of length of time since reduced contact or use on first language attrition

It is assumed that the *length of time since reduced contact/use* (LTRCU) plays an important role in determining the severity of attrition effects (Köpke & Schmid, 2004). Hutz (2004: p.191) notes that "[a]t first glance it may seem obvious that there is an important link between the time that an immigrant has been exposed to another language and the degree of erosion in the L1". However, this gradual and linear decline has not been borne out in the literature, which is largely inconclusive (Schmid, 2019).

Schmid (2019: p.295) provides an overview of the results from 41 studies where *length of residence* (LoR), or, in my terms, LTRCU, is taken as a predictor. Note that in these studies, the authors refer to this variable as "length of residence" as immigration marks the onset of this reduced contact. Following Bylund (2009), who refers to "age of reduced contact" (ARC), I refer to the variable as *LTRCU* as it is more appropriate to those bilinguals who are still in the L1 environment. In the overview of these studies, the term LoR will be used as that is precisely what was measured and reported on. When reporting on the results from the present study, I will, however, refer to the variable as LTRCU.

In 29 of the cases Schmid (2019) studied, it was found that LoR did not yield a statistically significant result for the correlation between the severity of attrition effects and the participants' LoR. Twelve of the studies did, however, report a significant role of LoR. Before discussing this, it should first be noted that none of the studies which report a minimum LoR of 10 years or more find a significant interaction for the effect LoR has on attrition.

Crucially, however, what emerges is that in every instance where there is both a significant attrition effect and a significant LoR effect (i.e. where there is a statistically significant correlation between a shorter/longer LoR and the severity of the attrition effects), the minimum LoR is less than 10 years (Schmid, 2019: p.295). Of the six studies that investigated the attrition of morphosyntax (Gürel, 2002; Yilmaz, 2011; Scherag et al., 2004; Kasparian 2015; Kasparian & Steinhauer, 2017b; Varga, 2012), only two report that LoR impacts attrition (Scherag et al., 2004; Kasparian & Steinhauer, 2017b).

Kasparian & Steinhauer's (2017b) event-related potential (ERP) study examined the real-time processing of Italian relative clauses in Italian-English bilinguals. Scherag et al. (2004), using a lexical decision task, investigated German-English bilinguals' knowledge of grammatical gender in German. In both cases, the attriters' performance was divergent when compared with monolingual controls. But in the case of Scherag et al.'s (2004) study, those with a LoR of *less* than two years perform identically to the long-term attriters (LoR between six and 49 years).

In accounting for the observation that attrition effects (if observed) are often evidenced in the first decade, and then again only after a very long time in the L2 environment, I refer to Köpke & Schmid (2004), who report on language studies looking at language dominance. Köpke & Schmid's (2004: p.11) overview suggests that immersion in the L2 environment leads to a shift in the relationship between L1-L2 dominance, in spite of the L2 not being "native-like". Furthermore, such a dominance shift is attested after a fairly short period of time. Note that Köpke & Schmid (2004: p.12) previously claimed that a change in language dominance

and attrition are fundamentally different, with the former typically only affecting language processing. However, as already noted, these scholars now include processing constraints under their broader definition of attrition (see §2.2.3). Schmid & Köpke's (2017a: p.7) new position views processing effects and representational changes as "developmental stages on the same continuum". Thus, we are no longer dealing with the question of whether or not the effects are *attrition*, but rather, what the effects are the result of.

In understanding why it is attested that more recent immigrants experience problems with the L1, Köpke (2007) explains that language inhibition might account for these effects. Recall that, as outlined in §2.4.1, inhibition and activation are thought to play a vital role in mental control (Green, 1986). In bilingual processing, inhibition is required to prevent interference from one item, structure, or language when the other is selected (Köpke, 2004). Thus, inhibitory control is likely to be a key mechanism in the process of L2 acquisition and L1 attrition, where interference is expected.

What this means for recent immigrants who have immersed themselves in the L2 (which, granted, will not be the case for all immigrants) and who experience L1 problems is that more inhibition of the dominant L1 is required while they are in the acute phase of L2 acquisition. This inhibition leads to processing-related problems. While the L2-induced effects evidenced in the first few years after immigration are often similar to those seen in long-term immigrants, the attrition effects evidenced in both groups' L1s are hypothesised to be the result of two different processes, each process representing one end of the continuum referred to above.

In the case of the long-term immigrants, the effects are thought to be related to a high activation threshold, and not inhibition. Recall that the ATH (Paradis, 1993) predicts that language activation, and thus the ease with which the items of that language can be accessed, is directly linked to frequency and recency (see §2.4.1). If language use is infrequent, its activation threshold rises, making it difficult to activate and access the given items (Paradis, 2007). This is likely to be the case in many of the long-term immigrants. Importantly, however, Köpke & Schmid (2004) observe that it has been suggested that LoR will only have an effect in cases where there is little or no contact with the L1 (de Bot et al., 1991; Soesman, 1997). The present study, through a direct comparison between the participants in South Africa and the diaspora, can empirically determine whether the variable LTRCU will only be predictive in the L2 environment (with little or no L1 contact), or if the same effects will be evidenced in the L1 environment.

This section has reviewed the predictive power of the length of time since language contact/use ceased, i.e. language *disuse*. The following section, on the other hand, is concerned

with how frequency and type of language use can predict (in)stability in a bilingual's L1 grammar.

2.5.2.2 The effects of frequency and type of language use on first language attrition

The effect of *frequency* of language use on L1 attrition, or in other words "the use it or lose it" approach to language use, is perhaps the most intuitive in terms of whether an L1 will exhibit signs of attrition. However, as Schmid (2007: p.137) observes, language use cannot only be assessed quantitatively. Bilinguals' linguistic repertoires are varied and contextually determined, and thus differ substantially in qualitative ways (Sankoff, 2002; see §2.2.1). Thus, bilinguals' language use patterns need to be understood both in quantitative and qualitative terms. If the quantitative and qualitative differences are not disentangled, as they are not in many studies, then probing the variable *language use* will likely be to no effect. Schmid (2007) notes that this is largely what studies of language attrition have revealed, and thus recommends that a more detailed approach be followed.

This picks up on what was initially proposed by Grosjean (1998; 2001), who emphasised the importance of taking the so-called *language mode* into account in bilingualism research. Grosjean (2001: p.3) defines the language mode as "the state of activation of the bilingual's languages and language processing mechanisms at a given point in time". There are a number of contextually and linguistically determined factors that contribute to which language mode a bilingual is in in any given instance (Grosjean, 2001: p.4). With regard to language production (and it is noted that the same applies to bilingual *listeners*), Grosjean (2001: p.4) states that bilinguals will be in the monolingual mode when they interact with monolinguals, or bilinguals with whom they only share one language. In the monolingual mode, the one language is (in as much it is possible to do so) unconsciously inhibited to avoid inadvertent production (or processing). Bilinguals are said to be in the intermediate mode when the interlocutor knows both languages but mixing and code-switching is not appropriate for whatever reason, e.g. professional L1/L2 use. In this instance, the language not being used in conversation will be only partially activated. And finally, speakers are regarded as being in the bilingual mode when they are interacting with other bilinguals and can mix their languages freely, e.g. informal settings with family and friends. In this instance, both languages are activated, but one is slightly more active than the other as it is thought to be the language used for processing (Grosjean, 2001: p.4).

Note, however, that the description of the bilingual mode is somewhat imprecise in its characterisations. It is debateable whether code-mixing and switching should really be a prerequisite for the "bilingual mode", as code-switching is not an automatic consequence of bilinguals interacting with one another (see Green, 1998, 2011). Additionally, given the multi-competence view adopted in the present study (see §2.2.1), the conceptualisation of the different language modes is problematised. Furthermore, as will be discussed below, multilingual contexts further problematise their neat characterisation. With this said, these characterisations and their associated language use patterns, regardless of how they are in fact represented in the mind of the bilingual, have proven useful in predicting (in)stability in L1 attrition.

The effect of *type* of language use on L1 attrition is probed by Schmid (2007) and Schmid & Dusseldorp (2010), who investigate the predictive power that the distinction of L1 use in different language modes has on L1 attrition. What these studies reveal is that frequency alone appears to have very little predictive power in determining the severity of attrition effects (Schmid, 2007); rather the kind of L1 use matters more. With regard to the latter point, it was found that L1 use in the intermediate mode (e.g. for professional purposes) was the only L1 use mode to have a significant and consistent effect on L1 maintenance (Schmid, 2007; Schmid & Dusseldorp, 2010). Steinkrauss & Schmid (2016: 374) observe that this is quite remarkable, given that the L1 use that would quantitively make up the largest portion of overall use (informal language use with family and friends) appears to play no protective role in L1 attrition. This finding, as striking as it may be, has been reproduced in a number of other studies investigating L1 attrition in a variety of linguistic settings (Chericiov, 2011; Dostert, 2009; Keijzer, 2007; Lubińska, 2011; Varga, 2012; Yilmaz & Schmid, 2012). However, results from Schmid & Dusseldorp's (2010: p.151) study lead the authors to advise that we should be careful not to overgeneralise the different language use contexts under one theoretical heading. Although Schmid & Dusseldorp's (2010) results for the bilingual language mode proved to be non-significant, there were, however, low correlations between the results for language use with one's partner and language use with one's friends. The former proved to be protective if language use was frequent, while the latter did not.

Furthermore, Schmid's (2002) study, which looked at the L1 attrition of German Jews in Anglophone countries, found that language use with siblings, also revealed a significant correlation with participants' performance in case marking, gender assignment, plural marking, verb phrase morphology and V2 (i.e. properties of the narrow syntax). Schmid (2002) found that the group that had the highest degree of attrition also reported the lowest amount of L1 use with their siblings.

A possible explanation for the role played by language use with siblings may rest on the idea that there are L1-L2 affective associations based on different interlocutors and contexts (Pavlenko, 2005). Furthermore, Pavlenko (2004) notes that language dominance plays a significant role in affective language choices and emotional expression. With regard to sibling relationships specifically, Dunn (2002) notes that research has identified three primary characteristics of sibling relationships, two of which are relevant to the present discussion. Dunn (2002: p.224) observes that "…sibling relationships are from infancy through adolescence notable for their emotional power and for the uninhibited expression of these emotions…A second characteristic of siblings' relationships is their intimacy…and this intimacy means the relationship can be a source of support or of conflict." Thus, sibling relationships are often laden with emotional connotations, as are their communicative interactions. As a consequence, it may be that language use with siblings serves as a good predictor of language dominance in bilinguals.

Furthermore, Schmid & Dusseldorp's (2010) study also takes into consideration the role of variables grouped together as "emotional and attitudinal". These include the role of motivation, attitudes and emotions in bilingual development, and also, very innovatively, the language patterns of bilinguals' thoughts and dreams (see the discussion related to "inner speech" below). These variables, taken together, also proved to be predictive. Based on the findings from Schmid & Dusseldorp's (2010) study, Schmid (2019: p.292) proposes that L1 use should be categorised as follows:

(i)   reported use of the L1 in informal situations where code-switching is not inhibited, e.g. with partner, children, and friends

(ii)   reported use of the L1 in situations where the L2 is highly active, but suppressed and code-switching is appropriate, e.g. work-related contexts or heritage-language clubs or churches

(iii)   reported exposure to non-attrited L1, e.g. reading, media, visits to the L1 country.

In spite of the advice that researchers should be cautious to overgeneralise and group together different types of language use (which these headings do, to a certain degree), the theoretical headings related to language use in these modes is a good point of departure for studies in bilingualism research. While these three categories do not comprehensively reflect the entire spectrum of Grosjean's (2001) Language Mode Model, they align with the central idea that we need to differentiate between the different types and contexts of language use. Frequency itself is not a fine-grained enough measure.

An important point to consider with regard to Schmid's (2019) proposed categories above is that L1 use in the intermediate mode (presumed to be primarily in work-related contexts) is likely to look different in multilingual contexts. To my knowledge, there exists no data that reports on language use patterns across different professional contexts in South Africa. However, the self-reported data obtained in the present study (see Chapter 4, §4.4.3.3) coupled with personal communication with South Africans in different professional contexts, ranging from more informal to very formal work environments, suggests the following: English is by far the most frequently spoken language in the workplace; the nature of the communication does, however, need to be taken into account. It has been noted by several informants that while English is used in all areas where the topic pertains to work, as soon as the topic of conversation changes and becomes more informal – say, small talk before or after a meeting – other official and unofficial languages are spoken. This means that in the South African workplace, if we follow a "language mode" perspective, then bilinguals may frequently be switching between the intermediate and bilingual language modes. Crucially, the intermediate mode for L1 Afrikaans-L2 English speakers is the *L2* intermediate mode, with their L2 and not their L1 being the language of professional interaction. This point is only elucidated to illustrate that, while it is crucial to differentiate between language use modes, the same theoretical heading might not necessarily be easily transposed from largely monolingual to multilingual contexts.

A further, but under-researched, aspect of language use which should be considered in bilingual language development is that of internal and noncommunicative language use. In this regard I pick up on Schmid & Dusseldorp's (2010) "attitudinal variables" by independently probing the language use patterns of bilinguals' thoughts and dreams to determine their role in L1 (in)stability.

Internal and noncommunicative language use is important because communication with others is just one of the many ways that humans use their linguistic skills. Apart from the fact that we talk to one another, we also talk to ourselves, and it is reasonable to expect that bilinguals' linguistic repertoires will vary both quantitatively and qualitatively in this regard. Additionally, we think, dream, write, read, watch television and listen to the radio. In all these instances, we use our linguistic skills (Schmid, 2019: p.290). The fact that our lives and our linguistic repertoires are inextricably interconnected, and that furthermore the linguistic subsystems of bilinguals are "connected at multiple levels" means that use of one language – regardless of whether this is externally or internally oriented – affects the other language

(Schmid, 2019: p.290). Thus, it is likely that even small differences in language use patterns of this type may result in between-speaker variability.

While the impact of internal language use on bilingual language development is still largely not understood, Pavlenko (2011: p.252) notes that the field of bilingualism needs to "engage in broad explorations of thinking and speaking in two or more languages". Only a handful of studies concerned with bilingualism and attrition have exclusively focussed on internal language use, and in this regard the focus has been specifically on *inner speech* (see Dewaele, 2006; Guerrero, 2005; Larsen et al., 2002). Inner speech is defined as "the activity of talking to oneself in silence" (Morin, 2012: p.436). Crucially, however, it is understood as a mental activity which needs to be distinguished from private speech, which is audible (Resnik, 2018: p.2). Recall also, as noted at the outset of this discussion, that Schmid & Dusseldorp (2010) also explore the role played by the language use patterns of bilinguals' thoughts and dreams in their multivariate study. These factors were, however, primarily included as two of the variables thought to correlate with emotional and attitudinal factors.

This assumed correlation can be understood in terms of the privileged emotional status the L1 is thought to hold for bilinguals. An abundance of evidence from autobiographical work of bilingual writers identifies the L1 as the language with the "strongest emotional connotations" (Dewaele, 2013: p.2). Marcos (1976) in fact observes that the L2 often fulfils a purely intellectual function, and that as far as emotional connotations go, bilinguals often feel emotionally "detached" from their L2, something Marcos (1976) refers to as the "detachment effect". Dewaele (2013) quotes Rosorio Ferré, a Puerto Rican writer, as she describes Spanish (her L1) as the language "of the heart":

I can roll around on the ground and frolic in Spanish because I don't have to worry about anything; words always mean what they say. I love to make love in Spanish; I've never been able to make love in English. In English, I get puritanical.

(Quoted in Dewaele, 2013: p.2)

As discussed above with regard to language use with siblings, recall Pavlenko's (2005) observation that L1-L2 affective associations are contextually determined, and, furthermore, that language dominance plays a significant role in emotional expression and affective language choice (Pavlenko, 2004). If we concede that language choices (conscious or subconscious) have emotional connotations, and are contextually determined, then it becomes

clear how affective factors are additionally relevant to inner speech. Accordingly, Dewaele (2015) differentiates between "inner speech" and "emotional inner speech", the latter determined by affective factors.

In the present study, the role of internal (or non-communicative) language use is considered in its own right. Participants were asked to specify the language use patterns of their thoughts and dreams. While the question of *inner speech* was not directly addressed, a brief review of the associated literature is important because of the link that appears to exist between "inner speech" and thought. Consider the comment below made by one of Dewaele's (2015) participants with regard to his preference for using the L1 for (emotional) inner speech: "L1 because it is more direct into my line of inner thought" (quoted in Dewaele, 2015: p.9). The point of probing these variables is that, as pointed out above, practising our linguistic skills is not just about communication. Much of the time we are engaging in noncommunicative speech of some sort. Let us briefly consider the findings of research that has been conducted in this area.

Although the inquiry into the effect of internal language use is still in the emerging stages, it has shown that proficiency strongly correlates to inner speech behaviours (Guerrero, 2005; Larsen et al., 2002). This was also shown to be the case in Dewaele's (2006) study, which reports on the inner speech patterns of 1454 multilinguals. The results revealed that the L1 is the preferred language of inner speech, but that this can shift to the Ln based on AoO of bilingualism and/or dominance, proficiency, frequency of use, acquisitional context, and the size of the multilinguals' Ln network. That proficiency can, and often does, result in a change in internal language use patterns would then suggest that proficiency is also linked to more frequent activation of the more proficient language. That internal language usage patterns and bilingual developmental changes could be closely linked makes the relationship one worth exploring when researching EotSLotF.

The penultimate section of this literature review reports on two studies that, against the background of this literature review, add to the emerging picture of considerations needed to fully grasp the L1 development of lifelong bilinguals in a multilingual context.

2.6   Studies of central relevance to the population under investigation

Although language use has not been found to be particularly predictive in L1 attrition in the L2 environment, this is not to say that the same will necessarily be true of the L1 environment.

This is explored in §2.6.1 below in a discussion of Bylund's (2014) study which looks at L1 isiXhosa-L2 English speakers in South Africa. Following this, the role of exposure- and use-related variables for *both* early and late bilinguals in the study of EotSLotF is addressed in §2.6.2 in a discussion of Schmid & Karayayla's (2020) study.

2.6.1   EotSLotF in the South Africa: Bylund (2014)

Recall that in the L2 environment, as discussed above (§2.5.2.2), language use patterns have not been found to be particularly predictive in L1 attrition. However, it is questioned whether the same will hold true in the L1 environment. A study which perhaps sheds some light on this, is Bylund's (2014) study conducted in Cape Town, South Africa.

Bylund (2014) probed the effect of different types of language use (amongst other background variables) on the occurrence of English loanwords in L1 isiXhosa-L2 English bilinguals. The aim of the study was to investigate which background variables may increase or reduce the use of English loanwords in the L1 isiXhosa speakers' linguistic repertoires. While the study is not concerned with morphosyntax, it finds, unlike many of the studies referred to above, that language use *does* play a role in the frequency with which L1 isiXhosa speakers' use English loanwords.

The results revealed frequency of use for interactive purposes (language use with friends and family, for example) to be a predictive variable, as was age of arrival in Cape Town (from the Eastern Cape, which is largely isiXhosa-dominant). Furthermore, receptive language use (e.g. exposure through TV, radio and books) was also marginally predictive. And, additionally, so was LoLT at primary and secondary school. The latter correlation was a positive one, whereby schooling in isiXhosa resulted in less English loanword usage. While it is acknowledged that these variables may not be predictive in determining morphosyntactic stability in the L1 environment, it is worth noting that in the same geographical context that we are concerned with here (in the case of the bilinguals who have remained in South Africa), they were predictive in the lexical domain.

2.6.2   L1 use and early bilinguals: Schmid & Karayayla (2020)

So far, a considerable number of factors have been considered with respect to the contributory role they play in the developing L1 grammar of child and adult bilinguals respectively. Surprisingly, the role played by language use in adulthood has been less clear. With the

exception of L1 use for professional purposes – which falls under the theoretical heading of intermediate L1 use mode, see §2.5.2.2. – language use has been repeatedly shown *not* to be a strong predictive variable in L1 attrition (see Steinkrauss & Schmid, 2016 for an overview). While the importance of L1 use and exposure in childhood is paramount, it appears that the same cannot be said for L1 use in adulthood (note that receptive language use, in the case of exposure to TV, radio, books etc. is also regarded as "use").

Schmid (2007) suggests that there is a saturation level of entrenchment that is achieved in pre-pubescent L1 speakers; once achieved, this remains unaffected by use in adulthood (see also, MacWhinney, 2011; Hernandez et al., 2005). A recent study, conducted by Schmid & Karayayla (2020), however, suggests that there may be more to this anomalous underwhelming effect of L1 use in adulthood on L1 attrition. Schmid & Karayayla (2020) investigate the predictive variables involved in the L1 development of bilinguals with a varied AoO of bilingualism (between the ages of 0 – 42). Fifty adult Turkish-English immigrants in the United Kingdom were included in the study, with their performance measured against a control group of 22 monolinguals in Turkey. Their command of lexical, morphological and syntactic features was tested to determine the impact (if any) of attitudinal and usage-related factors in the development of their L1.

When it comes to the role that language use plays in predicting (in)stability in HL grammar, the focus is generally on how reduced input and use in *childhood* affects the L1 grammar. A methodological strength of Schmid & Karayayla's (2020) study is its ability to gain a more comprehensive understanding of how AoO of bilingualism (i.e. in *both* early and late bilingualism) interacts with other variables, and in specific *language use in adulthood*, in shaping adult L1 grammar. Schmid & Karayayla (2020) point out that the reason for the knowledge gap related to the interplay between AoO and these other variables is largely due to the dichotomous distinction between research that focuses on HSs (2L1 or early bilinguals) and attriters (mature bilinguals). In other words, as a result of the fact that researchers are typically concerned with either early (HSs) or late (attriters) bilinguals, many predictive variables are considered for only one of the population groups, but not both (e.g. frequency/type of language use in adulthood is typically taken into account for attriters and not HSs). Schmid & Karayayla's (2020) study, however, illuminates the importance of bringing these fields together to obtain a full picture of the L1 development in bilinguals.

The study investigates a language community which, according to the authors, has not had language acquisition or maintenance problems. This is done to explore how the variables investigated relate to the stability of these speakers' L1. Schmid & Karayayla (2020) further

point out that because the HL of this community of speakers is "well-preserved", it ensures that some of the 2L1 and early bilinguals will achieve native proficiency, and, additionally, that divergence in the younger learners is unlikely to be the result of non-target-like input from the older generation (see Kupisch & Rothman, 2018; Lyskawa & Nagy, 2019 for studies concerned with HL development in communities where the languages are well-preserved).

Schmid & Karayayla (2020) tested the same attitudinal and usage-related variables as those tested in Schmid & Dusseldorp's (2010) study: AoO of bilingualism, LoR, frequency of L1 use, and attitudes towards the L1. The variables LoR and those related to speakers' attitudes did not prove to be particularly insightful. However, the results related to AoO of bilingualism in relation to *language use* are illuminating. It was confirmed that L1 use in adulthood did not significantly predict proficiency in bilinguals with an AoO greater than the age of 10 (as evidenced by numerous L1 attrition studies, see § 2.5.2.2 above). However, for bilinguals with an AoO *before* the age of 10, L1 use in adulthood is a strong predictor of proficiency. That the early, but not the late bilinguals, are sensitive to factors linked with L1 use in adulthood leads Schmid & Karayayla (2020) to argue that:

> ...investigations assessing the impact of AaO across the full spectrum are necessary in order to close the gap between the, largely but artificially separated, field of language attrition on the one hand and heritage language development on the other, and thus to fully understand the role that AaO has to play for susceptibility of a native language to transfer from a L2.
>
> (p.76)

In spite of the fact that the present study does not include participants across the full AoO spectrum as suggested (a near impossibility in the given context), Schmid & Karayayla's concluding remarks underscore one of the primary objectives of the present exploratory study – that is, to illustrate the importance of considering multiple research veins in studies concerned with EotSLotF in lifelong bilinguals.

Although the present study is concerned (primarily) with 2L1 and early sequential bilinguals (see Chapter 4, §4.4.1.1 for participants' AoOs), it is hoped that by bringing together the primary insights from the interrelated fields of HL development and L1 attrition, a better understanding can be reached as to how it is that the L1 develops over the lifespan in different contexts.

2.7 Concluding perspectives

That there exist numerous definitions of bilingualism (based largely on differences of degree) is testimony to the fact that bilingualism is characterised by heterogeneity, complexity and dynamism. Recall that in the present study, bilingualism is referred to as *the use of two languages, at various stages across the lifespan of a language user, in which receptive and communicative competence has been achieved in both languages across a number of varied contexts* (see Chapter 1, (1.4) of §1.4). Given that it is necessary to propose a new working definition of bilingualism, simply to define many of the bilinguals in the present study, suggests that the field needs to consider new contexts and perspectives not typically taken into account.

The present study assumes that a bilingual's knowledge of their two languages cannot be measured against a monolingual standard, calling into question the term *native speaker*, which has typically been associated with monolingualism. The "native speaker", Chomsky's ideal speaker-hearer, is perhaps the monolingual equivalent of Valdés (2001) "mythical bilingual" (Chapter 1, §1.4). In assuming an idealised monolingual baseline, the subfields of bilingualism have perhaps unwittingly and unfairly categorised bilinguals whose L1s exhibit variation as deficient and "non-native-like". However, as Kupisch & Rothman (2018) observe with regard to HSs, extended here to attriters too, these bilinguals *are* native speakers of their L1s.

However, L1/L2 exposure and use across the course of a bilingual's lifetime looks different in every individual. For this reason, because a speaker's grammar remains sensitive to exposure and use through language activation and is thus ever-changing (see Paradis, 1993; Putnam & Sánchez, 2013), it is to be expected that each bilingual's L1 grammar will also look different based on their differing exposure and usage patterns (Sankoff, 2002). This is particularly the case if we also consider vernacular varieties (see Flores & Rinke, 2020 for discussion). Crucially, although between-speaker variation is to be expected, due to the structural makeup of the linguistic system, EotSLotF are expected to infiltrate the same vulnerable areas of the L1 grammar, whilst leaving the same points of linguistic stability intact. Importantly, however, as the discussion in §2.2.6 concerned with manifestations of EotSLotF has shown, these points of (in)stability are likely to be language, property-, and even structure-specific as a result of the potential language-internal factors at play.

The terminological issues related to the study of EotSLotF are further complicated in the South African context, a context which is by no means the exception to the rule. In fact, in an African and Global South context more generally, multilingualism *is* the rule. If we consider the term *heritage speaker*, many South Africans are bi/multilingual speakers who fit the HS label almost exactly, except that their language *is* one of the dominant languages of the South African society, albeit not necessarily the dominant language in certain provinces (see Puig-Mayenco et al., 2018). In such contexts, where multilingualism is the norm, multilinguals exhibit differing proficiency in their various languages. This may, for example, be based on which of their languages are used in which contexts and for which purposes. For example, a speakers may in fact be L1-dominant, but not literate in their L1, as they are perhaps only schooled in their L2/Ln. Thus, they may experience differing dominance in different linguistic areas of each of their respective languages. What this illustrates is that terminological labels such as "attriters" or "heritage speakers" can be overly simplistic, and, accordingly, that the way in which we approach research associated with language interaction in bi/multilingualism, especially in multilingual contexts, potentially requires a more nuanced approach.

2.7.1   The theoretical foci of the present study

The above discussion hopes to have illustrated the importance of taking numerous factors into account in studies concerned with the development, and possible change, of the L1 under the influence of an L2 over the lifespan. Let us briefly recapitulate the factors considered; factors which form the foci of the present study.

As discussed in §2.3, previous studies have revealed differences in L1 outcomes based on whether the properties in question are early or late acquired (see Sorace & Serratrice, 2009; Tsimpli, 2014 for discussion). To this end, it was also noted that syntactic properties that map to LF in a simple way are generally those that are early acquired, while later acquired syntactic properties tend to be those that map to LF in a more complicated way (Tsimpli, 2014). In terms of this distinction, §2.4.2.1 discussed the IH's prediction that, under L2 influence, the former are likely to exhibit more stability than the latter. It was, however, noted that the IH cannot be considered in a vacuum, and that the linguistic structure of the L1 and L2 are, of course, of central relevance to predicting L1 (in)stability under L2 influence (see §2.2.6 and §2.4.2.2). Section 2.2.6 considers manifestation of EotSLotF more generally, and highlights the fact that

EotSLotF do not always manifest as CLI. Specifically, it was discussed that variation in the L1 grammar, although the result of a reduction in L1 exposure or use, can be the result of a language-internal phenomenon whereby L1 patterns representative of spoken variation are exaggerated. The fact that a reduction in L1 exposure/use and an increase in L2 exposure/use can result in this kind of language-internal driven variation, underscores the importance of considering vernacular varieties and, as stated by Flores & Rinke (2020: p.26), further highlights the necessity to "distinguish *variation* from *deviation*" (see Chapter 1, §1.1 and §2.2.6.4 above).

The picture that emerges is that, when studying EotSLotF in relation to L1 morphosyntactic (in)stability, the following *linguistic* factors should be taken into account:

(i)   the developmental trajectory in first language acquisition,
      spanning from birth through to adolescence;

(ii) L1-L2 structural overlap;

(iii) the distinction between narrow syntactic/interface-internal and interface-external
      properties; and, where relevant,

(iv) variation in spoken language.

With respect to this final point, and as noted above, in research concerned with *spoken* varieties in bi/multilingual communities, EotSLotF may not always be evidenced in the form of divergence from what is *prescriptively* grammatical in the L1. Rather, researchers need to pay attention to how the L1 is in fact used by the L1 community, which typically does not, in all respects, equate to what is prescriptively correct.

Then, crucially, if we want to fully account for EotSLotF across the lifespan of early bilinguals, it is proposed that the following *extralinguistic* factors need to be taken into account:

(i)   the sociolinguistic environment;

(ii) exposure- and use-related variables during the sensitive periods in language
      acquisition and development; and

(iii) exposure- and use-related variables in adulthood.

By bringing together theoretical considerations in the fields of language acquisition, HL development, and attrition, we can move towards a more comprehensive understanding of language development and change across the lifespan. Instead of research that pursues the dichotomous split between the study of *HL development* and *L1 attrition* respectively, a unified approach, as pointed out by Schmid & Karayayla (2020), has the potential to

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bring these two largely artificially separated fields together. This synthesis allows for better understanding of different, but related facets of bilingualism; and in the case of the present study, how EotSLotF manifest as a result of differing language use in childhood through to adulthood.

Chapter 3
The morphosyntactic properties of Afrikaans

3.1   Introduction

This chapter presents the details of the Afrikaans properties under investigation. Against the backdrop of the literature review and motivated by factors thought to be predictive in L1 (in)stability, §3.2 outlines the reasoning behind the selection of the three properties under investigation in the present study. The specific details related to verb placement in Afrikaans are presented in § 3.3, followed by a discussion of the Afrikaans negation system in § 3.4, with relevant details of scrambling in Afrikaans presented in § 3.5.

3.2   The three properties under investigation

The present study is concerned with the EotSLotF in five syntactic properties which differ in three key respects:

(i) their sensitive period(s),
(ii) their narrow syntactic/internal-external interface status, and
(iii) the degree of L1-L2 structural overlap involved.

The five properties under consideration fall under three syntactic domains:

(i) verb placement,
(ii) negation, and
(iii) scrambling.

The property-specific details will be described in accordance with the prescriptive rules that underlie StdA, as well as those underlying MsA. Crucially, it should be noted again that MsA is not a dialect. Rather, as already pointed out in Chapter 1 (§1.1), the term refers to the fact that in non-dialectal *spoken* Afrikaans, there are options available that are unavailable in prescriptive StdA, and that would thus not occur in formal written texts (see i.a. Abraham, 1999; Molnárfi, 2001; Biberauer, 2003, 2009, 2017). Verb placement in Afrikaans will thus be

described in terms of the distinction between what is prescriptively sanctioned in StdA versus what is additionally permitted in MsA. In the domain of negation, basic sentential negation (StdA and MsA structures) as well as the distinction between double negation (DN) versus negative concord (NC) structures are considered (the latter only permissible in MsA); and in the domain of scrambling, both pronominal (StdA and MsA structures) and discourse-driven scrambling are of interest. This is summarised in the table below.

Property	Structural class/context	
Verb placement	StdA	MsA
Sentential negation	StdA	MsA
DN/NC	StdA	MsA
Pronominal scrambling	StdA	MsA
Full DP scrambling	anaphoric/ old information contexts	non-anaphoric/ new information contexts

Table 3. 1 Property-specific structural classes/contexts of interest

The L1 acquisition data for Afrikaans is limited. Of the properties under investigation, only the acquisition of verb placement (Cable, 2005) and negation (White, Southwood & Huddlestone, 2022) in Afrikaans have received any kind of attention in the generative literature. The acquisition of scrambling in Afrikaans has not, however, been studied. Taking into account (i) the limited data available (Cable, 2005; White et al., 2022), (ii) sporadic observations about child-directed speech, and (iii) what has been found in other West Germanic languages (notably, Dutch and German), we can characterise the five properties under investigation within the three main domains as follows:

(i) *Verb Placement*

Verb placement in Afrikaans is an early acquired (see §3.3.4) property of the narrow syntax.

(ii) *Negation*

Sentential negation is an early acquired (see §3.4.5) property of the narrow syntax. In contrast, double negation (DN), which involves two or more negative elements, is a syntactically complex structure at the syntax-discourse interface. DN is late acquired in other languages (§3.4.5) and is therefore expected to be

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acquired (or mastered) late in Afrikaans, closer to the close of the sensitive period for morphosyntax.

(i)   *Scrambling*

Pronominal scrambling in Dutch, which relies on principles of information structure, is a property at the syntax-semantics interface. Although later acquired than verb placement or basic sentential negation, pronominal scrambling is still relatively early acquired in Dutch in comparison to discourse-driven scrambling, a property at the syntax-discourse interface (see Schaeffer 1996 and the references discussed in §3.5.4).

These facts are again summarised in the table below.

Property	Acquisition period	Interface status
Verb placement	early	narrow syntax
Sentential negation	early	narrow syntax
DN/NC	late	syntax-discourse (interface external)
Pronominal scrambling	early	syntax-semantics (interface internal)
Full DP scrambling	late	syntax-discourse (interface external)

Table 3. 2 Property-specific structural classes/contexts of interest: sensitive periods & interface status

Thus, within the domains of negation and scrambling, bilinguals' judgements might be expected to exhibit property-internal variation in terms of both sensitive-period considerations and syntactic realisation at the interfaces.

Turning to the five properties' structural overlap with English, the following observations hold:

(i)   Verb placement in Afrikaans and English exhibits a partial (and superficial) overlap in certain structures (§3.3.2.2). Crucially, however, the structures that exhibit this superficial overlap are not probed in the present investigation (although note the observation in §3.3.3.1).

(ii)   Basic sentential negation in Afrikaans and English exhibits no structural overlap.

(iii)   DN/NC patterns in Afrikaans exhibit a partial overlap in comparison to what speakers of SAE permit in this regard.

(iv)   In the domain of scrambling, Afrikaans and (present-day) English exhibit no structural overlap.

In sum, these three properties exhibit between-property variation in terms of their (i) sensitive period(s), (ii) interface conditions, and (iii) structural overlap. For negation and scrambling, within-property variation is also evidenced for their respective sensitive periods and syntactic realisation at the interfaces. For negation, there is a further asymmetry for the structural overlap evidenced for DN/NC interpretations, but not for sentential negation.

Taken together, these properties are ideally suited to probe crucial considerations in the study of the EotSLotF. The specifics of these three properties are set out in the sections that follow.

3.3   Verb Placement

This section presents the details of verb placement in Afrikaans. As a starting point, the typical V2-SOV West Germanic pattern that also surfaces in Afrikaans is described in §3.3.1. Following this, verb placement in StdA and MsA is described in §3.3.2 and §3.3.3 respectively. In the course of the discussion, the verb-placement difference between English and Afrikaans will be pointed out where applicable. The acquisition trajectory of verb placement in Afrikaans is discussed in §3.3.4. Against the background of what will be discussed below, section 3.3.5 briefly considers what L2-induced L1 (in)stability in the domain of verb placement in Afrikaans might look like.

3.3.1   The V2-SOV West Germanic pattern

This section presents the basic details of verb placement in West Germanic. To ease our exposition, the classic West Germanic OV pattern will be described using examples from German and Dutch.

3.3.1.1 MC-EC asymmetry

West Germanic OV languages display a word-order asymmetry between main clauses (MCs) and embedded clauses (ECs). Consider the MC-EC word order asymmetry illustrated in the German (3.1) and Dutch (3.2) examples below (verb in **bold**).

(3.1)   (a)   *Sie **liest** die Zeitung*   [German]

                 she reads the newspaper

                 "She reads the newspaper."

        (b)   *…dass sie die Zeitung   **liest**.*

                 …that she the newspaper reads

                 "…that she reads the newspaper."

(3.2)   (a)   *Ze **leest** de krant.*   [Dutch]

                 she reads the newspaper

                 "She reads the newspaper."

        (b)   *…dat ze de krant   **leest.***

                 …that she the newspaper reads

                 "…that she reads the newspaper."

As the above examples illustrate, this asymmetric West Germanic pattern entails that in MCs, the finite verb is in a clause-second position (V2); in ECs, by contrast, the finite verb is situated clause-finally (SOV) (see den Besten, 1983 on this classic pattern). To briefly explain what is at stake in a V2 analysis, and why it differs to what we see in an SVO language like English (to be discussed in relation to Afrikaans in §3.3.2 to follow), let us briefly consider the basic (and greatly simplified[30]) clausal domains in (3.3) below:

(3.3)

CP   ← discourse domain (clause-typing, topic, focus, etc.)

       TP   ← anchoring domain (tense, mood, etc.)

             vP   ← thematic domain (theta-roles, aspect, etc.)
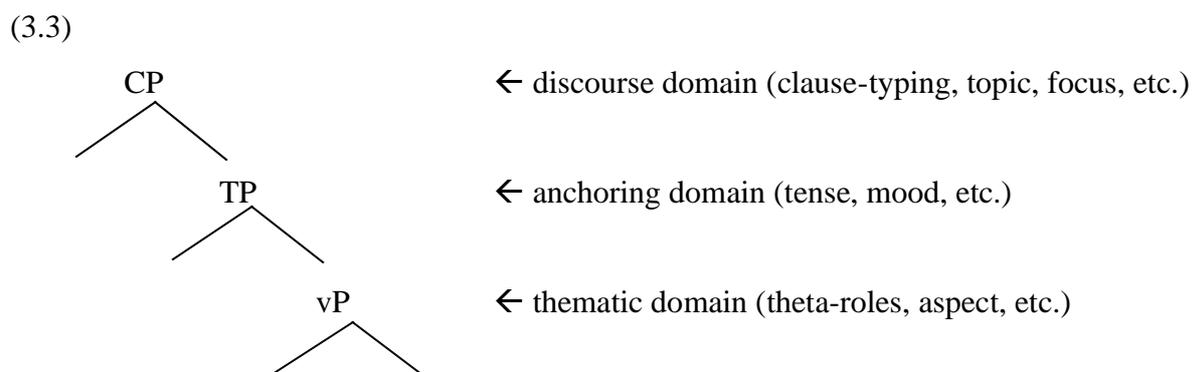
                                           (Biberauer, 2018)

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[30] See Rizzi (1997) for the details pertaining to the left periphery (CP domain); and Heim & Wiltschko (2017) for a neo-performative approach, which, building on the work of Ross (1970), postulates a CP-peripheral speaker-hearer domain.

Simplifying greatly, a V2 analysis is thought to entail finite verb movement to the CP domain, i.e. with the verb moving from the vP[31] domain, though the TP domain, to the CP domain. Further, the traditional V2/SOV analysis is one that assumes a Spec-Comp-Head order (i.e. a head-final vP), meaning that the EC most directly reflects the primary order, with the MC reflecting a more complex (or derived) ordering pattern (see Koster, 1975 for the original proposal). For simplicity's sake, I will thus assume a Koster-style analysis in the vP domain, and not a Kaynean approach, whereby movement is always leftward (Kayne, 1994), assuming an underlying, and universal, Spec-Head-Comp structure.

To illustrate how a V2 analysis differs to that of an SVO system such as English, consider the Dutch (3.4-b) and English (3.5-b) structures below.

(3.4)　(a)　*Ze **leest** de krant.*

she reads the newspaper

"She reads the newspaper."

(b)

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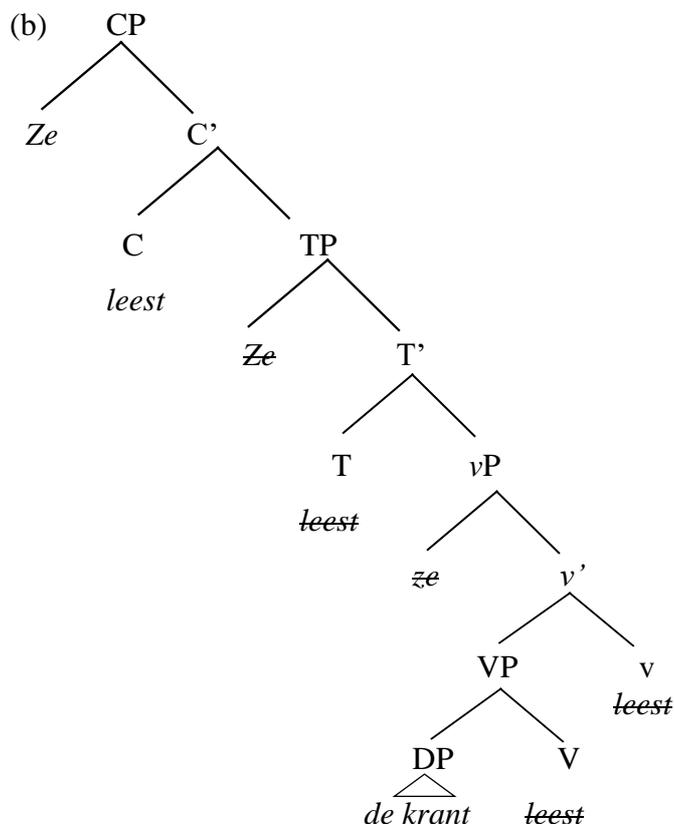
[31] I assume the structure most commonly adopted in minimalist work, in terms of which *v* introduces the external argument, with the VP being the locus of the internal argument(s). See Chomsky (1995: chapter 4), and Kratzer (1996) for the original *v*P proposal.

(3.5) (a)   She **reads** the newspaper.

(b)

```
                    CP
                   /  \
                  C    TP
                  Ø   /  \
               [decl]she  T'
                         /  \
                        T    vP
                     [pres] /  \
                          she   v'
                               /  \
                              v    VP
                            reads /  \
                                 V    DP
                               reads  △
                                   the newspaper
```
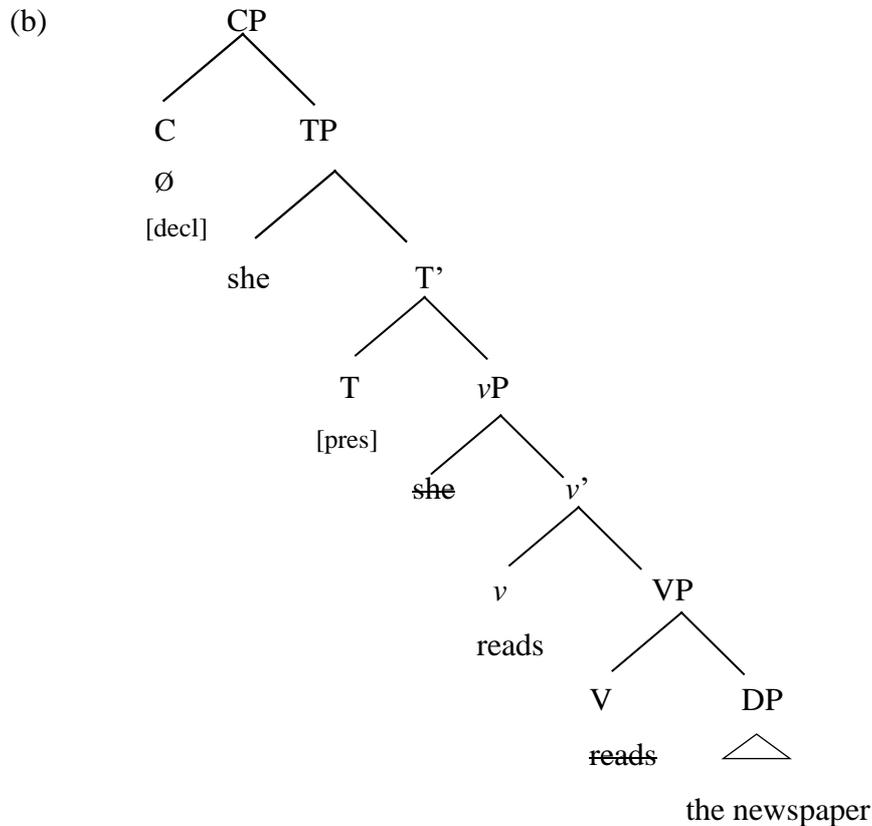
In both MCs above, the finite verb is linearly in second position after the subject. However, the hierarchical structures are different. As the Dutch example in (3.4-b/c) illustrates, the verb *leest* has moved to the CP domain, whereas in the English example in (3.5-b), the verb remains hierarchically low within the *v*P domain. A true V2 analysis is thus referred to as "V-in-C".

That the Dutch (/Afrikaans; §3.3.2) and English hierarchical structures are different has important implications for ECs (see §3.3.1.3 to follow).

3.3.1.2 Tensed main clauses

In MCs with auxiliary and modal verbs, the typical West Germanic pattern sees the finite verb (**bolded**) in clause-second V2 position, with the lexical verb situated clause-finally (underlined). See the German and Dutch MCs in (3.6) and (3.7) below respectively.

(3.6)   (a)   *Sie **hat** die Zeitung*   <u>*gelesen*</u>   [German]

               she has   the newspaper read.PART

               "She has read the newspaper."

       (b)   *Sie **wird** die Zeitung*   <u>*lesen.*</u>

               she will   the newspaper read

               "She will read the newspaper."

(3.7)   (a)   *Ze **heeft** de krant*   <u>*gelezen*</u>   [Dutch]

               she has   the newspaper read.PART

               "She has read the newspaper."

       (b)   *Ze **zal** de krant*   <u>*lezen.*</u>

               she will the newspaper read

               "She will read the newspaper."

(b')   [Tree diagram:]

CP
- *Ze*
- C'
  - C: *zal*
  - TP
    - ~~*Ze*~~
    - T'
      - T: ~~*zal*~~
      - vP
        - ~~*Ze*~~
        - v'
          - VP
            - DP: *de krant*
            - V: *lezen*
          - ~~*zal*~~

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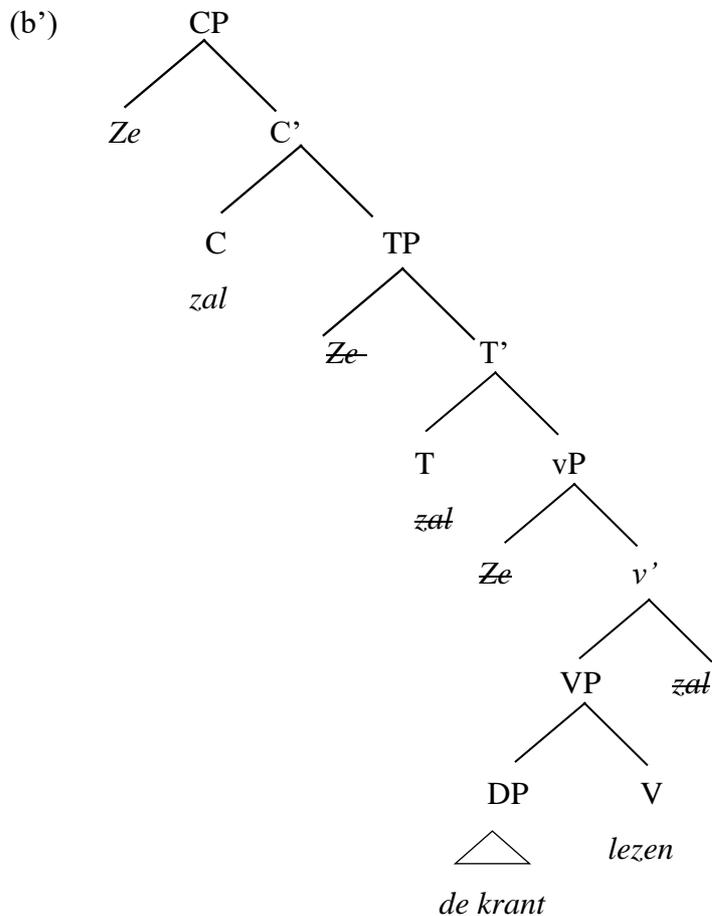
As the above examples illustrate, in MCs with auxiliary or modal verbs, the typical West Germanic order is SauxOV (i.e. with the auxiliary/modal verb in V2). The following sub-section considers ECs in more detail as there is between-language variation in the West Germanic language family that needs to be considered in more detail.

3.3.1.3 Embedded clauses

In German and Dutch, and Afrikaans (§3.3.2.5) ECs, the complementiser will occupy the C-head, which, recall, is the position occupied by the tensed verb in MCs (§3.3.1.1). Thus, V-to-C movement is blocked, resulting in clause-final verb clustering. In ECs with auxiliary and modal verbs, German and Dutch display different inversion patterns in their verb clusters (and, as we will see in §3.3.2.5, Afrikaans is again different to both German and Dutch in this respect). Consider the German (3.8) and Dutch (3.9) ECs below.

(3.8) (a)   *…weil er das Buch <u>gekauft</u> **hat***   [German]

                since he the book bought.PART has   [V-AUX]

                "…since he has bought the book."

      (b)   *…weil er das Buch <u>kaufen</u> **wird/muss***

                since he the book buy   will/must   [V-MOD]

                "…since he must buy the book."

(3.9) (a)   *…dat Jan het boek gelezen **heeft***   [Dutch]

                that Jan the book read.PART has   [V-AUX]

      (b)   *…dat Jan het boek **heeft** gelezen*   [AUX-V]

                that Jan the book has   read.PART

                "…that Jan has read the book."

      (c)   *…dat Jan het boek   lezen   **kan***   [V-MOD]

                that Jan the book   read.PART can

                "…that Jan can read the book."

(d)   *…dat Jan het boek **kan** lezen*   [MOD-V]

  that Jan the book can read.PART

  "…that Jan can read the book."

As the ECs in (3.8) illustrate, (standard) German displays the same verb cluster order with auxiliaries as it does with modals: the non-finite lexical verb always precedes the finite modal or auxiliary, i.e. V-MOD and V-AUX (see Wurmbrand, 2004, 2006). Dutch, however, exhibits optionality in this respect, permitting both V-AUX/MOD (3.9-a/b) and AUX/MOD-V (3.9-c/d) orders (see §3.3.2.5 for the hierarchical structure in Afrikaans).

A further difference between what German and Dutch permit for verb placement in ECs pertains to V2 in complementiserless ECs. In Dutch, this option is very heavily restricted (see Zwart, 1997: p.24). This is illustrated in (3.10) below.

(3.10) **Ik weet de jongens lezen de krant*   [Dutch]

  I   know the boys   read the newspaper

  (Biberauer, 2002: p.32)

In German, however, the finite verb *can* appear in V2 position in ECs without an overt complementiser (see example (3.11) below). This is, however, a restricted option, mostly limited to complement clauses following so-called "bridge verbs"[32] (see Vikner 1995: p.46).

(3.11) *Er meint, Johan habe/hat Maria gekuesst.*   [German]

  He thinks Johan have/has Maria kissed.PART

  "He thinks Johan may have kissed Maria."

  (Biberauer, 2002: p.32)

In addition to (3.11)-type structures, spoken German also permits V2 in ECs introduced by *weil* ('because'; see i.a. Antomo, 2012: p.27). An example of such a V2 *weil*-clause is presented in (3.12).

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[32] Bridge verbs, such as "say" or "think", allow *wh*-movement out of their complement (Crystal, 2011). In contrast, non-bridge verbs, such as manner-of-speaking verbs (e.g. "whisper" or "sigh") do not. Consider the example below:

(i)   Who do you think/say/*whisper/*sigh that she saw?

(3.12) *Sam ist sehr mager, weil   er **isst** nur Salat.*

      Sam is very skinny because he eats only salad

      "Sam is very skinny, because he only eats salad."

<div align="right">(Antomo, 2012: p.27)</div>

V2 in German ECs is therefore only possible in limited contexts, and it is not a commonly occurring strategy in standard German.

3.3.1.4 'Verb Third' in West Germanic

Although long considered highly restricted in V2 languages (see i.a. Vikner 1995), it has more recently been shown that verb third (V3) structures are not always ruled out in modern-day V2 systems (see i.a. Holmberg 2015, Den Dikken & Surányi, 2017, and Haegeman & Greco 2018).

      With regard to West Germanic specifically, West Flemish has been shown to exhibit a V3 (Scene-setting) Adjunct-Subject-V order. Consider (3.13) below.

(3.13) *[Als 't geijzeld is], [ze] **risschiert** heur niet buiten.*   [West Flemish]

      when it frosty   is   she risks   her not outside

      "When it is frosty, she does not venture outside."

<div align="right">(Haegeman & Greco, 2018: p.2)</div>

Haegeman & Greco (2018) argue that in structures such as (3.13) above, the adjunct is extra-sentential. Accordingly, a V2 analysis can still be adopted, as the finite verb is in second position in the root clause. Furthermore, West Germanic more generally allows for V3 in the following two forms: (i) contrastive left dislocation (3.14), and (ii) double adverbial fronting (3.15).

(3.14) *[Die jongen,] [die]   **ken**   ik niet.*   [Dutch]

       that boy   DEM[33] know I not

      "That boy, I don't know."

<div align="right">(De Vries, 2009: p.3)</div>

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[33] Demonstrative pronoun

(3.15) *[Fast   alles]   [im Sitzen]* **bewältigte** *Joaquim Rodriquez   auf dem Weg zum Gipfel.*

almost everything seated   managed   Joaquim Rodriquez on the   way to.the peak

"Joaquim Rodriquez managed to ride almost all parts of the road to the peak without getting out of the saddle."

[German]

(Müller, 2017: p.2)

As with the West Flemish example in (3.13) above, contrastive left dislocation and double adverbial fronting are both assumed to be compatible with a V2 analysis (the details are not relevant to our consideration here, but see Müller 2017 for discussion).

Standard Germanic aside, V3 has also been highlighted as a prominent feature in a number of Germanic urban multi-ethnolects (see Walkden 2017). Kietzdeutsch, an urban multi-ethnolect spoken in Germany, also permits V3, as illustrated in (3.16) below.

(3.16) *[Morgen] [ich]* **geh** *arbeitsamt*   [Kietzdeutsch]

tomorrow I   go   job.centre

"Tomorrow I will go to the job centre."   (Wiese, 2009: p787)

V3 structures of this kind, which replicate the order found in SVO languages like English (see 3.17 (a)), are not possible in standard varieties of West Germanic (see 3.17(b),(c)).

(3.17) (a)   Tomorrow I am **going** shopping.

(b)   *Morgen   gehe ich einkaufen.*   [German]

tomorrow   go   I   shopping

"Tomorrow I am going shopping."

(c)   **Morgen   ich gehe   einkaufen.*

tomorrow I   go   shopping

(Walkden, 2017: p.50)

To summarise, then: as the above discussion has shown, the typical pattern in West Germanic is V2 in MCs and SOV in ECs. While there are exceptions to this rule (e.g V2 in complementiserless German ECs, or in specific V3 structures), it is clear that these exceptions constitute marked options which are significantly less frequent than the V2-OV norm.

With the preliminary V2-SOV details of West Germanic outlined above, the following section presents the details of verb placement in StdA. Note that where applicable, the (dis)similarities between Afrikaans and English will be pointed out.

3.3.2   Standard Afrikaans

3.3.2.1 MC-EC asymmetry

StdA displays the same V2-SOV asymmetric word order pattern described above: it is V2 in MCs (3.18-a) and SOV in ECs introduced by an overt complementiser (3.18-b).

(3.18) (a)   *Hy **verf** die kas.*   [V2]

                he paint the cupboard

                "He is painting the cupboard."

      (b)   *Hy sê dat hy die kas   **verf**.*   [SOV]

                he say that he the cupboard paint

                "He says that he's painting the cupboard."

3.3.2.2 Apparent 'SVO' MCs

As the present study is concerned with the EotSLotF, I will consider the relevant properties of Afrikaans alongside those of English, paying particular attention to the presence or otherwise of structural overlap. In MCs with only a subject, lexical verb and an object, the two languages appear superficially identical. Consider (3.19) below (recall that this was also the case for the Dutch and English examples in (3.4) and (3.5) above. The verb is marked in **bold** in each case.).

(3.19) (a)   She **kicks** the ball.

                S   V   O

(b)   *Sy **skop** die bal.*

        she kick the ball
        S   V   O

As pointed out in § 3.3.1.1 above for Dutch and English, this "structural overlap" is only an apparent one. Although StdA and English display an overlap in the above linear orders, their respective hierarchical structures remain different.

Recall that, as discussed in §3.3.1.1 above in relation to West Germanic more generally, a V2 analysis is thought to entail finite verb movement to the CP domain (i.e. V-in-C). The finite verb in Afrikaans thus moves to C, whereas the English verb remains internal to the vP domain. This is illustrated in the Afrikaans and English hierarchical structures in (3.20) and (3.21) below.

(3.20) *Sy **skop** die bal.*

(3.21) *She **kicks** the ball.*
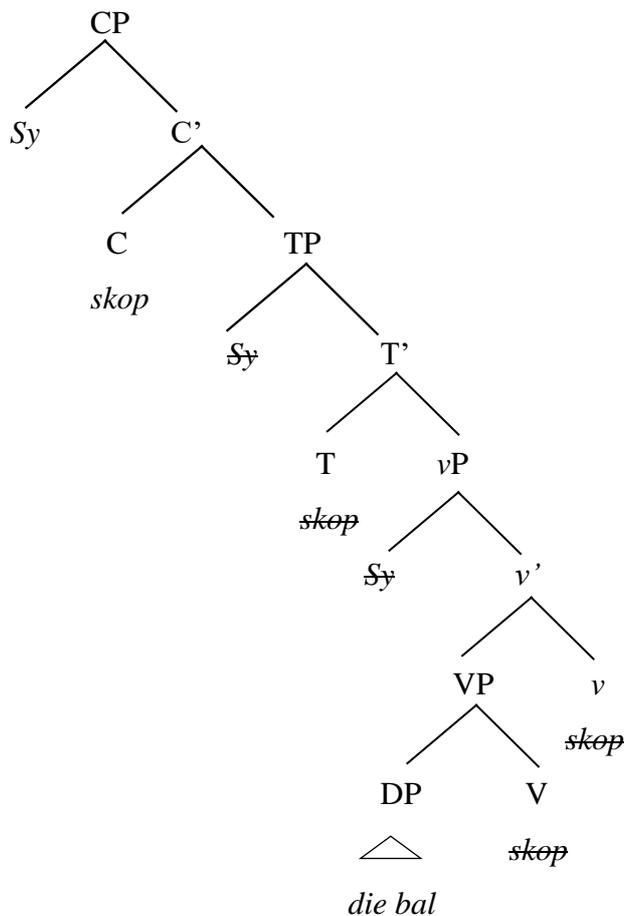
```
                        CP
                       /  \
                      C    TP
                      Ø    / \
                   [decl] she  T'
                             /   \
                            T     vP
                         [pres]  /  \
                               she   v'
                                    /  \
                                   v    VP
                                 kicks  / \
                                       V   DP
                                     kicks  △
                                          the ball
```
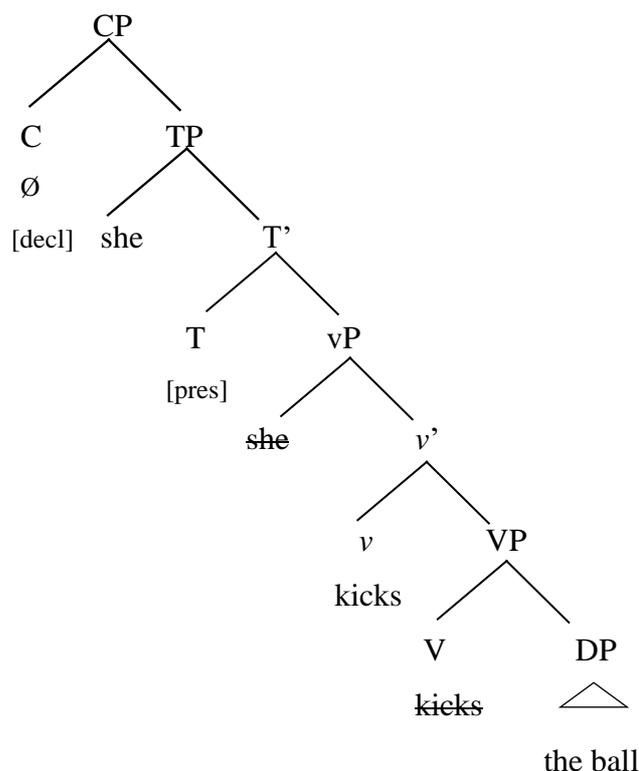
As (3.20) and (3.21) illustrate, although the linear order of the MCs are identical, their hierarchical structures are different.

3.3.2.3 V2 and first-position elements

Unlike the structures in §3.3.2.2 above, if the first position element is not a subject, the fact that Afrikaans and English are typologically different becomes apparent. Consider the Afrikaans MCs in (3.22) below, in which the finite verb is in a V2 position after an initial (non-subject) XP: as the English glosses in each case indicate, this is ungrammatical in English.

(3.22) (a) *Vandag **verf** ek die huis.*   [ADVERB]
            today   paint I the house
            "Today, I am painting the house."

       (b) *Die boek **het** hy gelees.*   [OBJECT]
            the book have he read.PART
            "He has read this book."

(c)   *In Kaapstad* **reën** *dit met tussenposes.*   [PP ADVERBIAL]

    in Cape.Town rain it with intervals

    "In Cape Town it rains intermittently."

(d)   *Wat* **lees** *hulle?*   [WH-PHRASE]

    what read they

    "What are they reading."

As the above examples illustrate, the clause-initial position preceding the finite verb may be occupied by a range of elements in Afrikaans: subjects, adverbs, objects, prepositional phrases, and *wh*-phrases can all occupy the first position. Crucially, note that in the present study, the structures are either subject-initial structures, or structures featuring fronted locatives (3.22-d). This is important to make explicit as fronted locatives are typically interpreted as "scene setters" (Poletto, 1997) and not as fronted arguments (3.22-b). Structures such as (3.22-b) above, with a fronted adjunct, modify the temporal/locative coordinates of its associated clausal domain. Fronted arguments on the other hand, are said to behave like topics with respect to their specific discourse-related interpretation (Haegeman, 2003). Crucially, however, subjects are by default perceived as topics (regardless of whether they are tropicalized or not), whereas objects are not (Colonna et al., 2012: p.913). As such, structures with a fronted *object* – but *not subject* – as with the fronted negation structures in Grabitzky's (2014) study, are structures at the syntax-discourse interface (see Chapter 2, §2.4.2.3). In the present study then, the structures under investigation (subject-initial structures and fronted locatives) do *not* interface with discourse considerations.

3.3.2.4 Compound tense main clauses

In MCs with auxiliaries, we see a clear difference between English and Afrikaans: although the finite verb (**bolded**) follows the subject in second position in subject-initial clauses in both Afrikaans and English, the English lexical verb (<u>underlined</u>) directly follows the auxiliary/modal, whereas the lexical verb in Afrikaans is situated clause-finally (as was the case for Dutch and German; see again §3.3.1.2 above)). Consider the difference between the English and Afrikaans examples in (3.23) and (3.24) respectively.

(3.23) (a)   He **has** <u>painted</u> the house.

S   aux   V   O

(b)   He **will** <u>paint</u> the house.

S   mod   V   O

(3.24) (a)   *Hy **het**   die huis   <u>geverf.</u>*

he have the house painted

S   aux   O   V

"He has painted the house."

(b)   *Hy **sal** die huis   <u>verf.</u>*

he will the house paint

S   mod   O   V

"He will paint the house."

In compound-tense MCs, Afrikaans and English are therefore SauxOV and SauxVO respectively.

The above sub-sections illustrate that StdA conforms to the typical V2-SOV West Germanic pattern described in §3.3.1 above. Furthermore, the necessary details relating to MCs in StdA were briefly described, illustrating (non)parallels with English. ECs in StdA will be discussed in more detail in the sub-section that follows.

3.3.2.5 Embedded clauses

With regard to ECs *with* an overt complementiser, StdA once again conforms to the standard West Germanic SOV EC word order. Example (3.16-b) above is repeated in (3.25) below to illustrate this fact.

(3.25) *Hy sê dat hy die kas   **verf.***

he say that he the cupboard paint

"He says that he's painting the cupboard."

In ECs with an auxiliary or modal the West Germanic pattern exhibits between-language variation (see §3.3.1). Recall that Dutch permits both V-AUX/MOD *and* AUX/MOD-V, whereas German permits only the former (V-AUX and V-MOD) (see §3.3.1.3 above). Afrikaans, however, differs from both Dutch and German in this respect, exhibiting a rigid V-AUX order in auxiliary-participle constructions, and a likewise rigid MOD-V order in modal-infinitive constructions. This is also the verb cluster pattern of West Flemish. Consider (3.26) below (Wurmbrand, 2015: p. 11).

(3.26) (a)   *…da Valère dienen boek* <u>*gelezen*</u>   **oat**   [West Flemish]

           that Valère that   book   read.PART   had   [V-AUX]

           "…that Valère had read that book."

     (b)   *…da Valère   dienen boek* **wilt**   <u>*kuopen*</u>   [MOD-V]

           that Valère   that   book   wants   buy

           "…that Valère want to buy that book."

This same rigid V-AUX versus MOD-V order is illustrated in the Afrikaans examples in (3.27-a/b) below. A (3.27c) shows, copula verbs in ECs are also situated sentence-finally (i.e. V-COP), thus following the V-AUX pattern .

(3.27) (a)   *…dat sy dit* <u>*gesê*</u>   **het**.   [V-AUX]

           that   she   it   said.PART   have

           "…that she said it."

     (b)   *… dat sy dit* **sal/moet**   <u>*sê.*</u>   [MOD-V]

           that   she   it   will/must   say

           "… that she will/must say that."

     (c)   *…dat hulle* <u>*besig*</u> **is**.   [V-COP]

           that   they   busy   are

           "She knows that they are busy."

(a')   *...dat sy dit* <u>*gesê*</u> ***het***
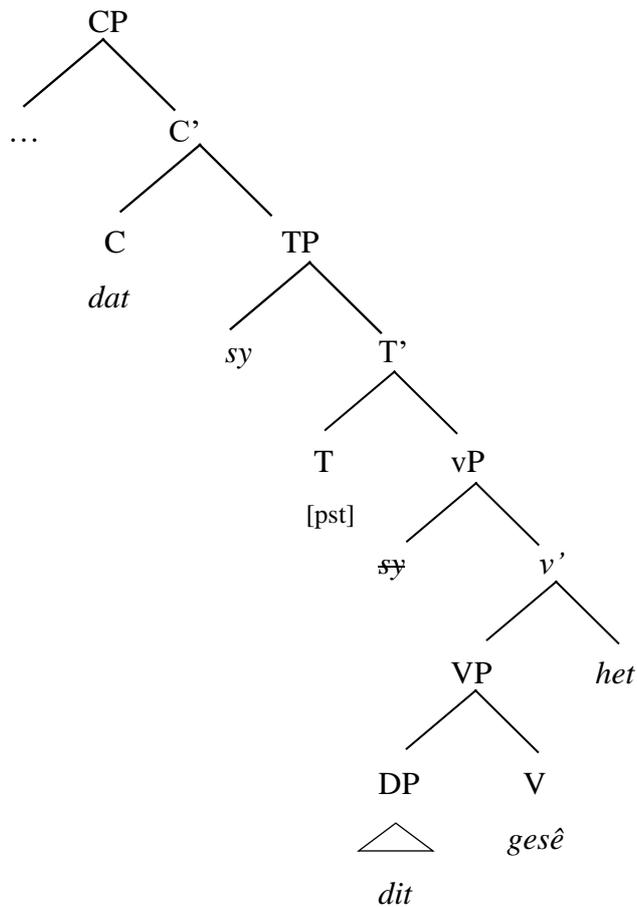
As the examples in (3.27) illustrate, the finite auxiliary/copula is situated clause-finally after the lexical verb (3.27-a/b), while the finite modal is situated in a pre-final position before the lexical verb (3.27-c). Note that, as illustrated in (3.27-a') above, the clause-final auxiliary/copula (*het*/*is*) is assumed to be in a head-final *v*P. The modal containing structures, which are more complex and will therefore be left aside in the present exposition, are assumed to be bi-clausal restructuring structures (following i.a. Biberauer & Roberts (2005) for West Germanic more generally).

3.3.2.6 Apparent V3

As we saw in §3.3.1.4 above, V3 is not entirely ruled out in West Germanic. Recall, however, that the V3 patterns that occur in West Germanic are different from those found in English. The same is true for Afrikaans. V3 in Afrikaans takes the two forms that were introduced for

West Germanic in §3.3.1.4 above: (i) contrastive left dislocation (3.28), and (ii) double adverbial fronting (3.29).

(3.28) Contrastive left dislocation

> [*Daardie man*]*,* [*hy*] **maak** my kwaad.
> that   man   he   make me angry
> "That man makes me angry."

<div align="right">(Biberauer, 2016: p.23)</div>

(3.29) Double adverbial fronting

> [*Altyd*] [*in sulke omstandighede*] **sal** jy   sien dat hulle vasbrand.
> always in such circumstances   will you see that they get.stuck
> "In such circumstances you will see that they always get stuck."

<div align="right">(L1 Afrikaans speaker, aged 37 at the time)</div>

As with the Dutch (3.14) and German (3.15) examples in §3.3.1.4 above, the Afrikaans structures above are compatible with a V2 analysis. Additionally, both the West Flemish-style V3 and the Kiezdeutsch V3 structures are ruled out for Afrikaans[34] (see examples (3.13) and (3.16) above respectively).

What we have seen so far, then, is that StdA is strictly V2 in MCs and SOV in ECs. StdA thus conforms to the typical West Germanic V2-OV word order pattern. One respect in which Afrikaans, however, differs from other West Germanic languages is its *ready* acceptance of V2 in complementiserless ECs. This is discussed below.

3.3.2.7 V2 in complementiserless ECs

As discussed in §3.3.1, V2 in complementiserless ECs is completely barred in Dutch and subject to considerable restrictions in German. In Afrikaans, however, this complementiserless

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[34] The exception to this pertains to West Flemish-style V3 structures where there is a clear pause between the initial XP and the subject pronoun.

V2 EC strategy is extremely common (Kruger & van Rooy, 2016; Biberauer 2017, 2021). An example of V2 in an Afrikaans complementiserless EC is illustrated in example (3.30).

(3.30)   *Ek het   gehoor   ∅ die span **het** 'n kaptein gekies.*

I   have heard.PART   the team have a captain chosen.PART

"I heard the team has chosen a captain."

(Biberauer, 2016: p.3)

This commonly occurring strategy has been shown to be the result of prolonged language contact with English before Afrikaans was standardised (van Rooy & Wasserman, 2016). Importantly, it occurs both in speech and in writing; it is an entirely neutral structure (Biberauer, 2002; Kruger & van Rooy, 2016.

Let us now turn to verb placement in MsA.

3.3.3   Modern Spoken Afrikaans

This sub-section presents the details of verb placement in MsA. Two innovative MsA structures are described: "embedded V2" in declaratives *with* an overt complementiser (§3.3.3.1), and *wh*-V2 in complementiserless ECs (§3.3.3.2).

3.3.3.1 Apparent V2 in declaratives with an overt complementiser

As described in §3.3.2.7 above, V2 in complementiserless ECs is a common strategy in StdA, one that occurs with great frequency in both written and spoken Afrikaans. MsA, however, also permits V2 in ECs *with* an overt complementiser. Consider the attested MsA structures in (3.31) below (first position elements <u>underlined,</u> and finite verb in **bold**).

(3.31) (a)   *…dat <u>jy</u>   **sal**   die boek baie geniet.*

that you will the book very enjoy

"…that you will really enjoy the book."   (Biberauer, 2002: p.38)

(b)   *…dat <u>julle</u>   **het**   die huis gekoop.*

that you have the house bought.PART.

"…that you bought the house."   (Biberauer, 2016: p.5)

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(c)   *... dat <u>dit</u> **is** die waarheid.*

    that it   is the truth

"...that it is the truth."   (Biberauer & Richards, 2006: p.13)

Recall that, as discussed in Chapter 1, §1.1, MsA is not a specific dialectal variety of Afrikaans. MsA refers to non-dialectal *spoken* Afrikaans, which, recall, includes options that are unavailable in prescriptively sanctioned StdA. Importantly, however, as this is the first study to investigate how such options are in fact judged by L1 Afrikaans speakers, it should be noted that we do not in fact know precisely how (un)acceptable such options are to different L1 Afrikaans speakers. Crucially though, such structures do feature in the spoken Afrikaans of some L1 Afrikaans speakers (see Biberauer, 2002 and Ribbens-Klein, 2009 for two studies that probe their prevalence in spoken Afrikaans; see also Steyn, 1976, Feinauer, 1989 where structures of this kind are discussed in passing).

Biberauer (2002: p.40) notes an important constraint on the above MsA structures: the first-position element is consistently a subject, while the second-position verb is either a modal (3.31-a), an auxiliary (3.31-b) or a copula (3.31-c). Despite superficial appearances, then, these structures do not exhibit the properties characteristic of V2: the first-position element is not unrestricted (see §3.3.2.3 above) and it is also not the case that any kind of finite verb can surface in clause-second position - finite lexical verbs cannot do so (in contrast to what is possible in V2 clauses; §3.3.2.3). These two facts suggest that the superficially "second-position" verb in MsA structures of this kind are in fact located in T: as indicated in (3.27-a') above, subjects have traditionally been analysed as being located in the TP domain, and the finite verbs in question share the property of being nonthematic elements, which signal T-related information (see Biberauer 2002, 2003 for further discussion). Here, then, we are only dealing with apparent V2: the finite verb appears to be in T rather than C. Consider the hierarchical structure (3.31-b) in (3.32) below.

(3.32)   *...dat <u>julle</u> **het** die huis gekoop.*
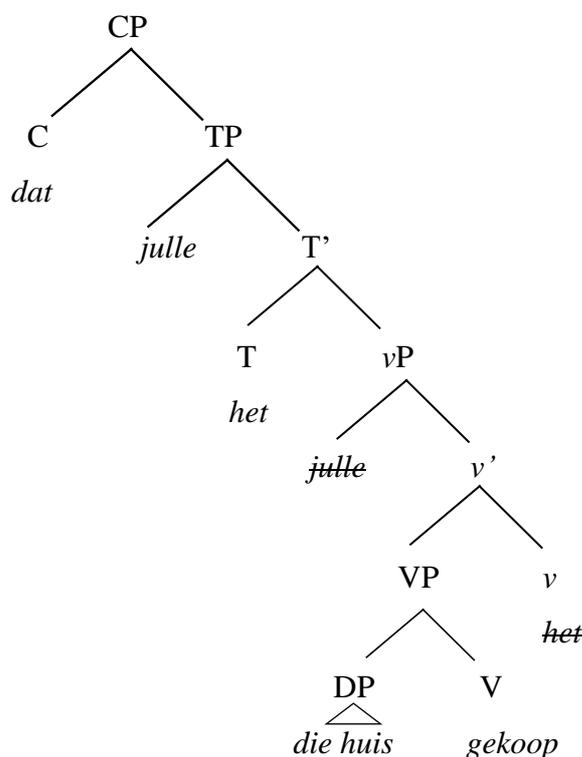
What is important for the present study is that we do need to bear in mind that MsA permits an embedded verb-early option even in structures with overt complementisers.

With exception of early copula structures (example (3.31-c) above), which can exhibit a complete (superficial) structural overlap in Afrikaans and English, the verb-early structures do not overlap structurally with their English counterparts. In MsA, although the auxiliary is positioned after the first-position element, the lexical verb is still in a clause-final position. As such, in MsA, although the nonthematic verb can surface earlier in the clause, the order is AUX.O.V, which is in contrast to the English order, which is AUX.V.O. Contrast (3.33-a) and (3.33-b) below (finite verb in **bold**, lexical verb <u>underlined</u>):

(3.33) (a)   *…dat <u>sy</u>   **het**   dikwels Chopin <u>gespeel</u>.*

         that she have often   Chopin played.PART

       "…that she often played Chopin."

<div align="right">(Biberauer & Richards, 2006: p.13)</div>

(b)   …that she **has** often <u>played</u> Chopin.

These points are highlighted to illustrate that these verb-early structures are not produced as a result of English influence: they are MsA innovations in the grammar of Afrikaans speakers, which appear to involve a partial over-extension of the main-clause V2 pattern.

3.3.3.2 Wh-V2 in complementiserless ECs

The verb-early structure discussed in the previous section does not appear to be an innovated embedded V2 structure. MsA does, however, permit an innovative embedded V2 structure which is completely unique to West Germanic: V2 in embedded *wh*-structures (see Bibearuer 2002, 2003, 2017). Contrast the StdA and MsA examples in (3.34) and (3.35) below:

(3.34) (a)   *Ek wonder* [*wat hulle saans **eet***]   [StdA: V-final]

            I   wonder   what they   evenings eat

(b)   *Ek wonder* [*wat **eet** hulle saans*]   [MsA: *wh*-V2]

            I   wonder   what eat they   evenings

            "I wonder what they eat in the evenings."

(3.35) (a)   *Ek sal uitvind* [*hoe ons by die gebou in **kom***]   [StdA: V-final]

            I   will out.find how we   by the   building in   come

(b)   *Ek sal uitvind* [*hoe **kom** ons by die gebou in*]   [MsA: *wh*-V2]

            I   will out.find how   come we by the building in

            "I will find out how we get into the building."

(Biberauer, 2016: p.6)

Biberauer (2016: p.5) notes that, unlike the MsA verb-early (declarative) ECs introduced by *dat*, these are in fact true V2 (i.e. V-in-C) structures. Furthermore, it is observed that in Afrikaans embedded *wh*-V2 is completely unmarked, "freely alternates with its prescriptively correct V-final counterpart" (Biberauer, 2017: p.79), and that speakers readily produce both prescriptively correct V-final structures and the V2 form in a single utterance

(Biberauer, 2016: p.9). As the two structures are interpretively equivalent, this free alternation is what Biberauer & Richards (2006) refer to as "true optionality" – which contrasts with word order optionality that entails an interpretive effect (e.g. see §3.5 to follow for the interpretive effects yielded by scrambling in West Germanic). Of the MsA structures, embedded *wh*-V2 is the most established pattern (Biberauer, 2017).

This is illustrated in example (3.36) below (*wh*-word <u>underlined</u>, finite verb in **bold**):

(3.36)   *Sien <u>hoe</u> sy haar kop skuins*   ***draai*** *om*   *te hoor <u>hoe</u>* **skinder** *'n trossie*
    see how she her head sideways turn   INF-C to hear how gossip   a cluster
    voëls in 'n   tak   langs hulle.
    birds in a   branch beside them

"Observe how she inclines her head to listen how a flock of birds gossips on a branch beside them."

(Biberauer, 2003: 191)

In terms of how these *wh*-V2 structures overlap with English, note that it is only certain colloquial varieties of English that permit such structures. Consider McCloskey's (2006) examples in (3.37) below (in Biberauer (2016: p.7); first position elements <u>underlined</u> and finite verb in **bold**):

(3.37)   (a)   *I asked him* [<u>*from what source*</u> **could** *the reprisals come*]
           (Standard English: *I asked him* [<u>*from what source*</u> *the reprisals* **could** *come*])

    (b)   *The baritone was asked* [*what* **did** *he think of Mrs Kearney's conduct*]
           (Standard English: *The baritone was asked* [*what he* **thought** *of Mrs Kearney's conduct*])

(McCloskey, 2006 in Biberauer, 2016: p.7)

No studies have to date been conducted on the occurrence of such structures in SAEs. However, as a native speaker of (a variety of) SAE, these are not structures that feature in my English repertoire, nor in the repertoires of other speakers of SAEs that I am in contact with.

In sum, StdA, fits the V2/SOV profile of West Germanic, with the exception of V2 in complementiserless ECs. MsA, however, has further expanded on the embedded contexts in which V2, real or apparent, may occur and thus "exhibits a unique and maximally extensive V2 pattern" (Biberauer, 2016: p. 24). Furthermore, English, in contrast to Afrikaans, which is V2/SOV, is an SVO language. Where English and Afrikaans appear to structurally overlap (in MCs with only a subject, lexical verb and an object), the overlap is only a superficial one. No such structures are included in the present study.

The following section considers the L1 acquisition trajectory of verb placement.

3.3.4   The acquisition of verb placement

The setting of the so-called Head Directionality or OV/VO parameter is one of the earliest acquired properties of language, and is a precursor to the acquisition of V2 (see i.a. Wexler, 1998, Tsimpi 2014, and Dye et al., 2019). Döpke (1998: 557) observes that German monolingual children seem to "immediately" set the OV parameter. The early acquisition of OV in Dutch is confirmed by Verhulst-Schlichting (1985), Jordens (1990), Bol (1995) Wijnen (1995), and Evers & van Kampen (2008). They all note that in the earliest stages in the acquisition of syntax, the verb occurs only in the infinitive form and almost exclusively in a verb-final position (see the examples in (3.22) to follow). In Wijnen (1995) and Evers & van Kampen (2008) the data reported on was obtained from L1 acquirers aged 2;0 and 1;11 at the time of recording respectively.

Turning to the acquisition of V2, Tsimpli (2014: p.290) notes that V2 is acquired without difficulty at any early stage, but this is still subsequent to the acquisition of the OV/VO distinction (Tsimpli, 2014: p.290). As the discussion in §3.3.1 has shown, the V2 phenomenon entails that the finite verb in MCs occurs in clause-second position, in contrast to non-finite verbs which occur clause-finally (Grinstead, 2016: p.401). In his overview of the so-called "root infinitive" phenomenon, Grinstead (2016) reports on two studies - Boser et al., 1992 and Poeppel & Wexler, 1993 - which reveal that there is already evidence of the V2 rule in the grammar of children under the age of 2;10, and as early as 1;9. Boser et al. (1992) find that, in a sample of 30 German-speaking children between the ages of 1;9 and 2;10, even the youngest acquirers' spontaneous production shows evidence of the V2 rule 80-100 percent of the time (total number of verb-containing utterances: 1,839).

In Poeppel & Wexler's (1993) study, 3 hours and 33 minutes of transcribed speech from a German child aged 2;1 is analysed. The authors find 251 three-word (or more)

utterances containing a verb.[35] It is reported that, in the majority of cases, the finite and non-finite verbs are correctly positioned in V2 or SOV position respectively: of the 203 instances of V2 placement, the verb is finite in 197 instances, and non-finite in only six instances; in the case of the SOV placement, of the 48 verb-final structures in the data, 37 are non-finite and 11 finite (Poeppel & Wexler, 1993: p7). Grinstead (2016: p.402) notes that the same has been reported for child Swedish (Santelmann, 1995), child Dutch (Jordens, 1990), and child Norwegian (Westergaard, 2003).

With regard to Dutch specifically, Jordens (1990) and Wijnen (1995) conducted single longitudinal case studies on children aged 2-2;6 (Jordens, 1990), 1;9-3;1, and 2;6-3;4 (Wijnen, 1995). Both studies reveal that non-finite verb-final structures are predominant first "to the virtual exclusion of finite verbs" (Wijnen, 1998: p.7). See the examples in (3.38) below.

(3.38) (a)   *voor Debbie geven*   [Jasmijn: age 2,0.18]
               for   Debbie give
               "Give to Debbie."

        (b)   *ik zelf   doen*   [Jasmijn: age 2;0.20]
               I myself do
               "I want to do it myself."

                                                                  (Wijnen, 1998: p.5)

Wijnen (1998) observes that when finite verbs do emerge, they are mostly modals and that initially finite constructions generally lack a subject or have a V-S order (i.e. 'inversion order'). In terms of the emergence and development of auxiliary and lexical verb placement, note that the constructions are again found to have an "inversion order". In other words, the verb precedes the subject. Wijnen (1998: p14) further notes that after finite verbs emerge in children's repertoires, there appears to be a period during which children alternate between using finite and non-finite matrix verbs (the so-called "optional infinitive stage; see Guasti 2017: chapter 4 for an overview). In other words, infinitives appear in MCs where tensed verbs should be situated, and in a way that is ungrammatical within adult repertoires. Recall that this was also the case in Poeppel & Wexler's (1993) study. Note, however, that in spite of these

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[35] That the utterances are at least three-word utterances is crucial to establish verb-final placement.

occurrences in the children's repertoires, the predominant trend is that children produce finite verb-less structures in which the infinitive is correctly placed in a clause-final position.

Turning briefly to the limited data that is available on the acquisition of Afrikaans: Cable's (2005) study found that children acquiring Afrikaans also pass through an optional infinitive stage. However, the data (2,096 and 2,035 utterances produced by two different children aged 1;6 – 2;11) revealed that children as young as two years of age distinguish between finite and non-finite clauses (and correctly place the verb accordingly). Although Cable's (2005) Afrikaans data only goes up until age 2;11, both children appeared to be at the end of the optional infinite stage. In Dutch speaking children, however, Wijnen & Bol (1993) find that this optional infinitive stage lasts until about approximately age 3;6.

In sum, OV is one of the first syntactic rules acquired in Dutch, which is followed by the acquisition of the basic V2 rule. Basic V2 is acquired as early as age two, is mastered over the course of about eighteen months, and full mastery is achieved prior to the age of three years and six months. Based on what can be established on the basis of Cable's (2005) work, a similar trajectory seems to hold for Afrikaans.

3.3.5   Predictions of (in)stability for verb placement in Afrikaans

The above sub-sections have described verb placement in StdA (§3.3.2) and MsA (§3.3.3). The former is strictly V2/SOV, while the latter allows for innovative early verb placement structures and *wh*-V2 in ECs (§3.3.3.1 and §3.3.3.2).

StdA and English exhibits a superficial overlap, but crucially only in MCs with a subject, lexical verb and an object (§3.3.2.2) – structures not probed in the present study. Additionally, Afrikaans does not allow English-style V3 (§3.3.2.6). These language-specific word order patterns are therefore instances of linguistic *difference.* However, recall that CLO, as formally proposed by Kupisch (2014) (Chapter 2, §2.2.6.2), is only in fact predicted in properties that exhibit a partial overlap. In such cases, the L1-L2 differences, and not similarities, are exaggerated. As a consequence, CLO is not predicted for verb placement in Afrikaans under the influence of L2 English, at least not in the context of the structures tested. Recall that copula-containing MsA structures *can* overlap structurally in Afrikaans and English (see §3.3.3.1). However, as a structure-specific analysis is not possible due to the small number of MsA tokens (see Chapter 6, §6.7.4, for discussion related to the small number of MsA structures investigated), the role played by structural overlap is not considered for the informants' MsA verb placement judgements.

In predicting how (un)stable informants' judgements of verb placement in Afrikaans will remain under the influence of L2 English, let us now recapitulate the necessary verb placement facts in relation to interface and sensitive period considerations. It should firstly be noted that the structures under investigation do not interact with discourse considerations (see §3.3.2.2 above and Appendix I for the verb placement structures under consideration). In other words, we are dealing with structures of the narrow syntax. In terms of sensitive period considerations, as §3.3.4 has illustrated, verb placement in Dutch is early acquired; and based on Cable's (2005) study of the acquisition of children acquiring Afrikaans, this seems to be the case in Afrikaans too. Therefore, as an early acquired property that does not interface with discourse considerations (see Chapter 2, §2.4.2.1, for discussion), participants' acceptability judgements of verb placement in Afrikaans are predicted to be stable under the influence of L2 English. This prediction of stability has mostly been borne out by previous studies on L1 attrition that have looked at verb placement in West Germanic languages under the influence of English (Schmid, 2002; Keijzer, 2007; Grabitzky, 2014; Westergaard et al., 2021). Where L2-induced instability has been evidenced in these studies (referenced above), the effects have been relatively minimal. As the present study is concerned with informants' judgements in AJTs, let us briefly consider the findings from studies that have tested verb placement in off-line tasks.

Keijzer (2007), investigated the attrition of Dutch under the influence of English. The study included 45 Dutch-English bilinguals (the "attriter group"), 45 monolingual Dutch speakers (the "control group"), and 35 monolingual Dutch adolescents in an "acquisition group". The adolescent group was included as Keijzer's (2007) study set out to probe the role of the various sensitive periods of the properties under investigation in relation to L1 (in)stability. The V2 component of the written GJT included subject initial V2 structures ($n =$ 4) and *wh*-questions ($n = 4$) (Keijzer, 2007: p.240). The GJT included both grammatical ($n =$ 2) and ungrammatical structures ($n = 2$), and informants had to select one of three categorical options: "Incorrect, it should be:…"; "I don't know"; "correct". All three groups performed comparably, with no evidence of attrition in either structure-type, in either (un)grammatical class.

Turning now to Grabitzky's (2014) study discussed in Chapter 2 (§2.4.3.2), recall that group-level attrition was evidenced for one condition of the V2 constraint when tested in a GJT. However, recall that the condition in question (negation-initial V2) was marked, and not devoid of contextual considerations. Thus, in Grabitzky's (2014) study, with the exception of this one condition, the overall picture for V2 in German under L2 English influence is one of stability.

In both Dutch and German then, verb placement, when tested in off-line tasks, appears stable under the influence of L2 English. There is, however, a crucial point that needs to be emphasised here: both Keijzer (2007) and Grabitzky's (2014) studies are concerned with "attriters": i.e. *adult* L2 acquirers. Recall, however, that as discussed in Chapter 2 (§2.3.4 and 2.2.6.3), HSs (i.e. *child* L2 acquires) have often been found to underperform in tasks requiring L1 metalinguistic awareness. As a consequence, although V2 appears stable in bilinguals with an AoO of bilingualism after the close of the sensitive period for morphosyntax (Chapter 2, §2.2.2), the picture of (in)stability might look different in bilinguals with an AoO of bilingualism prior to the close of the sensitive period for morphosyntax. Additionally, the present study is concerned with both StdA and MsA. Recall that L1 acquirers' attitudes towards the different varieties in their L1 often only show signs of their sociolinguistic status in adolescence (see Chapter 2, §2.3.3). This may suggest that for the StdA-MsA distinction, even judgements of an early acquired property may be subject to variation based on whether this awareness developed under circumstances of reduced L1 input or not.

Lastly, a final consideration with regard to the StdA-MsA verb placement distinction probed pertains to the fact that the structures of interest are ECs. Recall that the structures under consideration are either prescriptively sanctioned V-final ECs, or the verb-early/*wh*-V2 in EC structures. The fact that we are concerned with ECs is important for two reasons. The first is that while the Afrikaans V-final and verb-early structures are generally interpreted as having an embedded- and matrix-clause interpretation respectively, no such matrix-embedded clause distinction is made in English ECs, as no V2/SOV asymmetry exists in English. This may therefore have consequences for how sensitive bilinguals, under the influence of L2 English, are to these different word order options in Afrikaans.

Secondly, it is worth noting that embedded word order has been found to be vulnerable in L2 learners (Clahsen & Muysken, 1986), monolingual children (Waldman 2008, 2014 for Swedish; Westergaard & Bentzen, 2007 for Norwegin; Schönenberger, 2001 for Swiss German; Heycock, Sorace, Hansson & Wilson, 2013 for Faroese), and HSs (Larsson & Johannessen, 2015 for Swedish; Hopp & Putnam, 2015 for Moundridge Schweitzer German (MSG)). These speakers have all been found to produce matrix word order in embedded clauses.

What is particularly important about Hopp & Putnam's (2015) study of MSG, is that the HSs only produce V2 in ECs in particular contexts. Recall that German permits V2 in ECs without an overt complementiser (i.e. under circumstances of *dass* ("that") deletion; see example (3.11) of §3.3.1.3 above). Additionally, recall that spoken German also permits V2 in ECs introduced by *weil* ("because"; see example (3.12) above; see Kempen & Harbusch, 2016).

Although these may not be commonly occurring strategies, and ones which are only possible in limited contexts, they are possible in German.

Hopp & Putnam (2015) find that in production, the HSs ($n = 8$) in their study have generally maintained the V2 and V-final asymmetry, with little to no evidence that the English SVO word order has affected their MSG grammar. It was, however, found that of the 17 ECs introduced by *dass*, only two exhibit the standard V-final order. Additionally, of the nine *weil*-clauses, only one is V-final. In the AJT, all V2 in EC structures introduced by *dass* (which are in fact ungrammatical in German, as *dass* would need to be deleted) received high acceptability ratings. In contrast, the prescriptively sanctioned V-final structures and "English-style" SVO structures, both received degraded judgements. The results therefore suggest that their MSG grammar has not changed as a result of English influence, (and CLI as one may want to argue; see Chapter 2, §2.2.6.1), but rather that a language-internal restructuring has occurred (see the discussion in Chapter 2, §2.2.6.4). Recall that the kind of variation evidenced appears to be constrained by the rules that underly the syntax of German. Hopp & Putnam (2015: p.209) therefore propose that Heritage German "may thus foreshadow tendencies that will potentially apply to other varieties of German".

This is a particularly important observation in light of Flores & Rinke's (2020: p.26) observation, presented in Chapter 2 (§2.2.6.4) and repeated here, that "HSs may boost and further develop tendencies of language (internal) evolution inherent to variable phenomena". Whether this may be the case for the population and StdA-MsA distinction under investigation is of interest to the present study.

The section that follows is concerned with the aspects of the Afrikaans negation system under consideration in the present investigation.

3.4   Negation

This section presents the relevant information about the Afrikaans negation system. Both basic sentential negation and the distinction between double negation (DN) and negative concord (NC) interpretations in multiple negative-indefinite-containing structures in Afrikaans are described. Some preliminary sentential-negation-related details are set out in §3.4.1, followed by a description of sentential negation in StdA in §3.4.2, with the MsA component of sentential negation under investigation briefly outlined in §3.4.3. Section 3.4.4 discusses the interpretation of multiple negative indefinites in Dutch and in English. The details of DN and NC in StdA and MsA are presented in §3.4.4.1 and §3.4.4.2 respectively. The status of SAE(es), as well as other international varieties of English with regard to DN/NC is also briefly discussed in § 3.4.4.3. The acquisition trajectory of negation is detailed in § 3.4.5. Section 3.4.6 briefly recapitulates the content covered in this section and offers a discussion of predictions of (in)stability in the domain of negation in Afrikaans.

3.4.1   Sentential negation: preliminaries

Sentential negation in Afrikaans, unlike Dutch, almost always involves two negative elements. Contrast the negated Dutch (3.39-a) and Afrikaans (3.39-b) sentences below. Following Oosthuizen (1998), clause-internal *nie* ("not") is marked nie_1, and clause-final *nie* is marked nie_2 (and glossed POL).[36]

(3.39) (a)   *Ik ben niet rijk.*   [Dutch]
                     I   am not rich
                     "I am not rich."

          (b)   *Ek is nie_1 ryk nie_2.*   [Afrikaans]
                     I   is not rich POL
                     "I am not rich." (≠ "I am not not rich.")

                                                                                                (Biberauer, 2015: p.133)

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[36] The reason underlying the POL glossing will become clear below (see (3.41) and the discussion on p.127 to follow).

As illustrated in (3.39-b), the two *nies* yield only one semantically negative interpretation. In StdA, the negative marker *nie₂* obligatorily appears sentence-finally, either in conjunction with *nie₁* (3.39-b) or with a negative indefinite (3.40) (see §3.4.2.1 below for instances in which *nie₂* can be omitted). In Afrikaans, negative indefinites are used wherever the negative particle, *nie*, would precede an indefinite lexical item in a non-emphatic structure. For example: *nie iemand* ("not anyone") becomes *niemand* ("no one"); *nie iets* ("not something") becomes *niks* ("nothing"); *nie ooit* ("not ever") becomes *nooit* ("never"); and *nie een* ("not one") becomes *geen* ("no"). Consider the examples in (3.40) below, in which *nie₂* is positioned sentence-finally in a negative-indefinite-containing clause (negative indefinite underlined).

(3.40) (a) <u>*Niemand₁*</u> *is klaar   nie₂.*

              nobody   is finished POL

              "Nobody is finished."

      (b) *Hy het <u>niks₁</u>   geëet   nie₂.*

              he have nothing eat.PART POL

              "he didn't eat anything."

      (c) *Hulle gaan <u>nooit₁</u> klaar maak nie₂.*

              they go   never finish make POL

              "They are never going to finish.

      (d) *Hy het   hoegenaamd geen geld   nie.*[37]

              he have at.all   no   money POL

              "He has no money at all."

---

[37] As the example shows, *geen* is not a neutral negative indefinite in Afrikaans (see Biberauer 2009, 2015, Huddlestone 2010). Structures that would feature the corresponding negative indefinites, *kein* and *geen* in German and Dutch respectively, neutrally contain *nie* ('*n*) ('not (a)') in Afrikaans (see Biberauer 2020). Neutrally, (3.40) (d) would therefore be (i) below, with *nie 'n* being the neutral use in non-mass contexts like that in (ii):

    (i) *Hy het **nie Ø** geld   nie.*
          he have not   money POL
          'He doesn't have money.'

    (ii) *Hy dra **nie 'n** pak kantoor toe nie*
          he wear not a suit office   to POL
          'He doesn't wear a suit to the office.'

The fact that an Afrikaans negative sentence obligatorily contains two negative markers makes the negation system distinctive compared to that of other West Germanic varieties. Biberauer (2015: p.130) refers to it as being a "hybrid system and one that differs in *very* significant ways from familiar Western European systems" (emphasis in the original). The "hybrid" status of Afrikaans' negation system, specifically with regard to sentence-final *nie₂*, is argued by Roberge (2000) to be an innovation that is the result of a reanalysis of the spoken Dutch discourse tag *nee*(*n*)/*nie*(*t*), "no". See example (3.41) below.

(3.41) *Het kan niet waar zijn, nee!*

It   can not true be   no

"It can't be true, no!"

<div align="right">(Roberge, 2000: 147)</div>

It is proposed that this "reanalysis" came as a result of speakers' employing the additional negative element to reinforce the negative proposition (as is also commonly seen in Jespersen's Cycle; Biberauer, 2015: p.146). Biberauer (2019c) therefore claims that Afrikaans underwent a clause-internal cyclical development, whereby *nie₂* became a required concord marker instead of an optional discourse tag.

As *nie₂* is thought to have originated as a speaker-hearer related element, Biberauer (2015) notes that it should therefore be thought of as occupying a CP-peripheral position. This clausal domain, which dominates the CP, "serves as a specifically speaker-hearer-oriented zone, which grounds the proposition expressed by the root clause in relation to these key discourse participants" (Biberauer, 2015: p.146). Following Wiltschko (2015, 2017, 2021) and Wiltschko & Heim (2016), this speaker-hearer-related CP-peripheral domain is referred to as *GroundP*. See the representation in (3.42) below, which expands on the tripartite structure given in (3.3) above (§3.3.1.1).

(3.42)

GroundP   ← grounding domain (link to speaker/hearer)

    CP   ← discourse domain (clause-typing, topic, focus, etc.)

        TP   ← anchoring domain (tense, mood, etc.)

            VP   ← thematic domain (agent, patient, aspect, etc.)
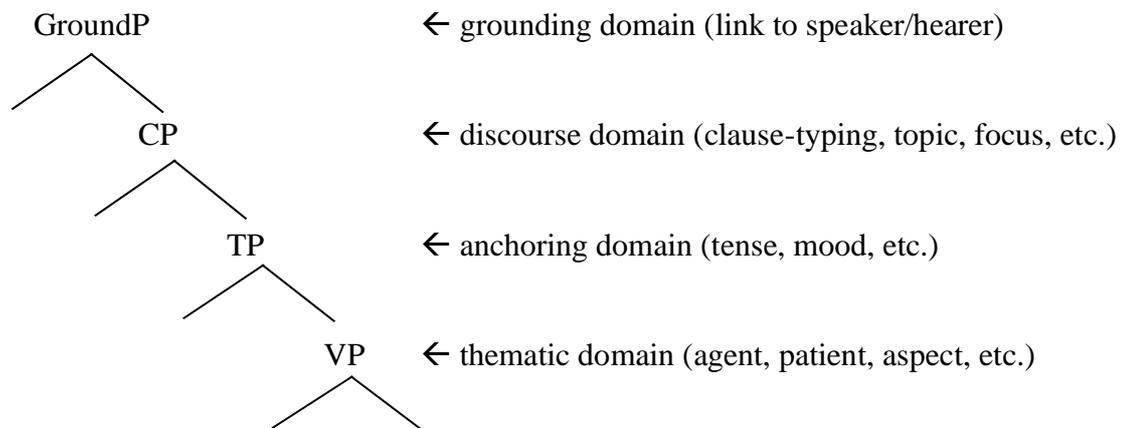
Biberauer (2008, 2009, 2012, 2015, 2019c) follows Oosthuizen (1998) in proposing that *nie*₂ be given the status of a Pol(arity)-head. It is therefore maintained that *nie*₂ occupies the very high left-peripheral position, the head of a Polarity Phrase (PolP; see Laka, 1990, 1994), which is proposed to be located *in* GroundP. According to Biberauer (2015), the proposal that PolP is located in GroundP receives support from Holmberg's (2016) analysis that left-peripheral PolP plays an important role in positively and negatively biased questions. Accordingly, in the examples that follow, *nie*₂ is glossed POL.

With these preliminary details covered, sentential negation in StdA is described below.

3.4.2   Sentential negation in Standard Afrikaans

This section presents the details of sentential negation in StdA. As a starting point, let us first consider the placement of *nie*₁ in relation to the other clausal constituents.

3.4.2.1 Basic sentential negation

Unlike English, where "*not*" must precede the lexical verb, but follow the auxiliary, the two *nies* in a typical Afrikaans negated clause, of the type in (3.43) below, both appear post-verbally (recall that in Afrikaans, the finite verb is in V2 position (see §3.3 above); finite verb **bolded** in example (3.43) below).

(3.43) (a)   *Sy **gaan** nie₁ werk toe nie₂.*

She go   not   work to POL[38]

"She isn't going to work."

In structures where only the MC (and not the EC) is negated, *nie₂* standardly appears at the end of the EC and not the MC (3.44).

(3.44)   *Sy het nie₁ gesê   dat sy hulle gesien   het nie₂.*

she have not say.PART that she they saw.PART have POL

'She didn't say that she saw them.

When both the MC and EC are negated, there is, as expected, one *nie₁* (contributing its necessary semantic negation) in each clause, but only one *nie₂* appears sentence-finally after the EC (3.45).

(3.45)   *Hulle wil nie₁ lyk   asof hulle nie₁ weet wat   aangaan nie₂.*

they   will not look as.if they not know what on.go   POL

"They don't want to look like they don't know what's going on."

If *nie₁* always has to be paired with *nie₂,* then there is in fact one *nie* too few in example (3.45) above. This is explained by Biberauer's (2008) Afrikaans Syntactic Haplology Mechanism:

(3.46)   *Nie₂* is subject to PF deletion whenever it is sent to Spellout in a position

where it will (i) end up (following copy deletion) being the element

which is spelled out immediately adjacent to a *nie*, and (ii) be part of

the same prosodic phrase (φ) as a *nie*, i.e., [φ… *nie nie₂*] → _*nie nie₂*

Biberauer's (2008) haplology mechanism accounts for why, in example (3.45) above, *nie₂* is deleted when it is spelled out adjacent to another clause-final *nie₂*; and why *nie₂* is deleted in instances when it is spelled out adjacent to *nie₁*. For example, consider the simple tense sentence with only a subject and finite verb in (3.47) below.

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[38] Based on the discussion above, *nie₂* is henceforth glossed as a polarity item (POL).

(3.47)   *Sy   sien hom nie$_1$.*

She see   him   not (~~POL~~)

"She doesn't see him."

Although the specifics of this hapology mechanism will not be discussed in detail (see Biberauer (2008) for discussion), what is crucial is that in order for the correct semantic interpretation to be established, it can only be *nie$_2$* and not *nie$_1$* (the "true" negator) that is omitted.[39]

Apart from the above cases, it should also be noted that *nie$_2$* is conventionally omitted in newspaper headlines. This is illustrated in the example below.

(3.48) (a)   *Fietsryers en stappers nie$_1$ gestuit.*

cyclists   and walkers not thwarted

'Cyclists and walkers not thwarted/putt off.'

(*Die Burger* newspaper, 2016-01-26)

(Biberauer, 2015: p.148)

A further point of relevance to consider with regard to sentential negation in StdA is the formation of negative imperatives.

3.4.2.2 Negative imperatives

As the above discussion has shown, when Afrikaans declaratives are negated, the sentential negators *nie$_1$…nie$_2$* are used. However, Afrikaans negative imperatives make use of a special prohibitive marker *moenie* (*moet nie* ("must-not")). Consider (3.49) below.

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[39] Huddlestone (2010: p.33) points out that in certain instances where a negative indefinite is situated clause-finally, *nie$_2$* can also be omitted (although note, that this was not probed in the present investigation). This is illustrated in (i) below.

(i)   *Ek sê niks$_1$.*
I   say nothing
"I'm saying nothing."

(3.49) *Moenie₁ die deur oopmaak nie₂.*

      must.not the door open.make POL

      "Don't open the door."   (Biberauer, 2018: p.11)

This special prohibitive marker is used unless intervening material splits *moet+nie₁*. For example, in StdA, a pronoun cannot follow *moenie* (pronoun underlined). While MsA permits both (3.50-a) and (3.50-b), only the example in (3.50-a) is permissible in StdA.

(3.50) (a)   *Moet <u>dit</u> nie₁ doen nie₂.*

              must it not do   POL

              "Don't do that."   [StdA]

      (b)   *Moenie₁ <u>dit</u> doen nie₂.*

              must.not it do   POL

              "Don't do that."   [MsA]

Additionally, to "soften" a negative imperative, Biberauer (2018) notes that a politeness-related element can split *moet+nie₁*, as in (3.51) below:

(3.51) *Moet <u>asseblief</u> nie₁ julle paspoorte vergeet nie₂!*

      must please not your passports forget POL

      "Please don't forget your passports!"   (Biberauer, 2018: p.12)

As example (3.50-a) illustrates, *nie₁* follows the object (underlined). This split form helps acquirers to see that *moenie* has a verbal component which undergoes movement to C. In examples (3.49) and (3.50-b), however, *moenie* forces the object into a post-*nie₁* position. This has significant implications in the domain of scrambling in Afrikaans (Biberauer, 2018: p.9); a point to be discussed in detail in §3.5.

3.4.3 Sentential negation in Modern Spoken Afrikaans

With respect to what is permitted in sentential negation in Afrikaans, there are two primary differences between StdA and MsA. The first, although not of relevance to the present study, pertains to what is permissible in structures with negative indefinites (see Oosthuizen (1998)

and Biberauer (2009, 2015) for the MsA innovation which allows for *nie₂* to optionally surface clause-internally to the right of the negative indefinite (e.g. *nooit, nerens, niemand*) for emphatic purposes; and see Biberauer (2009) and Huddlestone (2010) for the MsA innovation centring on *geen*).

The second area where sentential negation in StdA and MsA differ, and that which forms the focus of the present investigation, is with regard to the omission of clause-final *nie₂*. As noted in §3.4.2.1, in StdA, omission of *nie₂* typically occurs in simple tense sentences with only a subject and finite verb (see (3.47)); is often omitted after the clause-final negative indefinite *niks* (see footnote 39 above); and is conventionally omitted in headlinese (3.48).

However, in MsA, *nie₂* is often omitted for "performance-related reasons" (Biberauer, 2015: 134). For example, a speaker may omit *nie₂* when there is a particularly long string of intervening material between *nie₁* and *nie₂*, i.e. in particularly long clauses. However, *nie₂* omission does not *only* occur in such instances. In MsA, certain speakers (sometimes) simply omit clause-final *nie₂*. For example, consider (3.52) below:

(3.52) *Ek is so spyt   ek kan nie₁ saam   met julle kom kuier* ~~nie₂~~.
      I   is so regret I   can not   together with you come visit ~~POL~~
      "I'm so sorry I can't come hang out with you lot."

(L1 Afrikaans speaker, aged 33 at the time)

It is important to reiterate that although this is not prescriptively correct, it leaves the meaning unaltered (see the discussion in §3.4.2.1 above).

3.4.4   Multiple negative indefinites

The following section is concerned with structures where two negative indefinites appear in a single clause. The different readings that structures of this type yield are discussed for both StdA (§3.4.4.1) and MsA (§3.4.4.2). It is also considered how such structures are interpreted in relevant varieties of English (§3.4.4.3).

As illustrated above, although Afrikaans negation almost always involves two negative elements (e.g. *nie₁/niemand₁/nêrens₁/nooit₁* and *nie₂*), *nie₂* does not carry a semantically negative interpretation. What is at stake in the present discussion is the interpretation that is yielded as a result of the combination of two negative indefinites, along with clause-final *nie₂*.

In Dutch, as well as in Standard English(es), this combination results in two semantic negations in one clause. Consider the Dutch and English examples in (3.53-a) and (3.53-b) respectively.

(3.53) (a)   *Niemand zei   niets.*   [Dutch]
                N-body   said nothing
                DN: "Nobody said nothing" = "Everybody said something"

                                                                (Zeijlstra, 2006: p.1)

        (b)   *Nobody saw nothing.*
                DN: Everybody saw something

In the examples in (3.53-a/b) above, each of the negative elements introduces its own semantic negation into the clause. As a result, they cancel each other out, and the structure has a Double Negation (DN) reading. Dutch and Standard English are therefore both regarded as a DN languages.

Larrivée (2016: p.178) observes that the DN interpretation is universally accepted as marked (see Horn, 1989; Corblin & Derzhanski, 1997; Corblin & Tovena 2001; Zeijlstra, 2004; Moscati, 2006; Biberauer 2009; de Swart, 2010; Huddlestone, 2010; Espinal & Prieto, 2011; Puskas, 2012; Biberauer & Zeijlstra 2012). Larrivée further points out that markedness is characterised by formal and semantic complexity. In this regard, DN structures (e.g. (3.54-a)) are semantically more complex than their positive equivalents (e.g. (3.54-b)).

(3.54) (a)   *Nobody got nothing.*
                DN: Everybody got something.

        (b)   *Everybody got something.*

The example in (3.54-a) conveys a positive statement, but does so through the negation of a negative element. This makes it far more complex than the positive, and logically equivalent, form in (3.54-b). Note, however, that in order to appropriately license DN interpretations, the appropriate contextual cues are required. In this regard, it has been pointed out that the discourse context is required "to provide access to a denial of an accessible proposition" (Prieto et al., 2013). This can occur in three forms: (i) explicit information in the preceding discourse;

(ii) inference based on the preceding discourse; or (iii) information that is accessible to both interlocutors in their greater context, i.e. common ground.

Furthermore, it is also noted that DN licensing is marked prosodically (see, amongst others, Horn, 1989; Biberauer, 2008; Espinal & Prieto, 2011; Blanchette & Nadeu, 2018). Espinal & Prieto (2011) maintain that "prosody is able to constrain meaning by guiding the hearer/listener" when they encounter and interpret the negative indefinite in context. Thus, DN interpretations standardly require: (i) the appropriate contextual information, and (ii) appropriate focus intonation on one of the negative indefinites.

The combination of two negative indefinites in StdA, and the interpretation that they yield in StdA, is discussed below.

3.4.4.1 DN in Standard Afrikaans

In StdA, as outlined in §3.4.1 above (see example (3.40)), structures with a single negative indefinite (e.g. *niemand/nêrens/niks*) (underlined) and one negative marker (*nie$_2$*) yield a single semantically negative interpretation. This is illustrated again in (3.55) below.

(3.55) (a) *<u>Niemand</u> het iets   gekoop nie$_2$*
            n-body   have something PST-buy POL
            "Nobody bought anything."

As *nie$_2$* is semantically non-negative, the two negative elements constitute only a single semantic negation. This is referred to as "Negative Concord" (NC) (coined by Labov, 1972). However, where there are two negative indefinites (underlined) and the obligatory clause-final negative marker (*nie$_2$*), a DN reading is standardly required. This is illustrated in (3.56) below. SMALL CAPS indicates emphasis.

(3.56) (a) *<u>NIEMAND</u> het <u>niks</u>   gedoen nie$_2$*
            n-body   have nothing PST-done POL
            DN: "Nobody did nothing" i.e. Everybody did something

       (b) *<u>Niemand</u> het <u>NERENS</u> gegaan nie$_2$*
            n-body   have nowhere PST-gone POL
            DN: 'Nobody went nowhere i.e. Everybody went somewhere

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As pointed out above, recall that in relation to prosody, DN licensing requires that one of the negative indefinites receives appropriate focus intonation (see i.a. Horn, 1989; Espinal & Prieto, 2011; Blanchette & Nadeu, 2018) (focussed constituent in SMALL CAPS). As illustrated in (3.56) above, this is a requirement in Afrikaans too (Biberauer 2008; Biberauer & Zeijlstra, 2012). Furthermore, DN interpretations additionally require that an appropriate presupposition of denial is established in the prior discourse or is available in the common ground. In other words, there are felicity conditions on these pragmatically marked structures (see Austin 1962 and much subsequent work on feliticy conditions). Consider the contextualised dialogue in (3.57) below.

(3.57) A mother asks after her grandchildren, whom she knows have been rather lazy of late, with the parents' attempts to encourage activities having produced much unhappiness.

  (a) Speaker A (Mother):   *Môre!*   *Hoe was die naweek?*
                           morning how was the weekend

  (b) Speaker B (Daughter): *Wonderlik,* NIEMAND *het* *niks* *gedoen* *nie!*
                           wonderful   n-body   have nothing done.PART POL
    DN: "*Nobody* did nothing" = "Everybody did something!"

As (3.57) illustrates, Speaker B's DN response is heavily reliant on the context, as well as on the shared knowledge between the interlocutors. Speaker B's response can thus be interpreted along the lines of: "*Contrary to what you might think, our children did not spend the weekend lying around at home! They in fact ALL did something*!"

In sum, negative indefinites in StdA are semantically negative, while *nie₂* is not. Thus, in StdA, when a single negative indefinite occurs in conjunction with the negative marker *nie₂*, a NC reading is obtained. However, when two negative indefinites co-occur in StdA, as with English and Dutch, a DN reading is obtained. Furthermore, note that DN licensing in StdA, as with other languages, requires that the appropriate contextual requirements be met, as well as focus intonation on one of the negative indefinites.

We turn now to the interpretation of negative-indefinite-containing structures in MsA.

3.4.4.2 DN and NC in Modern Spoken Afrikaans

With respect to structures containing two negative indefinites in one clause, MsA permits interpretations that deviate from StdA norms. Like StdA, when two negative indefinites co-occur (again, subject to the appropriate contextual cues and focus intonation) a DN interpretation results (as with (3.57) above).

However, MsA permits an additional interpretation, which is not subject to contextual considerations or prosody. That is, in MsA two negative indefinites can yield a NC interpretation (Biberauer & Zeijlstra, 2012). These two opposing interpretations are illustrated in (3.58) below (focus intonation again marked in **bold**).

(3.58) Speaker 1:   *Hoe het   dit vandag by die mark   gegaan?*
                       how have it   today   at the market go
                       "How did it go at the market today?"

    (a)   DN interpretation (assuming a recent pattern in which many people had bought nothing)

        Speaker 2:   *Briljant! NIEMAND het niks   gekoop   nie2!*
                       brilliant n.body   have nothing PST-buy   POL
                       "Brilliant! Nobody bought nothing."

            DN: Everybody bought something!

    (b)   NC interpretation

        Speaker 2:   *Baie sleg. Niemand het niks   gekoop   nie2.*
                       very bad   n.body   have nothing PST-buy POL
                       "Verb badly. Nobody bought nothing."

            NC: Nobody bought anything.

Note that neither negative indefinite in the NC example in (3.58-b) above necessarily receives focus intonation. The NC interpretation is not subject to contextual cues and can be spoken with neutral intonation. This therefore contrasts with the strict requirements on the DN interpretation. Thus, in both StdA and MsA, if uttered felicitously and with the appropriate

focus intonation, structures with two negative indefinites in a single clause produce a DN reading. However, MsA, but not StdA, additionally allows for NC interpretations as in (3.58-b). Crucially, unlike the DN interpretations, NC interpretations are not subject to contextual and prosodic constraints.

To consider if any possible overlap exists between Afrikaans and English in this regard, the following section will further consider the status of English(es) with respect to DN versus NC interpretations.

3.4.4.3 DN and NC in English

As illustrated in §3.4.4, standard English, like Dutch, is a DN language. The various SAEs (Chapter 1, §1.3.2); see van der Walt & Van Rooy, 2002; de Klerk, 2003; Mesthrie, 2006; Van Rooy, 2011) conform to this profile and are also DN systems. As with Dutch, negative elements therefore cancel each other out, and DN readings arise where they co-occur (see example (3.54-a) above). While there is no empirical research to illustrate that NC does not feature in SAE, as a native speaker of a variety of SAE, NC is not a strategy I use, nor one I have consciously heard employed by other native speakers of any variety of SAE.

Note, however, that because the present study is concerned with Afrikaans-English bilinguals in South Africa and the diaspora, other varieties of English (where NC is a possibility) need to be mentioned too. The countries to which the participants in the present study have emigrated do, to varying degrees, exhibit NC in certain vernacular varieties (just as MsA does). For example, consider the examples in (3.59) below (negative constituents underlined for illustrative purposes):

(3.59) (a) *I hope <u>nobody</u> <u>aint</u> been swearing.*
             (English vernacular, London, Anderwald, 2005: p.121)

        (b) *I <u>couldn't</u> see <u>no</u> snake.*
             (Australian Vernacular English, Kortmann & Szmrecsanyi, 2006: p.13)

        (c) *<u>Nobody</u> <u>don't</u> recognize him.*
             (Newfoundland English, Canada, Kortmann & Szmrecsanyi, 2006: p.13)

Although the above vernaculars make use of NC, we still see more DN than we do NC, even in NC-permitting varieties of English (Blanchette & Nadeu, 2018). Additionally, in English-speaking societies, there is a heavy social stigma attached to NC (see i.a. Nevalainen, 1998; Horn, 2010; Blanchette, 2013, 2015; Blanchette, Nadeu, Yeaton & Déprez, 2018; Blanchette & Lukyanenko, 2019). As noted in Chapter 1 (§1.3.2), South Africa has followed a conservative version of British English in teaching English grammar at school. As such, the "unacceptability" of NC is very likely to have been emphasised in South African schools. As a consequence, this NC stigma is likely to apply to the South African context too.

In sum, SAE and StdA would both seem to be strict DN systems. MsA, on the other hand, permits both DN and NC interpretations. Thus, leaving sentential negation aside, StdA and SAE can be thought to overlap structurally with respect to DN; while MsA and SAE exhibit a partial (DN but not NC) overlap.

With the necessary negation-related details in StdA and MsA presented above, the following section describes the acquisition of negation in Dutch, which can in certain respects be expected to be similar to that of Afrikaans.

3.4.5   The acquisition of negation

The acquisition of negation has one of the earliest onset periods of all morphosyntactic properties, and a word for negation is often one of the first utterances spoken by children (Pea, 1980). The emergence of the first signs of negation in child speech is, however, only the beginning of the acquisition of a complex system that comprises both narrow syntactic structures and discourse-mediated ones (see§ 2.3.2 for discussion). In this regard, children's negation is highly impoverished and does not nearly cover the complex array of negative meanings found in adult language (Dimroth, 2010: p.39). Dimroth (2010: p.39) further points out that it is not only that children must learn how to negate a sentence, but that they must learn that negation can have scope over different parts of a sentence, while leaving other parts unaffected.

As a starting point, and because the data available on the acquisition of Afrikaans is limited, let us consider the L1 acquisition trajectory of Dutch. Note that the acquisition of negation in Dutch exhibits the following patterns in non-finite and finite constructions: preverbal negation in non-finite contexts, and postverbal negation in finite constructions. Keijzer (2007) describes three stages in the acquisition of sentential negation in Dutch: the first

is the holistic stage, in which the negative particle (*nee*) occurs at the beginning of the sentence and scopes over the entire utterance, as in (3.60) below:

(3.60)   *Nee boterham*

      no   sandwhich

      "I don't want a sandwich."   (Keijzer, 2007: p.112)

The second stage described by Keiijzer (2007: p.112) is referred to as the conceptual ordering stage. This stage is characterised by two developments: (i) a move in the negative particle *nee* to a mid-position in the clause between the topic and predicate (see (3.61-a) below); and (ii) the emergence of clause-internal *niet* (3.61-b).

(3.61)   (a)   *Dit nee afdoen.*

              this no off.take

              "Don't take this off."

      (b)   *Da   kan niet zitten*

              there can not   sit

              "You cannot sit there."   (Keijzer, 2007: p.113)

Children have been shown to reach this stage between the ages of 1;10 and 2;1 (Jordens & Dimroth, 2006: p.180). The third and final stage Keijzer (2007) describes pertains to the correct placement of the negator in relation to (non)finite verbs. Consider the post-verbal placement of *niet* with the finite thematic verb in (3.62) below.

(3.62)   *Hij werk niet.*

      he work not

      "He doesn't work."

This stage coincides with the emergence of finiteness in verbal morphology. This final stage has been found to have an onset of around age 3;0 (Keijzer, 2007), and is often not yet complete by as late as age 5;0 (see Schaerlaekens, 1977: p.131).

This third and final stage in the acquisition of sentential negation highlights a key point with regard to West Germanic: that the acquisition of the syntactic rules governing negation

have been shown to be intrinsically linked to finiteness (Clahsen, 1988; Wode, 1977; Hoekstra & Jordens, 1994; Meisel, 1997; Jordens & Dimroth, 2006, van Kampen 2007). To elucidate the link between the two, Dimroth (2010: p.58) outlines the following acquisition order for negation, which provides a more detailed breakdown of the latter two stages described by Keijzer (2007):

(i)   pre-verbal negation in non-finite utterances, followed by

(ii)   post-verbal negation with nonthematic verbs, and then lastly

(iii)   post-verbal negation with finite thematic verbs.

As Keijzer's (2007) examples in (3.61) illustrate, example (3.61-a) corresponds with stage (i) in Dimroth's acquisition trajectory: pre-verbal negation in non-finite utterances; and example (3.61-b) corresponds with stage (ii): post-verbal negation with nonthematic verbs. Dimroth's (2010) final stage, in which the negator emerges post-verbally with finite thematic verbs, is also the third and final stage described by Keijzer (2007). Thus, in the acquisition of sentential negation in Dutch: the appropriate sentential negation element is first acquired, whereafter acquirers begin to position it correctly in relation to the (non)finite verb.

In Afrikaans, as with Dutch, there is still more to take into consideration. Recall that in Afrikaans, when the negative particle, *nie*, precedes an unmarked indefinite lexical item (e.g. *iemand*), it is replaced by a negative indefinite (in this case, *niemand*). This is also the case in Dutch, where *niet een* ("not a") becomes *geen* ("no"), and *niet iemand* ("not anyone") becomes *niemand* ("no one"; Keijzer (2007: p.110). As such, in Dutch and also Afrikaans, children need to acquire the rules associated with this morphosyntactically governed[40] process (Keijzer, 2007: p.111).

Afrikaans child acquirers must of course also learn that negation in their language is marked with two negative elements. In terms of the input L1 Afrikaans acquirers receive, it is important to note that negative (*moenie*) imperatives uncontroversially feature in Afrikaans child-directed speech (Biberauer, 2012; 2015, 2019a, 2020). Based on what can be impressionistically determined in small-scale corpus investigations, clause-final *nie* quite consistently features in these *moenie* imperatives. Thus, children acquiring Afrikaans as an L1 may well receive a significant amount of imperative input signalling that Afrikaans negation is marked with two negative elements (Biberauer, 2019a). This would therefore provide the child with clear-cut NC input. A large-scale corpus study would need to be conducted to determine the consistency

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[40] Although see footnote 37 of §3.4.1 above with regard to the non-neutral nature of *geen* in relation to *nie 'n*. This discourse-mediated use of *geen* will thus further complicate matters for Afrikaans acquirers.

with which child directed negative imperatives feature the final *nie*. However, based on what can be impressionistically determined, Biberauer (2019a: p.58) notes that the frequency with which *moenie* imperatives containing clause-final *nie* feature in child-directed speech makes the sentential double-*nie* requirement a good candidate for early acquisition. As the recent study by White, Southwood & Huddlestone (2022) shows, it is indeed the case that the double-*nie* requirement is an early-acquired property.

White et al. (2022) investigated the acquisition of the sentential double-*nie* requirement, as well as the acquisition of sentences containing a single negative indefinite (e.g. *niks* "nothing").[41] The study considers both the comprehension and production of these structures by L1 Afrikaans children aged three to five years old. The comprehension data were collected through a picture selection task (20 sentences testing the sentential double-*nie* requirement and 20 sentences containing a negative indefinite), and the production data through recordings of spontaneous speech during free play.

For the comprehension data, participants were 70 L1 monolingual speakers (see footnote 52 on p.185) between the ages of 2;7 and 5;3. It was hypothesised that sentences containing two negative particles (i.e. *nie…nie*) would be easier to comprehend than sentences containing a single negative indefinite (and obligatory clause-final *nie*) – a hypothesis that was borne out. The results indicate that the comprehension of structures containing two negative particles is fully acquired early, by age 3;8. For structures containing negative indefinites, however, problems with comprehension persisted until after age 5;0.

For the production component of the study, language samples from the Southwood and White corpus (2016) were analysed. The data of 22 children between the ages of 3;0 and 5;0 formed the basis of the analysis. The results revealed that all 22 children spontaneously used negation. Crucially, in terms of the sentential double-*nie* requirement, all children produced the sentence-final negative particle *nie*. Although errors of *nie*-omission or the inappropriate insertion of a negative element occurred until 4;3, the majority of the sentences produced were grammatical. In contrast to what appears to be the very early instantiation of sentence-final *nie* in acquirers' grammar, negative indefinites occurred for the first time at 4;0, with only eight of the 22 children producing them.

As predicted then, sentence-final *nie* is indeed early acquired. Negative indefinites, although still acquired relatively early, are mastered later. This is possibly due to the fact that

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[41] Note that DN structures containing *two* negative indefinites were not investigated.

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structures containing two negative indefinites are more syntactically complex than those containing two negative particles (White et al., 2022).

Apart from target placement for sentential negation and the acquisition of negative indefinites, and in the case of Afrikaans, negative concord, children additionally also still need to acquire scope marking. Returning to the L1 acquisition of Dutch, Krämer (2000) investigated 38 Dutch-speaking childrens' interpretations of Dutch indefinite-containing structures and found that children aged four- to seven-years old consistently prefer the inverse scope reading. To illustrate, consider the example in (3.63) below (contextualised scenario presented in in English for convenience).

(3.63)   Here is a boy. And these are fish. I think he wants to catch them. Here he's catching a fish. And here he's catching a fish. And now, he's leaving.

(a)   *De   jongen heeft een vis   niet gevangen.*
         the   boy   has   a   fish not caught
         "There is a (particular) fish the boy hasn't caught."

(Krämer, 2000: p.192)

Krämer's (2000) adult participants always accepted (3.63-a) for the contextualised scenario above. The child participants, however, mostly rejected (3.63-a) as a possible description of the story. The children, unlike the adults, interpret *een vis* ('a fish') as being in the scope of negation, i.e. corresponding with the inverse scope reading, which would result in the following interpretation: '*The boy didn't catch a fish*.'

As sentences containing scrambled indefinites appear to be ambiguous for Dutch-speaking children (see example (3.63-a) above), Unsworth, Gualmini & Helder (2008) argue that Dutch-speaking children first need to acquire the syntactic operation of scrambling (see §3.5 to follow) before their grammar can license both interpretations. While scrambling will be discussed in detail in the section that follows, note that in example (3.63-a) the object *een vis* precedes the adverb (in this case the negator *niet*), and is thus thought to have undergone leftward movement referred to as "scrambling". The order in (3.63-a) is thus O-ADV, while the unscrambled order would be ADV-O.

Crucially, however, once children can scramble and can access both inverse and surface scope readings, the latter is still only accessed if the context is felicitous. At this stage then, it is not the *linguistic ability* that differs between children and adults, but rather that their

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pragmatic ability to access the alternate readings is what differs. Unsworth (2005) has shown that this ambiguity can persist up to age nine.

Scope interpretations are not probed in the present study. However, the fact that ambiguity resolution is guided by context indicates that children need to first acquire the pragmatic ability to disambiguate the context-specific meaning. Recall that, as discussed in Chapter 2 (§2.3.4), the development of pragmatic awareness has been shown to be a slow and gradual process, with pragmatic mastery only achieved closer to the onset of puberty. This is highly significant in Tsimpli's (2014) terms (see Chapter 2, §2.3.2), as it perfectly fits the profile of a "late"-acquired property which interfaces with external interface conditions. What is at stake for the pragmatic ability to disambiguate between surface and inverse scope readings, is also relevant to the distinction described above in Afrikaans between DN and NC interpretations (see §3.4.4.1 and §3.4.4.2 for StdA and MsA respectively).

With regard to DN interpretations in English, Thornton, Notley, Moscati & Crain's (2016) study explores how English-speaking children interpret sentences with more than one negative element. Twenty children, aged three- to five-years old, participated in the study. Unlike the adult participants, who assigned a DN interpretation most of the time, the children assigned a NC interpretation in the majority of cases. The same was found in Jou's (1988) study which looked at the interpretation of DN structures by child L1 speakers of Mandarin Chinese. Participants were between the ages of four and 12, and it was found that not one of the children younger than age seven assigned a DN interpretation to the structures with two negative elements.

Recall that as discussed in §3.4.4 above, DN interpretations are universally accepted as marked (Horn, 1989), and characterised by their formal and semantic complexity. Larrivée (2016: p.178) observes that these marked structures occur with lower frequency and that, additionally, the processing costs incurred are greater. With regard to DN readings in Afrikaans, Huddlestone (2010) analysed a corpus of written Afrikaans with a span of 21years. A total of 2800 negative sentences containing multiple adjacent existentially quantified variables (realised as non-negative indefinites in Afrikaans)[42] were found. Ninety-six percent (2,672 structures) contained a negative indefinite with an ordinary indefinite (as in (3.64-a below) or a negative polarity item (NPI) as seen in (3.64-b) below.[43]

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[42] For example, Afrikaans *ooit* (ever).

[43] A lexical item that is restricted to negative contexts, for example the Afrikaans *enigiemand* ("any-somebody").

(3.64) (a)   *Ons het   niemand ooit daar   gesien   nie.*
we   have nobody   ever there   saw.PART POL
"We never saw anybody there."

(b)   *Hulle het   niks   vir   enigiemand   gegee   nie.*
they   have nothing for   any-somebody give.PART POL
"They didn't give anything to anybody."

(Huddlestone, 2010: p.199)

The remaining 4% of the sentences contained multiple negative indefinites (128 structures) (see §3.4.4). Of these 128 multiple negative indefinite structures, 96% (123 occurrences) had a NC interpretation (see (3.58-b) above) and only 4% (five occurrences) had a DN interpretation (see (3.56-a) above).

Its status as a lower frequency structure, a semantically more complex structure than its positive equivalent (compare examples (3.64-a) and (3.64-b) above) and the fact that it relies on contextual triggers makes it easy to see why it would be an aspect of negation that is later acquired. Recall that Tsimpli (2014) observes that late phenomena are often more semantically complex and/or interface with the discourse domain. As a consequence, late phenomena are typically more demanding than earlier acquired properties that do not interface with discourse-related considerations (Chapter 2, §2.3.2). This is precisely the case for DN interpretations.

In sum, basic sentential negation in Afrikaans appears to be acquired by the age of three, with negative indefinites emerging around age four - but, crucially, not yet mastered by age five (White et al., 2022). There is, however, at that stage, still much to be acquired on the negation front. Scope marking in Dutch is thought to only be fully acquired between the ages of seven and nine, and DN, even in languages where NC is not a prescriptively possible interpretation (e.g. Standard English), appears to be mastered even later. Afrikaans acquirers, however, must not only acquire the correct context-specific and prosodic techniques to licence DN, but additionally the knowledge that, while not prescriptively correct in StdA, NC is possible in MsA.

3.4.6 Predictions of (in)stability for negation in Afrikaans

The above sub-sections have presented the details of the Afrikaans negation system. It was illustrated that sentential negation in Afrikaans almost always involves two negative elements: the "true" negator, *nie*₁, and a concord element, *nie*₂. It was also pointed out, however, that *nie*₂ can be omitted in MsA (and not only in the very limited contexts in which it is omitted in StdA). With regard to the co-occurrence of two negative indefinites in one clause: the above exposition has illustrated that StdA and Standard English are DN systems, while MsA additionally permits NC readings. Finally, the last sub-section presented the acquisition trajectory of Dutch and Afrikaans. It was illustrated that although negation is a property that emerges early, there are multiple sensitive periods involved, spanning as late as adolescence in the case of DN/NC interpretations.

With these facts recapitulated, and as noted above, the present study is concerned with the stability of clause-final *nie*₂ in StdA, which is an aspect unique to the Afrikaans negation system. No comparison to what has been evidenced with respect to EotSLotF and sentential negation in other West Germanic languages can therefore be made. Additionally, there are, to my knowledge, no studies concerned with EotSLotF and DN interpretations. What has been noted is that psycholinguistic studies on the processing of DN are very scarce (de-Dios-Flores, 2019; although see Schiller et al., 2017).

Clause-final *nie*₂'s status as a property which is early acquired (see §3.4.5), and one which is not a property at the syntax-discourse interface makes the double-*nie* requirement a good candidate for stability under the influence of L2 English. Additionally, as sentential negation in Afrikaans and English does not exhibit a structural overlap, CLO is not predicted (see Chapter 2, §2.2.6.2).

In contrast to sentential negation, DN, a linguistically complex structure at the syntax-discourse interface, is expected to be late acquired in Afrikaans (as it is in other languages; §3.4.5). Thus, DN may be predicted to exhibit instability under the influence of an L2. However, as DN is also licenced in English (§3.4.4.3), whether DN will exhibit more stability than one may typically expect of a property at the syntax-discourse domain is a question this study aims to address (although see Sorace & Serratrice, 2009; Chapter 2, §2.4.2.2). To my knowledge, DN interpretations have not been studied from the perspective of EotSLotF. It is, however, worth noting that in studies concerned with DN (two negations in one clause) and sentences containing multiple negations (two negations across two clauses), interesting results have emerged in terms of (un)acceptability and processing considerations.

de-Dios-Flores (2019), investigated the processing and acceptability of grammatical English sentences with a single negation (e.g. *The authors [that **the** critics recommended] have **never** received acknowledgment…);* multiple negations (e.g. *The authors [that **no** critics recommended] have **never** received acknowledgment…*); and DN (e.g. ***No** authors [that the critics recommended] have **never** received acknowledgment…*) (de-Dios-Flores, 2019: p.5). Participants were 24 native English speakers, and the tasks employed were as follows: a self-paced reading task, a speeded AJT, and an off-line AJT. The speeded AJT made use of YES/NO judgements of acceptability, whereas the off-line AJT made use of a 7-point Likert scale.

The self-paced reading task revealed that the DN structures and structures with multiple negations were read slower than the structures with a single negation. Of the former two structures, the DN structures were, however, the structures that appeared to incur the greatest processing costs. As already discussed in §3.4.4.1, de-Dios-Flores (2019: p.5) points out that "[d]ouble negation dependencies entail complex operations in terms of the syntactic, semantic and prosodic marks that are needed". As a consequence, DN interpretations are assumed to be particularly costly in processing terms (Corblin, 1996). This finding is corroborated by the results of the self-paced reading task.

The on-line and off-line AJTs revealed that the single negation structures were rated the most acceptable, followed by the structures with multiple negations, with the DN structures rated the poorest of the three. Importantly, however, none of the structures were contextualised. As DN interpretations are context-dependent, de-Dios-Flores (2019) concludes that it is unsurprising that these structures are rated so poorly – with their positive equivalents the ones which would most readily occur. It has in fact been noted that in spite of the frequency with which negation features in language, negative expressions have in general been found to incur more processing costs than their positive equivalents (Wason, 1961; Fischler et al., 1983; Carpenter et al., 1999; Kaup et al., 2006; Herbert and Kübler, 2011).

The present study is, of course, concerned with participants' judgements of *contextualised* DN interpretations. However, what de-Dios-Flore's (2019) results reveal, is that the status of DN structures, which are linguistically complex structures situated at the syntax-discourse interface, are difficult to assess even for monolingual speakers. It may therefore be that under circumstances of reduced L1 input and use, and in spite of the fact that they are licenced in English, the status of DN structures in Afrikaans are even harder to assess, even when contextualised.

Lastly, as DN is licenced in English, but NC is not, the DN/NC distinction in MsA and English exhibits a partial overlap. Thus, NC interpretations, which are only possible in MsA, may be subject to CLO (Kupisch, 2014; Chapter 2, §2.2.6.2).

The final section of this chapter presents the details of Afrikaans scrambling.

3.5   Scrambling

Scrambling (coined by Ross (1967)) is the leftward movement of direct objects from the unmarked verb-adjacent position and is a hallmark of West Germanic OV languages. This section begins with a brief description of the scrambling pattern that is typical of these languages (§3.5.1). The sections that follow this present the details of scrambling in StdA (§3.5.2) and MsA (§3.5.3) respectively. Section 3.5.4 details the acquisition of scrambling in Dutch, the trajectory of which is once again extended to Afrikaans. Finally, a summary of the Afrikaans scrambling facts is provided in §3.5.5, followed by a brief discussion related to predictions of L2-induced L1 (in)stability in the Afrikaans scrambling system. Note that as scrambling is not a property of present-day English, no comparative discussion is included in this section.

3.5.1   The typical West Germanic pattern

In the Germanic context, scrambling specifically designates the leftward movement of sentence constituents, particularly direct and indirect objects. It is characteristic of all of the West Germanic languages (see i.a. Hinterhölzl 2005, Broekhuis 2020). As far as Dutch is concerned, Unsworth (2005: p.60) observes that scrambling options are rather limited in comparison to other languages that permit scrambling. For example, in Japanese, objects can scramble across clause boundaries to the left of the complementiser, which is not a possibility in Dutch. For our purposes and following Unsworth (2005: p.61), the term *scrambling* can be understood as the *defocusing-oriented leftward movement of an object within the Mittelfeld to the left of an adverbial*.

Scrambling structures are distinguished from non-scrambling structures on the basis of where the object surfaces. This is illustrated in (3.65) below:

(3.65) (a)   ADV-O-V   (unscrambled object)
        (b)   O-ADV-V   (scrambled object)

As West Germanic scrambling is associated with topical (old information) objects, it affects pronouns and full nominals (DPs) differently: the former are topics *par excellence*, so we would expect them always to undergo scrambling; full DPs, by contrast, can encode both

topical (old) and non-topical (new) information, with the result that scrambling in this case would not be automatic, as it is for pronouns.

To situate the discussion of Afrikaans scrambling in §3.5.2, I begin by setting out relevant Dutch facts as follows:

(i)   pronominal scrambling is presented in §3.5.1.1;

(ii)   scrambling of indefinite DPs is described in §3.5.1.2; and

(iii)   the scrambling pattern with definite DPs is presented in §3.5.1.3.

3.5.1.1 Pronominal scrambling

Pronouns in Dutch (mostly) obligatorily scramble. Consider the unscrambled (3.66-a) and scrambled (3.66-b) structures below. Note that in these examples, the sentences are uttered with neutral intonation.

(3.66) (a)   *We moesten eerst* [*hem*] *voeren.*   [ADV-O-V]
                      we had.to   first   him   feed

         (b)   *We moesten* [*hem*] *eerst voeren.*   [O-ADV-V]
                      we had.to   him   first feed
                      "First, we had to feed him."

                                                                 (Bouma & de Hoop, 2008: p.669)

The example in (3.66-b) represents the regular scrambling pattern, which sees Dutch pronouns obligatorily scrambling to an O-ADV-V position. If they remain unscrambled (ADV-O-V), and the sentence is spoken with neutral intonation, the structure is ungrammatical, as indicated in (3.66-a). If, however, the pronoun is focused through stress intonation, it receives a deictic reading and may, in such context-specific instances, remain unscrambled (Bouma & de Hoop, 2008: p. 669). This is illustrated in the contextualised example (context presented in English for convenience) in (3.67) below. Emphasis indicated by the SMALL CAPS.

(3.67) *Parents are feeding their twin toddlers, a girl and a boy. The former will not eat before her brother eats. When the father asks if he can begin feeding their daughter, his spouse responds:*

(a)   *We moesten eerst* [*HEM*] *voeren.*

we had.to first him feed

"[Before we feed her] we must first feed HIM."

Note that while such structures are possible in Dutch, they are marked. What is of relevance to the present discussion is that, with the exception of the above deictic interpretations, pronouns obligatorily scramble in Dutch as with the rest of West Germanic (Putnam, 2007). Let us now consider scrambling of full DPs: indefinite nominals are discussed first in §3.5.1.2, followed by definite nominals in §3.5.1.3.

3.5.1.2 Indefinite nominals

In Dutch, indefinite DPs do not generally scramble. In other words, indefinite DP-containing structures neutrally exhibit ADV-O-V ordering. Unsworth (2005: p.62) in fact notes that when indefinites scramble "out-of-the-blue" native speakers generally think the utterance sounds strange. Consider the difference between the unscrambled (3.68-a) and scrambled (3.68-b) examples below:

(3.68) (a)   *Jos heeft gistern* [*een schop*] *gekocht.*   [ADV-O-V]

Jos has yesterday a   spade bought.PART

"Jos bought a spade yesterday."

(b)   *Jos heeft* [*een schop*] *gisteren   gekocht.*   [O-ADV-V]

Jos has   a   spade yesterday bought.PART

"Jos specifically bought a spade yesterday (and not something else)."

(Unsworth, 2005: p.62)

The unscrambled structure in example (3.68-a) above is the neutral order. The reason why the scrambled structure in (3.68-b) sounds strange to some native speakers is the interpretation that arises when an indefinite DP undergoes scrambling. Recall the discussion in §3.4.5 above with respect to negation in Dutch, with example (3.63) repeated as (3.69) below:

(3.69) (a)   *De   jongen heeft niet* [*een vis*] *gevangen.*

               the boy   has not a   fish caught

               "The boy didn't catch any fish."

       (b)   *De jongen heeft* [*een vis*] *niet gevangen.*

               the boy   has   a   fish not caught

               "There is a (particular) fish the boy hasn't caught."

<div align="right">(Krämer, 2000: p.192)</div>

In example (3.69-a), the DP *een vis* is within the scope of the negator *niet.* Thus, it is interpreted as: "The boy didn't catch any fish" ($\neg$, $\exists$), i.e. as a narrow scope indefinite. However, in example (3.69-b), the DP is not within the scope of the negator, yielding a different interpretation: "There is a (particular) fish the boy hasn't caught" ($\exists, \neg$), i.e. a wide scope indefinite. In this case, then, scrambling results in a wide scope or "specific" interpretation.

      With this in mind, let us return to the interpretations of the examples in (3.68) above. As with example (3.69-b) above, when the indefinite object *een schop* scrambles to the left of the adverb *gisteren*, it receives a specific interpretation. As a result, example (3.68-b) is interpreted as: "Jos specifically bought a spade yesterday (and not something else)". Thus, in Dutch, as with West Germanic more generally, scrambling indefinite DPs has a marked effect on the structure's interpretation. The difference between scrambled and unscrambled indefinite objects is that the former receives a specific or other wide-scope interpretation, and the latter a non-specific or other narrow-scope interpretation (see Diesing, 1992 for particularly clear discussion of the range of interpretive differences).

      The following section presents the scrambling pattern of definite DPs in Dutch.

3.5.1.3 Definite nominals

Recall that in Dutch, as with West Germanic more generally, pronouns obligatorily scramble (see §3.5.1.1). In Dutch, definite DPs typically also scramble to a pre-adverbial position. However, unlike pronouns, definites scramble optionally, and unlike indefinite DPs, there is no truth-conditional difference between the scrambled and unscrambled orders.

      Unsworth (2005) notes that there is a general tendency in Dutch for anaphoric definites to scramble, and for non-anaphoric definites to remain unscrambled. Others have suggested

slightly different characterisations of the difference between scrambled and unscrambled elements: Putnam (2007: p.91), for example, describes scrambled XPs as being "referential in nature", while Zwart (1993: p.49) distinguishes scrambled DPs as "old information"-bearing elements from unscrambled DPs, which are "new information"-bearing.

The difference between "old" and "new" information can be understood as the distinction between

(i) information that is assumed to be familiar to both interlocutors (e.g. content that is either familiar to both interlocutors, contextually given, or that occurred in the previous discourse), and

(ii) novel content introduced into the discourse for the first time, that is therefore unfamiliar to the hearer.

Thus, although definite DPs optionally scramble in West Germanic without affecting the utterance's truth-conditional semantics, the information structure of the sentence is affected: scrambled DPs are typically anaphoric and "old information"-encoding, while unscrambled DPs are typically non-anaphoric and "new information"-bearing. Consider the unscrambled (3.70-a) and unscrambled (3.70-b) examples below.

(3.70) (a) *John heeft gisteren* [*de boom*] *geplant.*
John has yesterday the tree planted.PART

(b) *John heeft* [*de boom*] *gisteren geplant.*
John has the tree yesterday planted.PART
"John planted the tree yesterday."

(Unsworth, 2005: p.62)

Unsworth (2005, p.63) notes that the above examples are truth-conditionally identical; however, if referenced in the prior discourse, or contextually given, the DP *de boom* will typically scramble in the presence of a non-negative adverb.

If, however, the adverb is a negative element, the situation is slightly different. In Dutch, if the adverb is a negator, then the scrambled structure is interpreted as an unmarked negated clause, i.e. one featuring sentential negation. The unscrambled order (3.70-b), on the other hand, is interpreted as expressing contrastive negation (Unsworth, 2005: p.63). This is illustrated in the examples below, in which natural stress is illustrated in SMALL CAPS.

(3.71) (a)   *Bob heeft* [*het onkruid*] *niet WEGgegooid*   [O-NEG-V]

      Bob has   the weeds   not away-thrown

      "Bob didn't throw away the weeds."

(b)   *Bob heeft niet* [*het   ONKRUID*] *WEGgegooid*   [NEG-O-V]

      Bob has not the   weeds   away-thrown

      "Bob didn't throw away the WEEDS."

      (i.e. Bob threw away something else.)

<div align="right">(Unsworth, 2005: p.63)</div>

Thus, in Dutch, the unmarked position for definite DPs is the scrambled position (O-AD-V), with the unscrambled order typically being reserved for non-anaphoric interpretations, or, in the case of negated sentences, a contrastively negated interpretation – some form of new or narrow-scope meaning.

Taken together, then, the typical West Germanic pattern can be understood as follows:

(3.72) (a)   Pronouns:

      (i)   obligatory scrambling (O-ADV-V)

(b)   Indefinite DPs:

      (i)   typically remain unscrambled (ADV-O-V)

      (ii)   scrambled DPs are marked, expressing specificity (O-ADV-V)

(c)   Definite DPs with adverb-containing structures:

      (i)   anaphoric/old information DPs typically scramble (O-ADV-V)

      (ii)   non-anaphoric/new information DPs typically remain unscrambled (ADV-O-V)

(d)   Definite DPs in negated clauses

      (i)   Neutral order (regular sentential negation): scrambled (O-NEG-V), thus following the pattern in (c) above.

      (ii)   Marked order (constituent negation): unscrambled order (NEG-O-V)

Against the background of this typical West Germanic scrambling pattern, the details of scrambling in Afrikaans will be presented in the two sections that follow.

3.5.2   Scrambling in Standard Afrikaans

The following section will present the details of scrambling in StdA. As above, the details of scrambling in StdA will be presented in three sections: pronominal scrambling is presented in §3.5.2.1; scrambling of indefinite DPs is described in §3.5.2.2; and the Afrikaans scrambling pattern with definite DPs is presented in §3.5.2.3.

3.5.2.1 Pronominal scrambling

In StdA, as with Dutch and West Germanic more generally, pronouns most commonly scramble. This is illustrated in the examples in (3.73) below.

(3.73) (a)   *Ons moet* [*hom*]   *eers*   *voer.*   [O-ADV-V]
                 We   must   him   first   feed
                 "We must first feed him."

          (b)   **Ons moet eers* [*hom*] *voer.*   [ADV-O-V]
                  we   must   first   him   feed

Uttered with neutral intonation, the unscrambled structure in (3.73-b) above is ungrammatical. Again, as with Dutch, iff felicitous, and only in conjunction with the appropriate stress intonation on the pronoun, the pronoun may in spoken Afrikaans remain unscrambled to yield a specific deictic interpretation. In StdA then, as with Dutch and West Germanic more generally, pronouns obligatorily scramble.

The StdA scrambling pattern with indefinite DPs is presented next.

3.5.2.2 Indefinite nominals

As discussed above, the unmarked ordering for indefinite objects in West Germanic is the V-adjacent position (Adv-O-V) (see the examples in (3.68)). This pattern has been retained in Afrikaans. Consider the examples in (3.74) below, in which the unmarked position for the

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indefinite DP is the V-adjacent position (3.74-a), and the marked position is the scrambled order (3.74-b).

(3.74) (a) *Johan het gister [ʻn graaf] gekoop.* [ADV-O-V]

Johan have yesterday a spade bought.PART

"Johan bought a spade yesterday."

(neutral intonation: non-specific)

(b) *Johan het* [ʻn graaf] *gister gekoop.* [O-ADV-V]

Johan has a spade yesterday bought.PART

"Johan bought a SPADE yesterday."

(marked intonation: A spade, specifically, and not something else was bought yesterday.)

As with the Dutch example in (3.68-b) above, the example in (3.74-b) illustrates that scrambling in Afrikaans produces a marked reading, here one which is contrastively focused. The unmarked position for indefinite objects is therefore the V-adjacent order, with scrambling resulting in a focused reading. Note, however, that scrambling is not the only way to obtain this interpretation. Afrikaans also allows for *in situ* focus as in (3.75), which results in the same contrastive focus reading as (3.74-b).

(3.75) *Johan het gister [ʻn GRAAF] gekoop.* [ADV-O-V]

Johan have yesterday a spade bought.PART

"Johan bought a SPADE yesterday."

Overall, however, and with respect to indefinite DPs, Afrikaans has retained the typical West Germanic scrambling pattern: that is, indefinite DPs typically remain unscrambled. Scrambled indefinites therefore necessarily receive some kind of marked interpretation, while non-scrambled indefinites (the neutral order) have a non-specific interpretation.

With regard to definite DPs, however, the picture is a little different in Afrikaans. The details of how Afrikaans differs from West Germanic in this respect are presented in the following section.

3.5.2.3 Definite nominals

Recall that in Dutch, in adverb-containing structures, definite DPs scramble optionally (see examples (3.63) above). The typical West Germanic pattern, however, is that anaphoric definites scramble, while non-anaphoric definites remain unscrambled (see §3.5.1.3 and Putnam, 2007 for discussion). Additionally, recall that "old information" objects typically scramble. Thus, whether definite DPs scramble or remain unscrambled is subject to contextually determined discourse-driven constraints and can be understood in terms of referentiality on the one hand (i.e. the relationship of identity between a pronoun and noun/noun phrase), or the distinction between old- versus new-information on the other hand (see §3.5.1). This is the case for Afrikaans too.

Consider the contextualised scenario (for convenience, again presented in English) and corresponding adverb-containing structures in (3.76) below.

(3.76) *Have you already planted that olive tree you bought last week?*

    (a) *Ja, ek het* [*die boom*] *gister   geplant.*   [O-ADV-V]
           yes I   have the tree   yesterday planted.PART

    (b) *Ja, ek het   gister   *[*die boom*] *geplant.*   [ADV-O-V]
           yes I   have yesterday the tree   planted.PART
           "Yes, I planted the tree yesterday."

Given that the object, *die boom*, is anaphoric (i.e. it relates back to a corresponding unit in the prior discourse), the structure in example (3.76-a) is the best suited response. Consider also the contextualised example in (3.77) below.

(3.77) *Wow, look at the shade you already have!* (Said whilst pointing to a tree in the garden)

    (a) *Ek weet! En ek het* [*die boom"OLD"*] *gister   geplant!   Ek gaan môre*   [*die*
        I   know and I have the tree   yesterday planted.PART I go   tomorrow the
        blomme"NEW"] *plant.*
        flowers   plant
        "I know! And I planted the tree yesterday! I am going to plant the flowers tomorrow."

As (3.77-a) illustrates, although the definite DP, *die boom*, does not refer back to a specific constituent in the prior discourse, it is familiar to both interlocutors as virtue of being implied, and thus qualifies as "old information". On the other hand, *die blomme,* is novel content introduced into the discourse for the first time, and is therefore "new information". Accordingly, in (3.80-a) the old information DP (*die boom*) scrambles, while the new information DP (*die blomme*) remains unscrambled. Thus, in adverb-containing structures, definite DPs in Afrikaans conform to the typical West Germanic scrambling pattern.

With regard to scrambling over negation, recall that in Dutch, when DPs scramble over negated elements, the situation is slightly different. As discussed in §3.5.1.3, in Dutch, scrambling over a negator is interpreted as expressing sentential negation; while the unscrambled order, is interpreted as contrastive negation. Thus, in Dutch, where negative elements are concerned: the scrambled and unscrambled orders correspond with the unmarked and marked orders respectively (see the examples in (3.71) above).

In Afrikaans, however, the markedness status of scrambled versus unscrambled DPs in relation to negative elements is the inverse of that of the Dutch order. In other words, in Afrikaans, and *contra* Dutch, the scrambled and unscrambled orders correspond with the marked and unmarked orders respectively. Compare the Dutch (3.78) and Afrikaans (3.79) examples below:

(3.78) (a)   *Hij heeft* [*het boek*] *niet gelezen.*   [Dutch]

             he has   the book not read.PART

             "He hasn't read the book."

             (Unmarked)

(b)   *Hij heeft niet* [*het boek*] *gelezen.*

             he has   not   the book read.PART

             "He hasn't read the book."

             (Marked)

(3.79) (a)   *Hy het   nie₁ die boek   gelees   nie₂.*   [Afrikaans]

             he   have not   the book   read.PART POL

             "He hasn't read the book."

             (Unmarked)

(b)   *Hy het   die boek nie₁ gelees   nie₂.*

he   have the book not read.PART POL

"He hasn't read the book."

(Marked: i.e. 'He hasn't read the book (but he read/did something else).'

As the above examples illustrate, the unmarked position for definite nominals in Dutch is the scrambled order (3.78-a), which is also the case for other West Germanic systems (Haegeman, 1995: p.135). In Afrikaans, however, the unmarked order is the V-adjacent order (3.79-a). To account for this atypical West Germanic pattern, Biberauer (2019) identifies the Afrikaans negative imperative structure as the primary driving force behind this peculiarity – which recall, is in input terms, hypothesised to be particularly key in establishing early grammatical properties (see §3.4.6). Recall that this observation is based on the fact that negative (*moenie*) imperatives uncontroversially feature in Afrikaans child-directed speech (Biberauer, 2012; 2015).

Let us consider the structure of both the Dutch and Afrikaans imperative.

(3.80) (a)   *Doe de deur dicht.*   [Dutch]

do   the door close

"Close the door."

(b)   *Doe de deur niet dicht.*

do   the door not close

"Don't close the door."

(c)   *Doe niet de deur dicht.*

do   not the door close

"Don't close the door."

(3.81) (a)   *Maak die deur toe.*   [Afrikaans]

make the door close

"Close the door."

(b)   *Moenie   die deur toemaak   nie.*

           must.not the door close.make POL

           "Don't close the door."

As the above examples illustrate, the structure of the Dutch (3.80-a) and Afrikaans (3.81-a) positive imperatives mirror one another. However, Dutch negative imperative structures exhibit word order optionality that is not possible in Afrikaans. More specifically, Dutch negative imperatives permit objects to surface in both a scrambled (3.80-b) and unscrambled (3.80-c) position. However, in Afrikaans, the obligatory negative imperative marker, *moenie* (must.not = 'don't'; see §3.4.2.2) forces the object into a post-*nie₁* position as *nie₁* is lexicalised as part of prohibitive *moenie*.

        In acquisition terms, this means that Dutch acquirers receive frequent negative imperative input that permits the object to surface in both a pre- and post-NEG position. This signals the characteristic West Germanic scrambling pattern. In contrast, Afrikaans acquirers do not receive the corresponding negative imperative input signalling that scrambling is possible. Biberauer (2019: p.5) thus proposes that "the Afrikaans negative imperative… introduces a kink in the regular West Germanic scrambling pattern".

        Thus, in Afrikaans, as with Dutch, in adverb-containing structures with definite DPs: anaphoric/old information nominals scramble (O-AD-V), while non-anaphoric/new information nominals remain unscrambled (ADV-O-V). However, unlike Dutch, the neutral order in negated sentences is the unscrambled order, while the marked order (yielding a contrastively negated interpretation) is the scrambled order.

3.5.2.4 Summary of scrambling in Standard Afrikaans

In sum, the typical StdA scrambling pattern can be understood as follows:

(3.82)

       (a)   Pronouns

                (i) obligatorily scramble (O-ADV-V)

       (b)   Indefinite DPs

                (i) typically remain unscrambled (ADV-O-V)

                (ii) scrambled DPs are marked, expressing specificity (O-ADV-V)

(c)　　Definite DPs with adverb-containing structures

　　　　(i) anaphoric/old information DPs typically scramble (O-ADV-V)

　　　　(ii) non-anaphoric/new information DPs typically remain unscrambled (ADV-O-V)

(d)　　Definite DPs in negated clauses

　　　　(i) Neutral order (regular sentential negation): unscrambled (NEG-O-V)

　　　　(ii) Marked order (constituent negation): scrambled order (O-NEG-V)

As this summary demonstrates, (3.82-a) through (3.82-c) reflect the typical West Germanic scrambling pattern. However, the StdA scrambling pattern presented in (3.82-d) is the exception to the typical West Germanic pattern. For ease of reference, the Dutch (see (3.72) above) and Afrikaans scrambling patterns are summarised and contrasted in Table 3.3 below (grey cells indicate scrambling).

	Dutch	**Afrikaans**
Pronouns		
Obligatory scrambling	O-ADV-V	O-ADV-V
Indefinite DPs		
Unmarked non-scrambling	ADV-O-V	ADV-O-V
Specificity/wide-scope-driven scrambling	O-ADV-V	O-ADV-V
Definite DPs (ADV)		
Anaphoric/old information scrambling	O-ADV-V	O-ADV-V
Non-anaphoric/new information non-scrambling	ADV-O-V	ADV-O-V
Definite DPs (NEG)		
Neutral order	O-NEG-V	NEG-O-V
Marked order	NEG-O-V	O-NEG-V

Table 3. 3 Comparative summary of scrambling in Dutch and Afrikaans

Although definite DP scrambling over negation is not probed in the present investigation, this atypical pattern correlates significantly with an innovative MsA scrambling pattern of interest to the present investigation. This MsA pattern is described below.

3.5.3   Scrambling in Modern Spoken Afrikaans

As discussed in §3.5.1 and §3.5.2 for Dutch and StdA respectively, bare pronouns obligatorily scramble in West Germanic. Consider again example (3.73) above, repeated below in (3.83-a; ungrammatical) and (3.83-b; grammatical) for convenience (both spoken with neutral intonation).

(3.83)   (a)   *Ons moet   eers [hom] voer.   [ADV-O-V]
                  We   must first him   feed

         (b)   Ons moet [hom] eers   voer.   [O-ADV-V]
                  We must him   first   feed
                  "We must feed him first."

Recall that in adverb-containing structures, specifics and old-information definites conform to the same scrambling pattern as the rest of West Germanic (refer back to (3.79) and (3.80) respectively). In StdA, the Afrikaans scrambling pattern only deviates from the rest of West Germanic in negative-containing structures. This pattern sees the unmarked position for the object in a post-*nie* position (see (3.79) of § 3.6.2.3). With these basic facts recapitulated, let us consider an MsA strategy – an innovated differential object marking (DOM) pattern – which allows for the elements which would typically scramble in StdA to remain unscrambled.

As its name suggests, DOM involves distinctive marking on a subset of direct objects. In many languages, including much-discussed ones like Spanish and Romanian, the differential marking is achieved by the use of a preposition (Bossong, 1985). Biberauer (2019) notes that DOM is not a property that is typical of West Germanic (although cf. Aissen, 2003; Fenk-Oczlon, 2015; Yager et al., 2015 for potential cases of highly restricted DOM in Germanic). In Afrikaans, and specifically in spoken Afrikaans, a subset of direct objects can be marked with the preposition *vir* ('for').[44] The examples in (3.84) represent the principal domains in which *vir*-marking occurs. The direct objects in the examples below are again bracketed.

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[44] Note that *vir*-marking does not feature in formal written Afrikaans. *Vir*-marking, can however, occur in written texts in the form of reported speech, or in instances where the intention is to engage the reader with the subject matter of the text through prose related to a more informal character (Biberauer, 2019: p.5).

(3.84) (a)   *Ek sien (vir)* [*haar/hom/jou*].

  I   see   for   her him you

  "I see her/him/you."

  (b)   *Ek groet (vir)* [*Marie/Piet/die bure*].

  I   greet   for   Marie Piet the neighbours

  "I greet Marie/Piet/the neighbours."

  (c)   *Ek was (vir)* [*die hond*].

  I   wash for   the dog

  "I wash the dog."   (Biberauer, 2019b: p.18)

As the above examples illustrate, the DOM *vir* optionally surfaces with human or animate personal object pronouns (3.84-a), and with human or animate full DPs (3.84-b,c) (Biberauer, 2019b). *Vir*-marking is, however, not typically permitted with inanimate pronouns, as in (3.85).

(3.85)   *Ek sien (*vir)* [*dit*].

  I   see   for   it.

  "I see it."

                                                       (Biberauer, 2018: p.18)

An example of an exception to this can be seen in (3.86) below (SMALLCAPS reflects stress intonation).

(3.86) (b)   *Sy LEES vir* [*die boek*].

  she read for   the book

  "She is really getting into her reading of the book."

                                                       (Biberauer, 2019b: p.6)

In the examples above, *vir* introduces a speaker-orientated perspective that serves an expressive purpose. In other words, it introduces an emotive, evaluative or, more generally, expressive meaning into the utterance (Gutzmann, 2012). Specifically, example (3.86-a) signals affective engagement with the relevant inanimate (e.g. "it's not just that she's reading the book, she's really getting into it and enjoying the book!").

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Apart from the expressive role *vir*-marking of the kind above serves, *vir*-marking occurs in a speaker-orientated sense to mark specificity (3.87-a); and to signal familiarity (old information; refer back to §3.6.2.3) as in example (3.87-b) below.

(3.87) (a) *Sien jy (vir)* **die bopunt** *van die toring?*

see you for the top.point of   the tower

"Do you see the top of the tower?"

(b) *Ek sien vir* **hom***, ja!*

I   see for him yes

"I see it, yes!"

(Biberauer, 2018: p. 19)

As the above examples illustrate, *vir* is used to mark certain nominal elements in a distinctly speaker-hearer relevant way (Biberauer, 2018, 2019). Haegeman & Hill (2013: p.371), who postulate a cartographic approach to the syntax of discourse particles, note that such speaker-hearer orientated choices are made with the intention of establishing a rapport "between the speaker and hearer in terms of either 'attention seeking' or of 'bonding'". In this regard, and depending on the context, *vir* can introduce an expressive, specific or familiar reading that goes beyond the truth-conditional meaning of the utterance.

The fact that Afrikaans has a DOM, *vir*, which marks out objects as being information-structurally special appears to have mediated the rise of unscrambled DPs in instances in which scrambling would typically occur in West Germanic. For example:

(i)   pronouns (3.88-a);

(ii)   old information DPs (3.88-b); and

(iii) specifics (3.88-c).[45]

---

[45] Note also that *vir*-marking targets many of the nominals that Afrikaans' negative imperative structure forces into a V-adjacent position, for example:

(i)   *Moenie* [*parke*] *besoek nie!*

must.not   parks visit   POL

'Don't visit parks!'

This is illustrated by the contextualised examples below (the context is again presented in English for convenience).

(3.88) Have you already seen this student?

(a) *Ja, ek het* [*hom*] *gister gesien.*
yes I have him yesterday saw.PART
"Yes, I saw him yesterday."

[obligatory scrambling: O-ADV-V]

(a') *Ja, ek het gister* [***vir*** *hom*] *gesien.*
yes I have yesterday for him saw.PART
"Yes, I saw him yesterday."

[*vir*-marked unscrambled order: ADV-_{OM}O-V]

(b) *Ja, ek het* [*die student*] *gister gesien.*
yes I have the student yesterday saw.PART
"Yes, I saw the student yesterday."

[old information context: O-ADV-V]

(b') *Ja, ek het gister* [***vir*** *die student*] *gesien.*
yes I have yesterday for the student saw.PART
"Yes, I saw the student yesterday."

[old information context: ADV-_{OM}O-V]

(c) *Nee, maar ek het* [*daardie student*] *gister gesien.*
 no but I have that student yesterday saw.PART
"No, but I saw that (specific) student."
(pointing to the student in question)

[specificity: O-ADV-V]

(c')   *Nee, maar ek het   gister   [**vir daardie student**] *gesien.*

no   but   I   have   yesterday for   that   student   saw.PART

"No, but I saw that (specific) student."

(pointing to the student in question)

[specificity: ADV-$_{OM}$O-V]

As the above examples illustrate, in MsA, *vir*-marked objects that would otherwise typically scramble, may remain unscrambled while still being marked out as information-structurally special.

With the details of scrambling in StdA (pronominal and full DP) and MsA (pronominal) set out above, the acquisition trajectory of scrambling in Dutch is described below. As before, in the absence of Afrikaans-specific acquisition studies, a similar trajectory is assumed for Afrikaans acquirers.

3.5.4   The acquisition of scrambling

As the above discussion has made clear, the present study is concerned with both pronominal scrambling (§3.5.2.1 & §3.5.3) and discourse-driven definite DP scrambling (§ 3.5.2.3) in Afrikaans. Recall that interface status (e.g. "more internal" versus "more external") has been argued to correlate with the acquisition and mastery of the property in question (Sorace & Serratrice, 2009; Tsimpli, 2014). As such, semantically driven pronominal scrambling in Dutch is predicted to be earlier acquired than discourse-driven full DP scrambling. Unsworth (2005) reports on the data from three production studies investigating the acquisition of scrambling in Dutch-speaking children. The findings, which are summarised below, indicate that there is indeed a correlation between those aspects of scrambling which are more internally- and externally-interface driven respectively. There appears to also be a marked difference between scrambling over negation and scrambling in adverb-containing structures.

The first study reported on is that of Hoekstra & Jordens (1994), which investigated the acquisition of scrambling over negation in Dutch. Results from the longitudinal case study indicate that at age 2;1, the Dutch-speaking child in their study did not scramble in obligatory contexts (e.g. with pronouns), however by age 2;8 she did.

The next study reported on is that of Barbier (2000). The study required 61 L1 Dutch children (aged 2;8 – 6;3) to imitate sentences that contain DP objects scrambled over negation,

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as well as over a sentential adverb. It was found that children produced more target productions with scrambling over negation than they did when scrambling over adverbs (see the Dutch examples in (3.85) and (3.84) above respectively). According to Unsworth (2005: p.106), although Barbier claims that there is evidence for early competence in scrambling, the youngest group (aged 2;8 – 3;3) performs very poorly compared with the next age group (3;6 – 4;5), which produced target productions most of the time.

The final production study reported on by Unsworth (2005) is that of Schaeffer (2000). Schaeffer tested whether or not L1 Dutch children produced scrambled or non-scrambled structures when presented with certain contexts. The contextual aspect of Schaeffer's (2000) study is of particular importance, as it was not probed in the above studies. The participants aged 2;4 – 6;10 were compared to adult controls, who almost always scrambled (96.3% of the time) for the definite DP condition (e.g. old information scrambling). It was found that there was a marked difference between the two-year olds' and the three-year olds' performance, with the latter group performing similarly to the adult controls. The two-year olds, however, only scrambled one third of the time. A similar result was found for the indefinite DPs, where scrambled indefinites are marked with specificity. For indefinites there was a leap between children aged two and three, the three-year-olds patterning more like the adults (with the adults scrambling 66.3% of the time). The exact numbers as presented by Schaeffer (2000) are given in Table 3.4 below.

Age group	n	Definite NPs	Indefinite NPs
2;4-2;11	7	30.4% (7/23)	33.3% (6/18)
3;0-3;11	13	72.2% (26/36)	56.3% (27/48)
4;0-4;11	11	81.6% (31/38)	57.1% (20/35)
5;2-5;11	10	76.5% (26/34)	58.5% (24/41)
6;0-6;10	8	82.8% (24/29)	56.7% (17/30)
Adults	23	96.3% (105/109)	66.3% (65/98)

Table 3. 4 Schaeffer (2000): Percentage of scrambled objects produced per age group and condition

Schaeffer's conclusion, corroborated by the studies reported on above, is that there is an optional scrambling stage, in which children produce both orders in contexts which require scrambling (old information or specificity-marked contexts). This optional phase precedes the next acquisition stage, in which the Dutch children's grammar is restricted to, more often than not, produce the correct scrambled structures.

The above production studies indicate that the acquisition of scrambling appears to be a gradual process, one that is determined by both the object in question, as well as whether

scrambling occurs in a negated structure or over an adverb-containing one. Scrambling over negation appears to be target-like before scrambling over adverbs. Furthermore, pronouns are the first to be scrambled, followed by proper names and definite NPs, and then finally indefinite DPs. The fact that indefinite DPs, where object placement relies completely on discourse factors, are the last to be acquired is unsurprising in Sorace (2011) and Tsimpli's (2014) terms.

The above studies look exclusively at the production of scrambled structures in child speech. Unsworth (2005), however, investigates both the production *and* comprehension of scrambled indefinites in L1 Dutch-speaking children. What she finds is that by age five there are L1 children who produce either scrambled or non-scrambled structures appropriately as the context requires. Interestingly, however, the comprehension of scrambled indefinite DPs may remain non-target-like up until the age of 12 (as predicted by Tsimpli (2014) for the acquisition of very late-acquired properties; see Chapter 2, §2.3.2). What this means for scrambling in Dutch is that the acquisition trajectory spans across almost ten years, from as early as the third year of life.

In sum, the acquisition process, insofar as production is concerned, starts with scrambling over negation[46], with pronouns first, followed by definite objects and then finally contextually determined indefinites around age five. The comprehension of indefinite objects, it seems, is the latest acquired. Unsworth (2005) finds that the comprehension of scrambled indefinites remains non-target-like long after such structures are first produced (age 12 and age five respectively). Although no Dutch studies have yet replicated for definite DPs what Unsworth (2005) found for indefinite DPs, given the pragmatic skills involved, this same trajectory (whereby production precedes contextually determined comprehension) seems likely to be applicable for definite DPs too.

On the basis of the Dutch acquisition trajectory described above, what we might expect for Afrikaans would be the following: semantically driven pronominal scrambling is predicted to be earlier acquired than discourse-driven full DP scrambling, as the latter requires further pragmatic development (see Chapter 2, §2.3.4).

3.5.5 Predictions of (in)stability for scrambling in Afrikaans

Section 3.5.2 and §3.5.3 described the basic details of scrambling in Afrikaans, both in StdA and in MsA. This section will discuss predictions of (in)stability for scrambling in Afrikaans

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[46] Note that scrambling over negation is not probed in the present investigation.

under the influence of L2 English. In order to this this, let us first recapitulate the scrambling facts presented above:

(i)   In StdA, as with the rest of Germanic, bare pronouns obligatorily scramble.

(ii)   The neutral order for indefinites is the unscrambled order. When scrambled, indefinites, as with the rest of West Germanic, are interpreted as specific or having some wide-scope interpretation.

(iii)   Definite DPs, in adverb-containing structures, again conform to the West Germanic pattern, whereby old information nominals typically scramble. However, *contra* the West Germanic pattern, in negated structures, the neutral order is the unscrambled order (attributable to the Afrikaans negative imperative).

(iv)   Lastly, in MsA, certain direct objects that would typically scramble (i.e. pronouns, specific or old information nominals) may remain unscrambled if *vir*-marked.

As the present discussion has shown, scrambling in Afrikaans, as with West Germanic, is driven by both semantic and discourse-driven constraints, i.e. it involves aspects which are more internally and externally interface-driven. To probe both aspects, the present study is specifically concerned with participants' judgements of pronominal scrambling (which is semantico-grammatically constrained), on the one hand, and with their judgements of (un)scrambled definites in adverb-containing structures (where placement is discourse-driven), on the other.

With regard to pronouns, participants' judgements of scrambled ($_{BP}$O-ADV-V)[47], and unscrambled (ADV-$_{BP}$O-V) bare pronouns are probed. The former is the standard option, while the latter is ungrammatical if uttered with neutral intonation (as was the case with the present study). To probe the StdA-MsA distinction for pronominal scrambling in Afrikaans, participants' responses to the "*vir*-marked MsA innovation", whereby a *vir*-marked object may remain unscrambled (ADV-$_{OM}$O-V)[48], are investigated and compared with their judgements of the standard $_{BP}$O-ADV-V structures. Additionally, their responses to scrambled *vir*-marked pronouns are considered ($_{OM}$O-ADV-V). This is done to determine whether the scrambled order is preferred even when accompanied by the DOM, or whether when pronouns are *vir*-marked, scrambling is dispreferred.

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[47] BP = "bare pronoun"
[48] OM = "object marker"

Turning to the scrambling of definite DPs, participants' judgments of contextualised (un)scrambled definites in adverb-containing structures is investigated. The context provided is either:

(i)   an anaphoric/old information context, which elicits the scrambled order (O-ADV-V); or

(ii)   a non-anaphoric new information context, which elicits the unscrambled order (ADV-O-V).

To my knowledge, there are again no studies concerned with EotSLotF and scrambling in Dutch, which as discussed above, like scrambling in Afrikaans, is the most restricted of the West Germanic languages. As a consequence, there are no previous studies which can be appealed to with respect to predictions of (in)stability for scrambling in Afrikaans under the influence of L2 English. As a starting point, let us therefore consider how the two properties' respective sensitive periods and syntactic realisation at the interfaces may inform predictions of (in)stability.

To this end, pronominal scrambling, which is expected to be early acquired in Afrikaans, is a property at the syntax-semantics interface. In contrast, full DP scrambling, which is likely to be later acquired in Afrikaans, is a property at the syntax-discourse interface. As full DP scrambling interfaces with discourse considerations, the integration of language-external components makes it more demanding than pronominal scrambling. Based on the proposal that full DP scrambling is more demanding than pronominal scrambling in processing terms, and because the IH therefore predicts more stability at the internal interfaces (i.e. the syntax-semantics interface) than it does at the external interfaces (i.e. the syntax-discourse discourse), pronominal scrambling is predicted to exhibit more stability under the influence of L2 English than full DP scrambling (see Chapter 2, §2.4.2.1 for discussion).

As scrambling is not a property which features in modern-day English, there is no structural overlap in play. Thus, neither pronominal nor full DP scrambling are expected to be subject to CLO (Kupisch, 2014; Chapter 2, §2.2.6.2).

Predictions of (in)stability for scrambling are, however, potentially complicated by the movement operation involved. To this end, it is important to note that studies concerned with flexible word orders have shown that scrambled and unscrambled orders are processed differently. On-line comprehension studies have found that movement is costly, and that as a result, scrambled structures are more costly in processing terms than unscrambled structures (De Vincenzi, 1991; Frazier & Flores d'Arcais, 1989; Sekerina, 1997; Bader & Meng, 1999;

Kaan, 2001; Mazuka, Itoh, & Kondo, 2002; Tamaoka et al., 2005; Tamaoka, Kanduboda, & Sakai, 2011; Koizumi et al., 2014).

For full DP scrambling specifically, it is, however, important to note that most studies concerned with flexible word order languages have not tested how participants respond to the given structures when contextualised. Kaiser & Trueswell (2004) find that in this respect, context plays a non-trivial role. Kaiser & Trueswell (2004) investigate the OVS/SVO word order variation in Finnish. In Finnish the noncanonical OVS order marks the object as old information and the subject as new. The canonical SVO order, on the other hand, is said to be more flexible occurring in multiple contexts. Participants were tested in a contextualised self-paced reading task, and a contextualised eye-gaze task, where listeners' gaze was tracked as they listened to descriptions of scenes.

The results from the self-paced reading task revealed that, when contextualised, the processing issues incurred by noncanonical structures were partially alleviated. However, the results from the eye-gaze task revealed that in terms of processing costs, there is more to take into account than movement alone. Kaiser & Trueswell (2004) explain that when encountering an OV… sequence, there is an expectation of new discourse. However, there is no such expectation when encountering an SV… sequence. The findings from the eye-gaze test revealed that, when contextualised, the OVS structures showed "anticipatory eye movements to a discourse-new referent at the second noun onset, even before participants had enough acoustic information to recognize this word" (Kaiser & Trueswell, 2004: p.113). It is therefore noted that the certainty about discourse-newness in fact increases processing load, as language users have to engage in "predictive processing" (Kaiser & Trueswell, 2004: p.141). In this regard, the maintenance of discourse continuity is thought to be less costly than a shift in attention to a new entity (Walker et al., 1998). Kaiser & Trueswell (2004: p.141) therefore explain that complexity is not only representative of syntactic complexity, but that referential complexity also comes into play. The reason is that having to establish a new referent is argued to be costly in processing terms.

For scrambling in Afrikaans then, there are in fact numerous factors that could contribute to bilinguals' judgements. This means that, apart from sensitive-period considerations and interface status, it is not only that (un)acceptability needs to be taken into account, but additionally that the processing costs incurred by movement may play a non-trivial role, as may the distinction between "old" and "new" information contexts respectively.

Scrambling is therefore a less-than-straightforward phenomenon to probe in terms of L2-induced L1 (in)stability. In spite of this, scrambling in Afrikaans serves as a good testing

ground for the early-late/internal-external interface hypotheses that the present study is concerned with. Therefore, although there are clearly complex considerations at play, it is worth checking whether the early-late and internal-external differences thought to be predictive in other domains are in fact predictive for a phenomenon as complex as scrambling.

3.6   Chapter summary

This chapter has presented the details of the five properties investigated in the present study:

   (i)   Verb placement,

   (ii)   Sentential negation,

   (iii)   Double negation and negative concord interpretations,

   (iv)   Pronominal scrambling, and

   (v)   Full DP scrambling.

As the property-specific sections have illustrated, the five properties differ with respect to their:

   (i) their sensitive period(s),

   (ii) their narrow syntactic/internal-external interface status, and

   (iii) the degree of L1-L2 structural overlap involved.

These differences are summarised in Table 3.5 below.

Property	Property-specific characteristics				
	Early acquired	*Late acquired*	*Narrow syntax/internal interface*	*External interface*	*L1-L2 partial structural overlap*
Verb placement	✓	✗	✓	✗	✗
Sentential negation	✓	✗	✓	✗	✗
DN/NC	✗	✓	✗	✓	✓
Pronominal scrambling	✓	✗	✓	✗	✗
Full DP scrambling	✗	✓	✗	✓	✗

Table 3. 5 Summary of property-specific characteristics under investigation

Recall, however, that with respect to syntactic realisation at the interfaces, properties need to be considered as composite things, with certain properties representative of multiple interfaces. The differences summarised above are therefore representative of the *specific* structures under investigation in the present study, and are not necessary applicable to the property as a whole (see Chapter 2, §2.4.2.3, with reference to Grabitzky's (2014) study).

   The following chapter discusses the methodological aspects of the study.

Chapter 4

Methodology

4.1   Introduction

This chapter details the methodology employed in the present study. An overview of participant recruitment and selection procedures as well as the details of the participants are presented in §4.2. Section 4.3 presents the details of the language background questionnaire (LBQ) and sets out the associated extralinguistic variables under investigation. Section 4.4 provides a detailed account of the extralinguistic variables identified in §4.3 and sets out the participant distribution across each specific variable. Section 4.5 details the study design and provides an overview of the context the data was collected in. A discussion of some methodological considerations in research concerned with spoken varieties as well as bilingualism follows, as well as a discussion of acceptability judgement tasks more generally. The final sub-section (§4.5.5) describes the data collection instruments employed in the present study. A summary is provided in §4.6.

4.2   Overview of the participant recruitment and selection process

The following section presents the details of the participant recruitment and selection process, as well as a description of the participant cohort. The ethical aspects are discussed in §4.2.1, followed by the details of the participant recruitment and selection in §4.2.2 and §4.2.3 respectively. Section 4.2.4 offers a description of the L1 Afrikaans-L2 English bilinguals who participated in the study.

4.2.1   Ethics

Prior to the commencement of participant recruitment and the ensuing data collection process, ethical clearance was obtained from the researcher's affiliated university (see Appendix D). The following details were required: the purpose of the study, how participants would be recruited and how their anonymity would be protected, whether participation would be voluntary, any potential risks or benefits involved in participation, the precise manner in which the data was to be collected, as well as whether permission was required from any authorities

and whether it had been sought. The research proposal, participant consent form, language background questionnaire (LBQ), samples of all the sentence structures to be tested, and screenshots of the format in which they were to be tested were presented for approval (see Appendices A-J). Due to the low-risk nature of the study, ethical clearance was granted upon review of the relevant documentation.

Participation in the study was entirely voluntary and participants were required to contact the researcher if they wished to participate. Each prospective participant was emailed a web-link, directing them to the on-line testing platform where they read and electronically signed a consent form that outlined the details of the study. Participants were informed that they could withdraw at any time without consequence.[49]

4.2.2   Participant recruitment

Prospective participants were required to be L1 Afrikaans-L2 English bilinguals between the ages of 25 and 65 years. Participants were solicited via two recruitment campaigns run on two different on-line news and social media platforms: *The South African* [www.thesouthafrican.com] and *SA People News* [www.sapeople.com], as well as via word of mouth from personal acquaintances. Three recruitment campaigns, run at intervals over a six-month period, outlined the broader details of the study as they were relevant to prospective participants (see Appendix A). In order to simplify matters for prospective participants, the term *attrition* (and not EotSLotF) was used to describe the central focus of the study. The first two paragraphs of the recruitment campaign read as follows:

> *The first language has always been thought to hold a privileged status in the mind, but the question of how well it really holds up under the pressure of an ever-increasing dominant second language is of great interest to linguists and bilinguals alike.*

> *The process whereby a bilingual forgets their first language is a normal linguistic development known as "first language attrition". In many cases it is the result of*

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[49] All participants were entered into a lucky draw to stand a chance to win one of five gift vouchers to the value of R1,000.00.

emigration, but in other cases it is simply the result of reduced first language usage/exposure and increased second language usage/exposure.

In order to recruit as many prospective participants as possible, participant profiles were broadly defined as follows: *first language Afrikaans, second language English bilingual living in South Africa, the United Kingdom or any predominantly English-speaking country.* Anyone falling within those specifications was asked to email the researcher if they wished to participate in the study.

4.2.3   Participant selection and exclusion

Over 300 prospective participants were recruited for participation in the study. After signing the above-mentioned consent form and before starting the on-line tests, prospective participants were required to complete a comprehensive LBQ. The LBQ was customised according to whether prospective participants resided in South Africa or an English-speaking country abroad (United Kingdom, Ireland, United States, English Canada, Australia and New Zealand).[50] The latter groups' questions targeted specific information such as: their age at emigration, contact with Afrikaans speakers (in the emigrant country and in SA), how often, if at all, they returned home, and the language(s) in which they communicate with their SA family and friends. With the exception of emigration-specific questions, the two LBQs are identical (see Appendices B & C).

The LBQ's function was two-fold: the first was to determine participants' eligibility for the study; the second, is that the self-reported variables of LBQ form the basis of the extralinguistic elements of this study. Participants that did not meet the inclusion requirements were those that either did not fit the language profile, e.g. L1 English-L2 Afrikaans speakers, or that did not fit the age criteria. In terms of the latter exclusion point, participants were required to be under the age of 65 to rule out language effects brought on by cognitive decline (Kynette & Kemper, 1986) and over the age of 25 in an attempt to rule out (as much as possible) continued academic exposure to Afrikaans, say through school or tertiary education.

Note also that although the ideal would be to exclude participants with knowledge of languages other than Afrikaans or English, many participants had minimal knowledge of at

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[50] Note that three participants who live in the United Arab Emirates (UAE) were included in the dataset as they indicated that they had no Arabic friends, did not speak Arabic and spoke exclusively English with friends when in the UAE.

least one other official South African language. This is a methodological challenge that needs to be taken into account when researching bilingualism in a multilingual context. In most multilingual contexts, participants will (to differing extents) be exposed to languages over and above those that are the central focus of any bilingualism-oriented study. Crucially, however, in the case of the present study, the participants in question possessed a *minimal* amount of knowledge of these additional languages. Note also that prospective participants who had anything more than a minimal amount of knowledge of one or more foreign languages were also excluded. A state of affairs that was specifically controlled for via the LBQ.[51] Recall that in the present study, bilingualism is defined as *the use of two languages, at various stages across the lifespan of a language user, in which receptive and communicative competence has been achieved in both languages across a number of varied contexts* (see Chapter 1, (1.4) of §1.4). Thus, minimal and contextually limited knowledge of an Ln was not taken as a point of exclusion (see the discussion in Chapter 2, §2.2.1).

4.2.4 Description of participants

As noted above, over 300 prospective participants were initially recruited, and 190 full data sets were obtained. Of those data sets, 15 participants were excluded on the basis of age (< 25 or > 65); eight were excluded because they had emigrated to, and were currently living in, a country where the predominant language spoken is not English; and one was excluded because the participant was an L1 English L2 Afrikaans speaker. The remaining 166 participants that completed the full battery of tests were all between the ages of 25 and 65 at the time of testing. Recall, however, that 10 of the 166 participants were identified as those who would serve as reference group participants, as their profiles were particularly Afrikaans-centric (see §4.4.2 to follow). For the purpose of the present discussion, however, the details of all 166 participants are provided to gain insight into the group as a whole.

The age breakdown is as follows: 25 – 35 ($n = 48$); 36 – 45 ($n = 55$); 46 – 55 ($n = 43$); and 56 – 65 ($n = 24$). Note that the age bands given here are arbitrary, simply to provide an easily comprehensible overview. The age groups themselves, not probed in the literature, were not included as a potentially predictive variable.

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[51] Participants were asked to rate on a scale from "1" (least proficient) to "5" (fully fluent) how they rate themselves in speaking, understanding, reading, writing in all the languages they know.

Participants' age of onset of bilingualism (AoO-B) places them into one of the following four categories: 2L1 acquirers (0 – 2; $n = 37$), early childhood (3 – 5; $n = 53$), late child (6 – 11; $n = 73$) or adolescent (12 – 16; $n = 3$) acquirers of English. I will briefly elaborate on the decision to adopt these specific age categories. Recall that Unsworth (2005) identifies late child acquirers as those who acquire their L2 after the age of eight (Chapter 2, §2.2.2). This is, however, quite late, especially if we consider Tsimpli's (2014) early, late, and very distinction, whereby "late" properties are those that are thought to emerge around the age of five (Chapter 2, §2.3.2). Additionally, Meisel (2004) notes that L2 exposure between the ages of approximately five and 10 more closely resembles adult L2 than bilingual L1 development. On the other hand, bilingual acquisition prior to the age of approximately five seems to be almost identical to the simultaneous acquisition of two languages from birth. In spite of this observation, recall also Herschensohn's (2009) observation that the acquisition of subsequent languages, even during early childhood, occurs once the brain has been altered from the birth state (Chapter 2, §2.2.2). The result is that the exact process of L1 acquisition cannot be replicated. Thus, Unsworth's (2005) "early" category is therefore perhaps too wide; at the same time collapsing the 2L1 and early age categories as Meisel's (2004) observation suggests may well conceal important differences between the 2L1 and early child bilinguals.

The very low number of late L2 acquirers corresponds to what we might expect in the South African context, where L2 English acquisition is generally essential if you are an L1 Afrikaans speaker (see Chapter 1, §1.3.2). Through the self-reported language use and proficiency-directed questions (see §4.3 to follow), 43 participants indicated that they had not shifted to English as the language in which they predominantly live their lives. Of these 43 participants, eight indicated that they feel most proficient in Afrikaans, 33 maintain they have no language preference and feel equally proficient in both languages, and two participants selected the "don't know" option for language proficiency. The remaining 123 participants can all identify an age at which they shifted to English as the language they most frequently use, the upper and lower age thresholds being 12 and 50 respectively. Of these 123 participants, four selected Afrikaans as the language they (still) feel most proficient in; 97 indicated that they have "no preference"; and 20 selected English as the language they feel most proficient in.

It is worth noting that the majority of the participants in the present study are therefore "L2 shifters". This is perhaps unsurprising given the focus of the participant recruitment campaign presented in §4.2.2 above. However, this does certainly not mean that this will be the case for the majority of L1 Afrikaans-L2 English bilinguals in South Africa: many L1

Afrikaans-L2 English bilinguals remain L1 dominant. It is therefore important to note that one can very easily imagine a research population where the situation could be a lot more balanced.

As this study probes how differing language use and exposure across the lifespan of a bilingual contributes to shaping their adult L1 morphosyntax, it does not endeavour to single out "attriters" from "non-attriters", or "HSs" from those who did not experience reduced input in childhood (see §4.4.2 below for further discussion). However, in order to gain insight into the variables which are and are not predictive, it is necessary to have a sense of how Afrikaans speakers whose linguistic exposure has been strongly Afrikaans-centred respond to the linguistic stimuli. In other words, it is important to establish some kind of a "baseline" against which variation, indicative of EotSLotF, can be measured. Without this, "the *tangible and measurable* ramifications" that the L2 potentially has on the L1 cannot be assessed (Schmid & Köpke (2017b: p.763; see Chapter 2, §2.2.6). Thus, as noted above, of the final 166 participants, 10 participants who use (almost) exclusively Afrikaans across all the variables probed are identified as a "reference" group. Note that the reference group and "pilot" participants, or those who were used to test the instruments prior to data collection, (see §4.5), are two separate groups. The details of the reference group, along with the general participant breakdown across the variables, are presented in §4.4.2 and §4.4.3 below respectively.

Finally, it should be noted that additional factors not directly related to these language patterns across the lifespan, such as biologically assigned sex and gender, were not controlled for. Additionally, while level of education was controlled for to ensure high literacy levels (all participants had successfully completed the final year of secondary school in South Africa, and only six did not have a qualification from a tertiary institution), level of education itself was not taken as in independent variable. Those participants who did not have a tertiary-level qualification were therefore not excluded on this basis. Future research could also look at populations that are more mixed in this respect.

4.3   Language background questionnaire and extralinguistic research variables

The LBQ was based on Keijzer's (2007) *Sociolinguistic Questionnaire for Attriters.* The questions were modified for the population under investigation. As noted in §4.2.3 above, prospective participants in South Africa and the diaspora completed different questionnaires based on their linguistic environments. For example, in the case of the former, questions about emigration are not of relevance (see Appendices B & C for the full inventory of LBQ questions).

As noted in Chapter 1 (§1.1), this is the first study to investigate EotSLotF in L1 Afrikaans L2 English bilinguals, making it exploratory in nature. It should be noted, however, that the LBQ probed background information not investigated in the present study, with the intention that the data may be of use to future studies concerned with EotSLotF in Afrikaans-English bilinguals. In the case of the present study, which is centrally concerned with EotSLotF, the extralinguistic variables of interest (see §4.3.1 below) were determined on the basis of those that have previously been investigated, or thought to be of importance, in HL development and L1 attrition in other population groups (see Chapter 2, §2.5).

The extralinguistic variables under investigation in the present study are presented below.

4.3.1   Extralinguistic research variables

The extralinguistic variables probed in the present study are as follows:

(4.1)   Childhood and adolescent language exposure and use

    (i) Age of onset of bilingualism (AoO-B)

    (ii) Language(s) of teaching and learning at pre-school (LoLT-N)

    (iii) Language(s) of teaching and learning at primary school (LoLT-P)

    (iv) Language(s) of teaching and learning at secondary school (LoLT-S)

(4.2)   Circumstances of a dominance shift to English

    (i) Age of onset of English dominance (AoO-D)

    (ii) Number of years since dominance shift to English (LTRCU)

(4.3)   Adult language exposure and use

    (i) Linguistic environment (SA-EX)

    (ii) Frequency with which Afrikaans is spoken (FREQ)

    (iii) Interactive language use

        a. Language(s) spoken with partner (PART)

        b. Language(s) spoken to friends (FRIENDS)

        c. Language(s) spoken with siblings (SIBL)

        d. Language(s) spoken at work (WORK)

    (iv) Internal language use: language(s) of ones' thoughts & dreams (INT)

    (v) Receptive language use

a. Exposure to written Afrikaans (WRIT)

b. Exposure to Afrikaans TV or RADIO (TV-RAD)

The following section elaborates on the choice of the above variables.

As a result of the multiple sensitive periods that need to be taken into consideration for the various properties under investigation (see Chapter 3, §3.3.4, §3.4.5, §3.5.4), it was decided that using childhood variables with clear age distinctions, based on the age participants would have been during those schooling years, would be most appropriate; hence the categories identified under (4.1) above. The schooling years were also specifically included because of the important role that peer interaction at school is thought to play in terms of societal input (Jia & Fuse, 2007). Recall also the emphasis Montrul & Polinsky (2019) place on the important role that school plays in the mastery of linguistic development towards the close of the sensitive periods (Chapter 2, §2.5.1.2). Thus, the variables probing the participants' language(s) of learning and teaching (LoLT) at nursery, primary and secondary school were chosen as variables in the present study. Note that in South Africa, these schooling periods correspond with the following age categories:

(4.4)   (i)   Nursery school (LoLT-N): age three – five

        (ii)   Primary school (LoLT-P; Grade 1 to 7): age six – 12

        (iii)   Secondary school (LoLT-S; Grade 8 to 12): age 13 – 17/18

The variables probing the *circumstances of a dominance shift to English* (the categories identified under (4.2) above) were included to test whether the results of previous L1 attrition studies would we borne out in this particular cohort of bilinguals. Previous studies have revealed that:

(i)   attrition effects are most severe if a dominance shift occurs prior to the onset of puberty (Bylund & Diaz, 2012; Chapter 2, §2.5.1.1), and

(ii)   often attrition effects are found to be the most severe within the first 10 years of a dominance shift to the L2 (Schmid, 2019; Chapter 2, §2.5.2.1).

Thus, both variables are included in the present study.

As noted in Chapter 1 (§1.1), the present study aims to single out the role of linguistic environment in determining L1 (in)stability under L2 influence (variable (4.3-i)). Recall that, although participants in the diaspora more readily fit the "HS" or "L1 attriter" label, those who have become L2-dominant in the South African context (the L1 environment) do not

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necessarily (see Chapter 2, §2.2.5). That such a dominance shift can occur in the L1 environment makes the South African context, and multilingual contexts more generally, able to probe a variable which is largely untestable in the "typical" L1 attrition or HL contexts.

In terms of participants' language use patterns, recall that one of the most surprising, yet consistent patterns to emerge in L1 attrition research is that *informal language use* (e.g. at home and with friends) has not been found to be predictive in determining L1 attrition in adult L2 acquirers (see Dostert, 2009; Keijzer, 2007; Lubińska, 2011; Varga, 2012; Yilmaz & Schmid, 2012). Rather, only *language use for professional purposes* has been found to have a protective effect against L1 attrition (see Schmid, 2007 and Schmid & Dusseldorp, 2010). Crucially, however, recall that Schmid & Karayayla's (2020) study found that for bilinguals with an AoO *before* the age of 10, L1 use in adulthood *is* a strong predictor of proficiency. Additionally, recall also Schmid & Dusseldorp's (2010) caution against overgeneralising the different language use contexts under one theoretical heading. Schmid & Dusseldorp's (2010) results revealed that language use with one's partner, but not with one's friends, proved to be protective if language use was frequent. Furthermore, recall that Schmid's (2002) study, which looked at the L1 attrition of German Jews in Anglophone countries, found that language use with siblings also revealed a significant correlation with participants' performance (see Chapter 2, §2.5.2.2 for discussion).

In identifying which language use variables to probe, the present study therefore aims to follow up on these fine-grained considerations by taking into account separately informal language use with one's partner, friends and siblings (the variables under (iii) of (4.3) above). It should also be noted that the variable *language use with children* excluded 80 participants and was therefore not deemed to be an inclusive variable; an analysis based on this variable would exclude approximately half of the cohort's data and diminish the group sizes dramatically. Although it is unlikely that many participants in South Africa will use exclusively Afrikaans for professional purposes (a prediction which was borne out), the variable was included to determine if any similar trends emerged to those revealed in previous studies concerned with EotSLotF (although see §4.4.3 below on the subsequent exclusion of this variable).

A further fine-grained consideration probed in the present study is that related to participants' internal language use patterns (INT). Recall that Schmid & Dusseldorp (2010) probed this variable under the heading "attitudinal variables". The present study isolates the variable associated with participants' internal language use patterns to independently probe whether this variable has any effect on the L1 (variable (iv) of (4.3) above).

Lastly, the two variables probing receptive language use, exposure to written Afrikaans (WRIT) and exposure to Afrikaans television and radio (TV-RAD), were included to determine if their effects, if evidenced, might be specific to StdA and MsA respectively. This logic here is that one might reasonably expect more exposure to written Afrikaans to correlate with prescriptive norms (StdA), whereas more exposure to spoken Afrikaans might correlate with more exposure to MsA. Furthermore, given the important role that literacy is thought to play in HL maintenance (Chapter 2, §2.5.1.2), the variable WRIT was considered potentially important in determining whether the continued exposure to written Afrikaans is predictive in the determining speakers' judgements in response to Afrikaans input (the variables under (v) of (4.3) above).

4.4. Participant distribution across the extralinguistic factors

This section presents the details of the participant distribution across the 15 extralinguistic variables probed. The various categories of the 15 variables of interest are first presented in §4.4.1. Recall that, as noted in §4.2.4 above, of the 166 participants identified as the final research cohort, 10 participants were identified as reference-group (ref-group) participants. The specific details of the individual ref-group participants are presented in §4.4.2, followed by the participant distribution for the experimental group, i.e. the remaining 156 participants, in §4.4.3.

4.4.1 Extralinguistic categories

The variable-specific categories of the 15 extralinguistic variables investigated are presented in the sub-sections that follow. The grouping categories for the variables related to *language exposure and use in childhood and adolescence* are presented in §4.4.1.1; the grouping categories for the two variables probing *the circumstances of a dominance shift to English* are presented in §4.4.1.2; and the grouping categories for the nine variables probing *language exposure and use in adulthood* are presented in §4.4.1.3.

4.4.1.1 Language exposure and use in childhood and adolescence

(i)   *Age of onset of bilingualism (AoO-B)*

Recall that the initial AoO-B groupings were proposed to be as follows (see §4.2.3):

       (a)   2L1 acquirers (aged ≤2);

       (b)   early child acquirers (ages 3-5);

       (c)   late child and early adolescent acquirers (ages 6-13); and

       (d)   late adolescent acquirers (≥14).

The age periods of the latter two categories were determined according to the proposal that the close of the sensitive period for morphosyntax is around puberty (Johnson & Newport, 1989); the late adolescent category was included to take into account the results of the largest study to date, which finds that there appears to be a gradual offset for the acquisition of morphosyntax around age 17 (Hartshorne, et al., 2018; see Chapter 2, §2.2.2). However, given the population under investigation, who are all at least exposed to English from primary school onwards, an analysis of the LBQ revealed that the final category was very evidently not feasible: only three participants fell into it. This category was therefore collapsed with the previous one to give the following three groups: AoO of ≤2 years; AoO between the ages of 3 – 5; and an AoO of ≥6 years.

(ii)   *Language(s) of teaching and learning at primary school (LoLT-N)*

Participants responded that their LoLT at nursery school was either Afrikaans (A), English (E), or both (B) languages.

(iii)   *Language(s) of teaching and learning at primary school (LoLT-P)*

Participants responded that their LoLT at primary school was either Afrikaans (A), English (E), or both (B) languages.

(iv)   *Language(s) of teaching and learning at secondary school (LoLT-S)*

Participants responded that their LoLT at secondary school was either Afrikaans (A), English (E), or both (B) languages.

4.4.1.2 Circumstances of a dominance shift to English

(i)   *Age of onset of English dominance (AoO-D)*

If informants indicated that they felt they had shifted to English-dominance, they were required to specify the age at which this L2-dominance shift occurred. Participants were then grouped as follows: those that shifted to English dominance at the age of 13 years or under; between the ages of 14 - 17; or 18 years or older. As with the variable AoO-B, and based on the proposal that the close of the sensitive period for morphosyntax may be around puberty (Johnson & Newport, 1989), the first age cut off (≤13) probed the circumstances of a dominance shift to English prior to, or around the onset of puberty; while the second age category (age 14 - 17) was determined based on the findings of Hartshorne, et al., (2018), who found that there is a gradual offset for the acquisition of morphosyntax around age 17 (Hartshorne, et al., 2018). The remainder of the participants fall in the last group after the offset of this sensitive period (≥18). Additionally, participants could indicate that they felt they had not shifted to using predominantly English and are still Afrikaans-dominant (NS).

(ii)   *Length of time since reduced L1 contact or use (LTRCU)*

Participants were grouped as follows: those with a LTRCU of less than 10 years (<10); between 10 and 19 years (10-19); between 20 and 29 years (20-29); 30 years or more (≥30); or those who maintain they have not shifted to using predominantly English and are still Afrikaans-dominant (NS). The first category, of <10 years, was determined based on previous findings that often the most severe attrition effects are evidenced in the first 10 years after emigration (Schmid, 2019). The remainder of the categories were divided equally in increments of 10 years to determine, if EotSLotF are evidenced, whether there is a further linear decline or, instead, some improvement over the years.

4.4.1.3 Language exposure and use in adulthood

(i)   *Linguistic environment (SA-EX)*

Participants responded that they were either living in South Africa (SA) at the time of testing, or in an English-speaking country abroad (EX).The participant distribution across the various countries is as follows: South Africa (*n* = 80 including the 10 ref-

group participants; see §4.4.2 to follow) United Kingdom (*n* = 37); Australia (*n* = 14); United States of America (*n* = 12); Canada (*n* = 9); New Zealand (*n* = 8); United Arab Emirates (n = 5). Note that the five participants who living in the UAE cannot speak Arabic, and function exclusively in English in that context (with friends and colleagues alike).

(ii)   *Frequency with which Afrikaans is spoken (FREQ)*

Participants were grouped as follows: daily (D), weekly (W), rarely (R). For this final group ("rarely"), three LBQ choices were collapsed into one, as the initial categories resulted in very small groups. Thus, R-group participants were those who selected that they spoke Afrikaans either: "monthly" (*n* = 9), "yearly" (*n* = 6) or "rarely" (*n* = 3).

(iii)   *Interactive language use*

   a.   *Language(s) spoken with partner (PART)*

Participants stated that they spoke only Afrikaans (A); both Afrikaans and English in roughly equal proportions (B); both languages, but mainly Afrikaans (BmA); both languages, but mainly English (BmE); or only English (E) with their partners.

   b.   *Language(s) spoken with friends (FRIENDS)*

Participants stated that they spoke only Afrikaans (A); both Afrikaans and English in roughly equal proportions (B); both languages, but mainly Afrikaans (BmA); both languages, but mainly English (BmE); or only English (E) with their friends.

   c.   *Language(s) currently spoken with siblings (SIBL)*

If participants have siblings (note that only three informants indicated that they do not have siblings), they stated that they spoke one of the following with their siblings: Afrikaans (A); both Afrikaans and English (B); or English (E).

   d.   *Language use for professional purposes (WORK)*

Participants stated that they speak one of the following languages/language combinations at work: only Afrikaans (A); both Afrikaans and English in

roughly equal proportions (B); both languages, but mainly Afrikaans (BmA); both languages, but mainly English (BmE); or only English (E).

Note that based on the feedback from the pilot study, it was established that for the variables PART, FRIENDS and WORK, all five grouping options were necessary (A; B; BmA; BmE; and E). For the variable probing participants' language use with their siblings (SIBL), the BmA and BmE groups were found to be superfluous, with almost all participants selecting one of the other three options. The options for the variable SIBL were thus reduced accordingly.

(iv)   *Internal language use (INT)*

Participants could select one of the following options: Afrikaans (A); both Afrikaans and English (B); English (E); or "don't know". As with the variable SIBL, the BmA and BmE groups were again found to be unnecessary for the variable INT. The grouping options were therefore again reduced as presented out above.

(v)   *Receptive language use*

   a.   *Exposure to written Afrikaans (WRIT)*

   Participants could choose between one of the following options: often (O); sometimes (S); never (N)

   b.   *Exposure to Afrikaans TV or RADIO (TV-RAD)*

   Participants again had the following three-way choice: often (O); sometimes (S); never (N).

With the variables probed in the study in place, we now introduce the ref-group and its role in the present study.

4.4.2   Reference-group participants

The purpose of the ref-group is to try to gain some understanding of what L1 judgements may look like in bilinguals who use/have used, throughout their lives, primarily Afrikaans in almost all spheres of their life. In other words, in comparison to a group of bilinguals whose language

usage patterns exhibit a great deal of heterogeneity, what do bilinguals' judgements look like when they use or are exposed to mostly Afrikaans in their daily lives?

Given the multilingual South African context and the pervasiveness of English in South Africa, this group is as homogenous as possible across all of the variables probed. Recall that, as noted in Chapter 1 (§1.3.2), adult L1 Afrikaans speakers in South Africa find themselves in a very different position to L1 English speakers. The former are invariably Afrikaans-English bilinguals, while in the case of the latter, it is in fact not uncommon to find essentially monolingual English speakers, who are not capable of functioning in Afrikaans in all or the majority of circumstances. Finding similarly essentially (adult) [52] monolingual Afrikaans speakers, while not impossible, particularly among older, more rural speakers, would constitute a significant challenge (see the discussion in Chapter 1, §1.3.2). In this regard, however, it is important to emphasise again that it was never the intention of the present study to compare bilinguals with monolinguals (see again Chapter 2, §2.2.1). While studies which compare bilingual and monolingual performance are crucial to our understanding of the bilingual mind, they serve a different purpose to the present inquiry. In order to probe which variables are potentially predictive in *lifelong bilingualism,* bilinguals cannot be compared with monolinguals (see Chapter 2, §2.2.1 for discussion).

To this end, to avoid an "apples versus oranges" methodological comparison of a baseline group that is monolingual and an experimental group that is bilingual, the present study design entails that bilinguals are compared with bilinguals (see D'Alessandro, Natvig & Putnam, 2021 for discussion). The use of a baseline group is, however, common practice in order to establish the extent of the EotSLotF (see Polinsky, 2018; D'Alessandro et al., 2021 for discussion). To adhere to the practice of having a group which serves as a comparative reference point, a group of bilinguals who are descriptively mostly Afrikaans-dominant was identified as this reference group based on their answers to the LBQ. It is acknowledged that such a group is typically identified *first*. However, the fact that the present study probes the role played by differing amounts of L1/L2 exposure and use across a number of variables complicates the identification of such a bilingual reference group *prior* to the data collection process. The reason is that it would not have been practical in a recruitment campaign to attempt to recruit a separate group of bilinguals, with largely homogenous language exposure

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[52] Note that in the case of children who are not yet of (primary) school-going age, and who are in a single-medium Afrikaans nursery school, finding monolingual Afrikaans speakers is less of a challenge. It is not uncommon for L1 Afrikaans-speaking children's input to be primarily, if not exclusively, Afrikaans prior to their entry into the primary schooling system.

and usage patterns, based on such a number of specific variables. As such, the approach adopted here was deemed the best for the present exploratory study design.

As such, the mostly Afrikaans-dominant ref-group participants were determined as follows: of the 166 participants, only 43 maintained that they had not shifted to using more English than Afrikaans, and were still Afrikaans-dominant. As *linguistic environment* was one of the variables under consideration in the present study, the ref-group participants were required to still be exposed to the L1 in the L1 environment. Of these 43 participants who stipulated that they had not made a dominance shift to English, 24 live in South Africa.

The next criterion for inclusion in this group was AoO of bilingualism. Recall that simultaneous (2L1) bilinguals have been shown to proceed through essentially the same developmental sequence as monolingual acquirers and are said to attain "native competence" in each language (see Meisel, 2004 and 2009; Chapter 2, §2.2.2). However, as noted in Chapter 2 (§2.2.1), the two languages do not exist as linguistic silos in the mind of the speaker. Rather, these grammars interact with one another, potentially, from as early as the birth state. Accordingly, it was thought best to include only (strictly speaking) L1 Afrikaans-L2 English bilinguals in this reference group, and not 2L1 bilinguals. As such, only 17 prospective ref-group participants remained.

Of these 17 participants, all stipulated that their *LoLT at nursery*, *primary* and *secondary school* was either both languages or only Afrikaans. Given the nature of the South African schooling system, complete homogeneity in this regard is near impossible (see again Chapter 1, §1.3.3 of Chapter 1). Furthermore, all participants had to stipulate that they spoke either "exclusively Afrikaans" or "both languages but mainly Afrikaans" with their partners. With regard to language use with friends, the same applied, but additionally allowed for the options of "both in equal amounts with friends". The resulted in 16 participants after applying this criteria.

The final two criteria for inclusion in this reference group were based on participants' internal language usage patterns, as well as their present-day language use with their siblings. Recall that, as discussed in Chapter 2 (§2.5.2.2), the L1 is often understood as having a privileged emotional status in the mind of the bi/multilingual. Furthermore, recall that Dewaele's (2006) study of the inner language usage patterns of 1454 multilinguals found that the preferred language for internal use, although generally the L1, can and often does change based language proficiency and dominance. In the case of language use with siblings, recall Dunn's (2002: p. 224) observation that sibling relationships are characterised by their

"uninhibited" expression of emotion and their intimacy (Chapter 2, §2.5.2.2).[53] Both internal language use and language use with siblings is affective in nature. Given that previous research has found that the language which holds a privileged emotional status only changes to the L2/L*n* if a dominance shift to the L2/L*n* has ensued, all ref-group participants had to select "Afrikaans" as their internal language, and, additionally, all still had to speak exclusively Afrikaans with their siblings. This produced 10 ref-group participants. The ref-group participants' individual language exposure- and use-related patterns across the 15 variables under investigation are presented in Table 4.1 below (ref-group participants are identified as C1 – C10 in the table below).

Variable	REF-group participant									
	C1	**C2**	**C3**	**C4**	**C5**	**C6**	**C7**	**C8**	**C9**	**C10**
AoO-B	age 8	age 9	age 4	age 6	age 6	age 3	age 5	age 6	age 6	age 7
LoLT-N	A	B	A	-	A	A	A	A	A	-
LoLT-P	A	B	A	A	A	A	A	A	A	A
LoLT-S	A	A	A	A	A	A	B	A	A	B
AoO-D	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
LTRCU	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SA-EX	SA	SA	SA	SA	SA	SA	SA	SA	SA	SA
FREQ	D	D	D	D	D	D	D	D	D	D
PART	A	BmA	A	A	A	A	BmA	A	A	A
FRIENDS	BmA	B	B	B	A	A	B	BmA	A	A
SIBL	A	A	A	A	A	A	A	A	A	A
WORK	E	BmE	B	E	BmA	BmE	B	B	A	BmA
INT	A	A	A	A	A	A	A	A	A	A
WRIT	S	S	S	S	O	O	O	O	O	S
TV-RAD	S	N	S	O	O	S	S	O	O	O

Table 4. 1 The ref-group participants' language exposure and use distribution patterns

In sum, although the ref-group participants' language patterns are not identical across all 15 variables of interest, they:

(i)   are all based in South Africa,

(ii)   all maintain that they are still Afrikaans-dominant;

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[53] Recall also that language use with siblings was found to be predictive against L1 attrition in Schmid's (2002) study of the L1 attrition of German under the influence of English.

(iii)   all speak Afrikaans daily;

(iv)   all maintain that Afrikaans is the language of their thought/dreams; and

(v)   all still speak Afrikaans to their siblings.

Further, with respect to the childhood and adolescence variables probed, all 10 participants' have an AoO-B of three-years and above, i.e. they are not simultaneous bilinguals; their LoLT at nursery school, primary school and secondary school was either exclusively Afrikaans or they attended dual-medium schools (Chapter 1, §1.3.3). Additionally, all 10 ref-group participants speak either exclusively Afrikaans, or both languages but mainly Afrikaans, with theirs partners. Furthermore, all 10 ref-group participants maintain that they are "sometimes" or "often" exposed to written Afrikaans, and all but one participant ("C2") maintain that they are "sometimes" or "often" exposed to Afrikaans television or radio programmes.

As expected, given the pervasive influence of English for professional purposes, group homogeneity is near impossible for the variable WORK. With the exception of participant C-1 and C-4, who both use exclusively English at work, and participant C-9, who uses only Afrikaans in a professional context, the remaining 7 control-group participants all use both languages to varying degrees at work.

Finally, all 10 ref-group participants stipulated that they speak either exclusively Afrikaans; both languages in equal proportion; or both languages but mainly Afrikaans with their friends. Given the multilingual context, group homogeny in this respect is near-impossible. Taking all 166 participants' responses into account, only 11 (SA: $n = 7$; EX: $n = 4$) of those in South Africa ($n = 80$) and abroad ($n = 86$) maintain that they speak exclusively Afrikaans with their friends. In other words, the nature of Afrikaans-English bilinguals' language repertoires, given how pervasive the influence of English is (regardless of geographical location), is that it generally permeates their social contexts to such a degree that even the most Afrikaans-dominant speakers use English to some extent with their friends. Those who do not are the exception and not the rule.

It should therefore be noted that across the 15 extralinguistic variables of interest, there is, of course, some crossover between the ref-group participants' language repertoires and some of the other variable-specific groups, e.g. individuals who use Afrikaans in the contexts of interest. However, as noted at the outset of this section, this group serves purely as a reference point to gain some understanding of what the L1 judgements of bilinguals who have remained primarily Afrikaans-dominant may look like. The remaining 156 experimental participants are heterogenous in terms of their language exposure and usage practices. Accordingly, the

purpose of the ref-group is to help facilitate an understanding of which extralinguistic variables potentially matter the most in determining the EotSLotF. This is done by establishing whether bilinguals' grammatical judgements either remain comparable to the ref-group or diverge from it in ways that appear to be the result of differing language usage patterns based on the extralinguistic variables under investigation.

4.4.3   The experimental group

The participant distribution for each of the variables under investigation is presented below. It is acknowledged that, ideally, each sub-group of the 15 variables would be equally matched. However, given that the research cohort's language usage patterns exhibit a great deal of heterogeneity, such an ideal is not obtainable (see also Schmid, 2002 for naturally occurring extralinguistic groupings; and D'Alessandro et al., 2021 for discussion). As statistical power in a two-way ANOVA[54] is primarily calculated based on the smallest group (see Chapter 5, §5.5), it was decided that a lower-threshold group-size should be determined. Results from variables with individual groups smaller than the ref-group ($n = 10$) are therefore not reported on. These variables will be identified at the end of this section. The participant distribution for the variables probing *childhood and adolescent language exposure and use* are presented first in §4.4.3.1, followed by the participant distribution for the variables concerned with the *circumstances of a dominance shift to English* (§4.4.3.2), with the participants' distribution for the variables probing *adult language exposure and use* presented last in §4.4.3.3. Certain distribution patterns warrant specific attention, and thus brief discussion will be offered where necessary.

4.4.3.1 Participant distribution: Language exposure and use in childhood and adolescence

(i)   *Age of onset of bilingualism (AoO-B)*

AoO-B ($n = 156$)		
Groups	[aged ≤2 years]	[ages 3 – 5 years]	[aged ≥6 years]
n	37	50	69

Table 4. 2 Distribution for the variable AoO-B

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[54] Note that this is not the case in a post-hoc analysis, where statistical power is calculated based on the pair-wise comparisons in question (see the discussion in Chapter 5, §5.5, to follow).

(ii)   *Language(s) of teaching and learning at primary school (LoLT-N)*

Fifteen participants did not attend a nursery school, thus this category has 141 respondents.

LoLT-N (*n* = 141)			
Groups	[A]	[E]	[B]
n	104	12	25

Table 4. 3 Distribution for the variable LoLT-N

(iii)   *Language(s) of teaching and learning at primary school (LoLT-P)*

LoLT-P (*n* = 156)			
Groups	[A]	[E]	[B]
n	114	10	32

Table 4. 4 Distribution for the variable LoLT-P

(iv)   *Language(s) of teaching and learning at secondary school (LoLT-S)*

LoLT-S (*n* = 156)			
Groups	[A]	[E]	[B]
n	100	20	36

Table 4. 5 Distribution for the variable LoLT-S

The above LoLT distributions make apparent that most bilinguals in the present study attended schools where the LoLT was either exclusively Afrikaans, or both languages. Those who attended schools where the LoLT was exclusively English are certainly in the minority. From an input perspective, those whose LoLT was English at nursery, primary and/or secondary school would have arguably suffered the most from a reduction of input during these periods.

4.4.3.2 Participant distribution: Circumstances of a dominance shift to English

(i)   *Age of onset of English dominance (AoO-D)*

AoO-D (*n* = 156)				
Groups	[NS][55]	[aged ≤13 years]	[ages 14-17 years]	[aged ≥18 years]
n	33	13	10	100

Table 4. 6 Distribution for the variable AoO-D

Of the 156 bilinguals in the experimental group, 123 participants maintain they have made a dominance shift to English. Of these 123, only 23 made a dominance shift to English prior to

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[55] Recall that NS refers to "no shift" and not "native speaker".

the close of the sensitive period for morphosyntax. In the present population, it would thus appear that the majority of them only make an L2 dominance shift in adulthood, with the child and adolescent shifters certainly in the minority.

(ii) *Length of time since reduced L1 contact or use (LTRCU)*

LTRCU (*n* = 156)				
Groups	[<10 years]	[10-19 years]	[20-29 years]	[>=30 years]	[NS]
n	21	55	32	16	33

Table 4. 7 Distribution for the variable LTRCU

4.4.3.3 Participant distribution: Language exposure and use in adulthood

(i) *Linguistic environment (SA-EX)*

SA-EX (*n* = 156)		
Groups	[SA]	[EX]
n	70	86

Table 4. 8 Distribution for the variable SA-EX

(ii) *Frequency with which Afrikaans is spoken (FREQ)*

FREQ (*n* = 156)		
Groups	[D]	[W]	[R]
n	101	37	18

Table 4. 9 Distribution for the variable FREQ

The participant distribution for the variable FREQ indicates that although the majority of participants maintain they have made a dominance shift to English (*n* = 123), the majority of participants still speak Afrikaans daily. This is important as it strongly suggests that in multilingual contexts, the idea of "language dominance" or a "dominance shift" plays out in a very different way to emigrant contexts where the EotSLotF are typically studied.

(iii) *Interactive language use*

  a. *Language(s) spoken with partner (PART)*

At the time of testing, eight participants stated that they did not have partners. This category therefore has 148 respondents.

PART (*n* = 148)					
Groups	[A]	[B]	[BmA]	[BmE]	[E]
n	45	5	12	24	62

Table 4. 10 Distribution for the variable PART

The above distribution indicates that very few bilinguals (*n* = 5) speak both languages in equal proportion with their partners. This may suggest that the BmA and BmE groups are methodologically better suited to probe language use with one's partner. However, given the fact that the quantitative differences between using "both languages in fairly equal proportion" instead of "both but mainly Afrikaans/English" with one's partner are substantial, one should be wary to exclude the "B" category all together. The B group's small group size does, however, pose a power problem, and the variable is therefore excluded from the final presentation of results (to be discussed in more detail at the end of this section).

b. *Language(s) spoken with friends (FRIENDS)*

FRIENDS (*n* = 156)					
Groups	[A]	[B]	[BmA]	[BmE]	[E]
n	7	51	17	41	40

Table 4. 11 Distribution for the variable FRIENDS

Given the nature of the multilingual South African context, as well as the fact that 86 participants are in the diaspora, it is unsurprising that only seven participants speak exclusively Afrikaans with their friends.[56] Due to this small group size, this variable (as with the variable PART) is also not reported on in the results. It is, however, interesting to note that of the 86 participants no longer living in South Africa: 10 stipulate that they still speak either exclusively Afrikaans (*n* = 4) or both languages but mainly Afrikaans with their friends (*n* = 6), and 29 indicate that they speak both languages in fairly equal proportion with their friends. This is no doubt a very different picture to the one that would have emerged prior to the emergence of telephonic/on-line/social media-facilitated communication. This is an important consideration to keep in mind when considering the results for the variable SA-EX (Chapter 9, §9.3.1).

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[56] Note that of the 10 ref-group participants, only four speak exclusively Afrikaans with their friends.

c. *Language(s) currently spoken with siblings (SIBL)*

Three participants do not have siblings; thus, this category has 153 respondents.

SIBL (*n* = 153)			
Groups	[A]	[B]	[E]
n	109	31	13

Table 4. 12 Distribution for the variable SIBL

As presented in §4.4.3.2 above, the majority of the informants indicate that they have made a dominance shift to English (*n* =123). For language use with their partners, a large majority speak mostly English with their partners (*n* = 86), and additionally speak mainly English with their friends (*n* = 81). However, a mere 13 participants speak exclusively English with their siblings. This possibly suggests that this variable's predictive power may lie primarily in its ability to isolate those bilinguals who, in adulthood, truly do speak *very* little Afrikaans. In other words, it may be that only the most L2-dominant bilinguals no longer speak Afrikaans to their siblings. An analysis of their responses to the question probing the frequency with which they speak Afrikaans suggests that this may indeed be the case. Only two participants in the SIBL E-group indicate that they speak Afrikaans daily, while the others all speak Afrikaans either weekly (*n* = 4), or rarely (*n* = 7) (see also the discussion in Chapter 9, §9.5.3).

d. *Language use for professional purposes (WORK)*

WORK (*n* = 156)				
Groups	[A]	[B]	[BmA]	[BmE]	[E]
n	2	22	3	11	118

Table 4. 13 Distribution for the variable WORK

In line with what we would expect in a country where the national lingua franca is English, not to mention the 86 participants in the diaspora, very few informants in fact use Afrikaans for professional purposes. Only two participants use "exclusively Afrikaans" for professional purposes, three stipulate that they use "both languages, but mainly Afrikaans*"* in this context, and 11 that they use "both languages, but mainly English". As with the variables PART and FRIENDS, given these small group sizes, this variable is unfortunately also not presented in the results.

(iv)   *Internal language use (INT)*

Twelve participants selected the option indicating that they "do not know" which language they think/dream in, and thus this category has 144 respondents.

INT (*n* = 144)			
Groups	[A]	[B]	[E]
n	23	83	38

Table 4. 14 Distribution for the variable INT

(v)   *Receptive language use*

     a. *Exposure to written Afrikaans (WRIT)*

WRIT (n = 156)			
Groups	[O]	[S]	[N]
n	37	70	49

Table 4. 15 Distribution for the variable WRIT

     b. *Exposure to Afrikaans TV or RADIO (TV-RAD)*

TV-RAD (n = 156)			
Groups	[O]	[S]	[N]
n	27	60	69

Table 4. 16 Distribution for the variable TV-RAD

As already noted at the outset of this section, results from variables with individual groups smaller than the ref-group (*n* = 10) are not reported on. Accordingly, three variables are excluded based on their participant distributions. The variables probing *language use for professional purposes* (WORK), *language use with partner* (PART), and *language use with friends* (FRIENDS) had to be excluded on this basis. Two participants selected "only Afrikaans" for the variable WORK (see the discussion in Chapter 2, §2.5.2.2, for why this variable is difficult to probe in the South African context); five participants selected "both language in equal amounts" for language use with their partner; and seven participants selected "only Afrikaans" for language use with friends. The statistical power for each of these variables is simply too low for further analysis with parametric tests. Furthermore, even if analysed descriptively, what one can deduce based on such small groups is not particularly robust.

The remaining 12 variables are taken forward in the present investigation and were all subject to the same statistical procedures (see Chapter 5).

4.5   Study design

This section presents an overview of the methodological considerations that were taken into account in the design of the present study. Section 4.5.1 briefly explains the context in which the data was collected. Section 4.5.2 considers methodological issues concerned with the spoken varieties of a language. The choice to present the task instructions in English is briefly discussed in §4.5.3, along with a general discussion of the methodological implications of doing so. Methodological considerations in acceptability judgement tasks are discussed in §4.5.4. Finally, the details of the data collection instruments are presented in §4.5.5.

4.5.1   Background of the study

As noted in §4.3.1, this study is the first attempt at establishing which, if any, extralinguistic variables across the lifespan of an Afrikaans-English bilingual are predictive in determining variation in the L1 grammar of the five properties of interest. The data collected for this study was gathered using an on-line platform set up by a web developer under instruction from the researcher (see §4.5.5 below for the details related to the development of the tasks and the initial data processing). The initial study design set out to probe informants' off-line judgements *and* their on-line intuitions in response to structures in their L1. However, once the data collection process was concluded and the statistical analyses had been conducted, it became apparent that there was too much data to report on, and that an analysis and discussion of the WMT data would be beyond what could feasibly be included in this exploratory study. Thus, although three tasks were completed by the participants, only the data from those presented in (ii) and (iii) below were used for the purpose of the present investigation. The WMT will therefore only be referred to where it sheds further light on the results reported on.

After completion of the LBQ, participants completed the tasks in the following order:

(i)   an auditory word monitoring task (WMT), measuring participants' response times (RTs) in response to the linguistic input;

(ii)   an auditory acceptability judgement task (AJT), and

(iii)   a contextualised acceptability judgement task (CAJT).

The tasks that inform the present inquiry – concerned with the informants' *acceptability judgements* of structures in their L1 – will be returned to and described in detail in §4.5.5 at

the end of this chapter. For the purpose of the present discussion, however, I wish to touch on an interesting pattern that emerged in the WMT data. This is considered in §4.5.2 below.

4.5.2 Methodological considerations in spoken varieties

The WMT probed the informants' on-line intuitions with respect to : verb placement, sentential negation and pronominal scrambling. With regard to the distinction between on-line and off-line tasks (e.g. AJTs), it should, however, be noted that there is in fact no consensus in terms of exactly which aspects of linguistic knowledge the respective tasks probe. Off-line tasks allow participants to make conscious and controlled decisions using their metalinguistic abilities, while on-line tasks are, as Marinis (2010: p.140) points out, "relatively immune to metalinguistic abilities because they measure the participants' unconscious and automatic response to language stimuli". The distinction, therefore, might at first glance seem straightforward enough: on-line tasks test participants' real-time processing when confronted with the various (un)grammatical structures, and off-line tasks test their metalinguistic awareness.

The unresolved issue, however, pertains to the question of whether these tasks can in fact probe either "competence" or "performance" or both. Chomsky's (1965) distinction between competence and performance is that competence is the speaker-hearer's unconscious *knowledge* of their language or languages' underlying grammatical representations, while performance pertains to the *way* in which they use their language(s). While a discussion of the validity of Chomsky's competence-performance distinction is beyond the scope of the present study, it is important to acknowledge that researchers *do* attempt to probe these two notions based on speakers' utterances, responses and judgements in experimental tasks (see Sharwood Smith, 2007 for discussion).

Altenberg & Vago (2004: p.106) point out that at present there is general agreement that tasks which require linguistic judgements do not directly tap into a speaker's competence alone.[57] However, early research making use of judgement tasks (see i.a. Arthur, 1980; Kellerman, 1986) did in fact assume that such tasks provided a "direct window" into speakers' competence. Altenberg & Vago (2004) argue that:

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[57] See §4.5.4 below for a discussion of the difference between "grammaticality" and "acceptability" judgement tasks.

There are, in fact, good reasons to assume that judgments involve performance. After all, in order to assess a sentence, one presumably has to first process it, or attempt to process it; thus, at least some of the performance factors involved in normal sentence processing ought to play a role in grammaticality judgement tasks.

(p.107)

On the other side of the argument, there are those that maintain that on-line tasks more accurately reflect speaker competence as the automaticity required for on-line tasks is what taps into speakers' underlying grammatical representations (Tsimpli, 2007). Although probing linguistic competence directly is impossible, on-line tasks are thought to measure linguistic behaviour "suggestive of implicit linguistic competence" (Montrul, 2008, p.69). However, echoing the sentiments of Altenberg & Vago (2004), Schmid & Köpke (2017b) aptly observe that:

[O]n-line and off-line tasks do not map neatly onto performance vs. competence, respectively. On the one hand, no single task is completely off-line, allowing to capture competence without interference from performance, and on the other, on-line experiments are often based on artificial materials and a high number of tokens of the same structure. They may thus not be representative of natural processing, and elicit higher levels of metalinguistic awareness as the task progresses and the target structure becomes evident.

(p.765)

It is therefore more appropriate that, instead of assuming a dichotomous split between tasks that probe competence versus those that probe performance, we acknowledge the overlap. In other words, on-line tasks can better assess participants' real-time working memory and processing constraints, as well as their implicit knowledge. It does not, however, mean that participants are not making use of their metalinguistic awareness when completing on-line tasks, but simply that their responses rely less on prescriptive and explicit knowledge. Similarly, off-line tasks afford participants the opportunity to *consider* their judgements in a way they cannot do in on-line tasks. They are therefore an appropriate tool to assess what participants *can* do with their L1 knowledge, although not necessarily one that represents what participants *actually do* most of the time. It should, however, be noted that off-line tasks are by no means devoid of processing issues, which can interfere with informants' ability to assess the sentences'

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(un)acceptability (see i.a. Dussias, 2002; de-Dios-Flores, 2019; Leivada & Westergaard, 2020 and the discussion in §4.5.4 below).

The WMT, similar in design to a task employed by Andringa (2014) to investigate "native-speaker norms" in Dutch, tested participants' comparative response times when presented with sentences that were either syntactically (un)grammatical or representative of MsA. In a WMT, participants are presented with a word at the beginning of each trial (either aurally or visually in the form of text or a picture) which they are required to listen out for in the subsequent sentence or set of sentences. In WMTs, the word itself is not the cause of the ungrammaticality, but, rather, it is situated in relation to whatever aspect of the property is being tested. More specifically, the target word of each experimental token is positioned directly after the ungrammaticality, or directly after the syntactically grammatical position for the given property, whichever holds for a given test sentence. As soon as participants hear the given word, they press a key on their keyboard. Each word's onset time is programmed according to the point at which it occurs in the sentence (in milliseconds) and the participants' RT from that specific word-onset time to the time they react is recorded (see Marinis, 2010 for further discussion of WMTs).

The rationale, as Marinis (2010: p.141) explains, is that "we unconsciously slow down whenever we are faced with an ungrammaticality/anomaly." Thus, slower RTs after ungrammaticalities, as opposed to grammatical structure, are expected. Furthermore, according to Marinis (2010: p.141) "[t]he word-monitoring task can be used to test any type of ungrammaticality or anomaly that becomes obvious immediately prior to the word that is being monitored". The crucial point, however, is that a WMT probes *ungrammaticality*, or an *anomalous* occurrence in the structure.

Turning now to the present study, it is important to note that the properties probed in the WMT were the same as those probed in the AJT, some of which concern MsA. Recall that, instead of a binary grammaticality distinction, three conditions were probed: *standard* structures (grammatical in both StdA and MsA); *MsA* structures (not prescriptively sanctioned in StdA, but acceptable in MsA); and *ungrammatical* structures (unacceptable in both StdA and MsA). What this means for the WMT is that, although many of the structures probe syntactic strings that are not *prescriptively* correct, they do occur in the spoken Afrikaans of L1 speakers. In other words, they are not in fact *anomalous* in spoken Afrikaans.

The results indicated that, in fact, many of the *MsA* structures yielded faster RTs then their standard counterparts. This may suggest that certain structures representative of more colloquial language use – possibly those which occur relatively frequently in MsA – are

potentially processed faster than the equivalent standard structures (although cf. Hubers, Redl, de Vos, Reinarz & de Hoop, 2020). This is perhaps not surprising given how naturally such structures occur in the spoken mode, the modality the task was presented in. In other words, the salience of some structures typical of colloquial language may account for these faster RTs. From what can be established on the basis of these preliminary results, it seems that the more nuanced areas of grammatical (un)acceptability of spoken language are not suited to such a task. This is a matter that will be probed in future research.

Importantly, while Afrikaans-English bilinguals' on-line judgements of the three properties of interest is certainly worth pursuing in the future, it appears that very careful consideration will need to be paid to *how* these more nuanced areas of grammatical (un)acceptability of spoken language are in fact probed.

4.5.3 Language of task instructions

During the participant recruitment process, the initial correspondence with prospective participants indicated that all prospective participants were fully literate in English, but not necessarily in Afrikaans (or at least, they were more comfortable communicating via email in English than they were in Afrikaans). Given the nature of the study, this is perhaps unsurprising. As a consequence, the LBQ and all task instructions were presented in English.

As this methodological choice raises the issue of a participant's "language mode" (Grosjean, 1982; see Chapter 2, §2.5.2.2), the implications thereof need to be considered. Recall that the term *language mode* refers to the notion of a monolingual-bilingual situational continuum. Grosjean (2001: p3) defines a language mode as "the state of activation of the bilingual's languages and language processing mechanisms at a given point in time". The point at which a bilingual is situated along this continuum is determined by numerous contextual factors, resulting in varying degrees of activation of the specific language mode (Grosjean, 2001). Recall again that a bilingual can either be in a monolingual mode (almost no activation of one of the languages), intermediate mode (partial activation of the other language(s)), or bilingual mode (total activation of both languages), depending on their interlocutors, the context of communication, or even the linguistic landscape (Grosjean, 1998, 2001). Note that, according to Grosjean (2001), even in the monolingual mode, total deactivation of the other language is impossible. Grosjean (1998: p.140) notes that researchers can attempt to place a bilingual in a monolingual mode, by putting participants in what he refers to as a "language set". This is done by giving them instructions in one language and having them complete all

the tasks in that language. The idea is that, by doing so, that particular language is activated as the base language. It is noted, however, that even when this is done, there is no guarantee as to where along the situational continuum they will in fact be positioned (Grosjean, 1998).

Additionally, as participants are all aware that the study concerns bilingualism, they are very unlikely to be in a totally monolingual mode in any case (see Grosjean,1998: p.140 for a discussion). In an attempt to minimise additional "noise" from English while participants were actively completing the tasks in Afrikaans, no English stimuli (i.e. miscellaneous instructions) were presented on the screen while the actual tasks were underway.

4.5.4 A note on (un)acceptability and (un)grammaticality in judgement tasks

Studies concerned with EotSLotF often triangulate tasks in order to overcome the methodological pitfalls that different tasks face (see Keijzer, 2007 for discussion). It is acknowledged that in attempting to get an *overall* picture of how EotSLotF affect the L1 grammar, such an approach is certainly preferable. However, the present study's inquiry is quite tightly focussed. It is the first study to explore, on the one hand, the distinctions Afrikaans-English bilinguals make with respect to (i) prescriptively sanctioned structures/interpretations, (ii) ungrammatical constructions, and (iii) structures/interpretations permissible only in MsA, and, on the other, whether these judgements and distinctions are subject to EotSLotF. It was thus decided that this exploratory study would focus solely on *judgement* tasks. It is, however, acknowledged that the insights these results provide are therefore necessarily limited in their scope.

Linguistic judgement tasks, although not without controversy (see Phillips, 2009; Dąbrowska, 2010; Gibson & Fedorenko, 2010; Sprouse & Almeida, 2013), have long been used as an important source of evidence in linguistics. As Leivada & Westergaard (2020) observe, linguistic judgements about the well-formedness of linguistic stimuli have essentially formed the empirical base of the field (see Wexler et al., 1975; Carr, 1990; Schütze, 1996/2016; Baggio et al., 2012). Judgement tasks have, however, been argued to represent unnatural language use. The reason is that such tasks require speakers to engage with linguistic stimuli in a way that does not represent natural and contextualised spontaneous speech production. In spite of this, Leivada & Westergaard (2020: p.1) note that "…no controversy exists over the fact that judgments about what forms part of a person's linguistic repertoire constitute a rich source of information in theoretical and experimental linguistics".

Judgement tasks are, however, not all the same. It is therefore important to distinguish between *acceptability* judgement tasks (AJTs), on the one hand, and *grammaticality* judgement tasks (GJTs), on the other. The distinction is particularly important for the present study's inquiry, as, although the tasks are referred to as "acceptability judgement tasks", as §4.5.5 will make apparent, the descriptions that accompany the Likert scale ratings were designed to attempt to probe both acceptability *and* grammaticality in one task. Most judgement tasks attempt to probe either one or the other. Thus, although this is a novel approach, it is a necessary one in attempting to tease apart the three-way *standard*/*ungrammatical*/*MsA* distinctions at stake.

To understand the difference between AJTs and GJTs, it is first important to note that not all linguists distinguish between the two (for example, see Schütze, 1996/2016 where the terms are used interchangeably). The distinction is, however, important as Leivada & Westergaard (2020) note: "there are *n* ways of unacceptability, but only two ways of ungrammaticality". In other words, while acceptability judgements form a continuous spectrum (Sprouse, 2007), grammaticality judgements are categorical. The reason for this is that the term *grammaticality* refers to whether a given structure conforms to the prescriptive rules that underlie the syntactic rules of a language's standard variety (at a given point in time). *Acceptability*, by contrast, refers rather to the speaker's *perceptions* of the linguistic stimulus, regardless of the constructions' "grammaticality". Therefore, in terms of the prescriptive rules that underlie a language, a grammatical rule can either be violated or not violated; it cannot be "violated a little bit" (Leivada & Westergaard, 2020: p.7).

An additional consideration in acceptability is that not all "grammatical" sentences are deemed equally acceptable. Firstly, the role played by the frequency with which structures occur in spontaneous production need to be taken into account. Gerasimova & Lyutikova (2020) find that more frequently occurring structures are rated more acceptable.

Secondly, Leivada & Westergaard (2020), note that sentences differ with respect to processing complexity, which may have important consequences for acceptability judgements. Sentences that are linguistically complex or marked may result in a higher degree of processing complexity than unmarked sentences that are less complex. More linguistically complex structures may therefore be rated less acceptable than structures that are less complex or unmarked. Recall that this is borne out in de-Dios-Flores' (2019) study where single negation, multiple negation and DN structures are assessed by L1 English-speakers. Although all three structures are grammatical, multiple negation structures are more complex than single negation structures, and DN structures are more complex than multiple negation structures. The results

reveal that the single negation structures (i.e. the least complex) are rated the most acceptable, while the DN structures (i.e. the most complex) receive the most degraded ratings (Chapter 3, §3.4.6).

Apart from the fact that structures are processed differently according to their linguistic complexity, ungrammatical structures have been found to be processed differently to grammatical ones. Studies involving the recording of event-related brain potentials (ERPs) during sentence processing have revealed a positive electrical response at around 600ms after the onset of the ungrammaticality in ungrammatical structures, with no such response being detected for the grammatical structures (Hagoort, Brown & Groothusen, 1993; Osterhout & Nicol, 1999; Hagoort, Wassernaar & Brown, 2003). This has been referred to as the "P600 effect". This positive electrical response indicates that ungrammatical sentences are harder to process than their grammatical counterparts. The reason for this, as explained by Frazier (2013: p.24), is that "[s]yntactic analysis proceeds systematically, by incorporating each new word into a connected phrase marker, favoring grammatical analyses over ungrammatical ones". These facts may, in part, account for the processing-related considerations that potentially underlie HSs' *yes*-bias when assessing the status of ungrammatical structures in their L1 (see Chapter 2, §.2.2.6.3).

Lastly, of particular importance to the present inquiry is a study conducted by Hubers, Redl, de Vos, Reinarz & de Hoop (2020). Hubers et al. (2020) investigate a construction which, although prescriptively ungrammatical in Russian, occurs rather frequently in spontaneous production. This is therefore comparable to the MsA structures under consideration in the present study. The results of an eye-tracking experiment reveal that the grammatical norm violation is processed differently to both the grammatical and ungrammatical structures included in the experiment. Specifically, the eye-tracking experiment revealed that the grammatical norm violation resulted in higher reading times than the grammatical structure, but that the ungrammatical structure resulted in the highest reading time of the three structures. The result was not replicated in the off-line task (a sentence-matching task), but it does leave open the question whether such differences, as probed in the present study with respect to what is permissible in MsA, are detectable in acceptability judgements tasks. It is, however, worth noting that the WMT data discussed in §4.5.2 above suggests that, for Afrikaans, the inverse pattern might hold. That is, the MsA structures may be processed faster than their StdA counterparts. Importantly, it should be noted that there is a reading and listening difference at play between Hubers et al.'s (2020) study and the WMT data under discussion – a particularly important consideration when studying spoken-language structures. Although it would have to

be systematically investigated in the future, what the WMT data in conjunction with Hubers et al.'s (2020) findings indicate, is that we may well expect different patterns to emerge for the three structural classes under investigation. What these differences are, however, remains to be seen and may well be language-, property- and even structure-specific.

As the above discussion has illustrated, there are multiple factors that need to be taken into consideration when assessing participants' acceptability judgements. Furthermore, acceptability judgements and grammaticality judgments are qualitatively different. Therefore, the two notions need to be disentangled and applied appropriately. In the present study, which, recall, aims to probe both notions, a specific 5-point Likert scale was developed in an attempt to gain insight into these different intuitions. As will be presented in detail in §4.5.5.1 below, the bottom and top of the Likert scale specifically probe "(un)grammaticality" (rating points "1" and "5"). The associated descriptions are such that participants are explicitly asked to assess whether the structure is "completely grammatical" ("5") or "completely ungrammatical" ("1").[58] The middle rating points ("2" to "4") probe the structures' acceptability in Afrikaans in production. For example, consider the associated wording in (4.5) below (presented again in (4.6) of §4.5.5.1 to follow):

(4.5)   Rating point "2" = *This sounds strange, and it is very unlikely that an Afrikaans speaker would say this;*

Rating point "3"= *This is not standard Afrikaans, but an Afrikaans speaker could say this in certain contexts*;

Rating point "4" = *This may not be standard Afrikaans, but an Afrikaans speaker could say this*.

This task presents participants with a finite number of possibilities and is therefore not in line with the perception that there is a continuum of acceptability that is "infinitely divisible" (Leivada & Westergaard, 2020; see Bard, Robertson & Sorace, 2016 for the original proposal to use magnitude estimation in evaluating linguistic acceptability). However, its design endeavours to provide a window into the distinction between what is (un)grammatical in Afrikaans on the one hand, and although not prescriptively sanctioned, permissible in MsA on the other.

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[58] See §4.5.5.1 for a discussion of the choice to use the theoretically inaccurate quantifier "completely" before either "grammatical" or "ungrammatical".

4.5.5   Instruments

This final sub-section describes the tasks used to gather data for the present investigation. The data collection instruments were initially piloted on 10 L1 Afrikaans L2 English bilinguals. This pilot stage was implemented in the hope that any glitches in the on-line data collection process could be ironed out, for example: audio issues, ambiguous questions in the LBQ, and potentially any methodological issues with the task tokens themselves. The various changes made during the pilot stage are described where relevant below. Note, however, that a few methodological issues related to task tokens nevertheless remained, and thus certain structures were excluded from the final data analysis (identified below where applicable).

The AJT tested participants' knowledge of verb placement, sentential negation and pronominal scrambling. The CAJT, a two-part task, was, in turn, specifically designed to test participants' knowledge of scrambling of old and new information objects (part one), as well as of the DN/NC distinction in Afrikaans (part two). The AJT afforded participants the opportunity to repeat the audio as many times as required, ensuring they heard the sentence properly before responding to it. In order to meet these two task requirements, the AJT was created from scratch by the web developer without the use of external frameworks, while the CAJT was created using jsPsych, a JavaScript library for the development of web-based experiments (see e.g. de Leeuw, 2015). Note that the data captured in these tasks was transmitted in a JavaScript Object Notation file and then converted into a CSV (comma-separated values) file to be compatible with Microsoft Excel. The individual task tokens (and corresponding respondents' judgements) were then assigned their appropriate "grammaticality label" (e.g. *standard, MsA, ungrammatical*), which could be entered into the statistical model by the statistician.

In order to familiarise participants with the tasks, warm-up trials were used for both the AJT and CAJT. This is a standard psychological practice used to ensure participants are comfortable with task procedures, and also to allow participants to arrive at an appropriate response strategy when rating the sentences' grammaticality/acceptabilty (Schütze, 2016: p.132/187). The sentences used for these three tasks were spoken at a normal pace by two L1 speakers of Afrikaans with neutral accents, one male and one female. Certain sentences or contextual scenarios required either a male or female voice to sound "convincing" and as natural as possible; hence the decision to include both a female and male voice.

Note that for each task the above-mentioned property-specific tokens were randomised. Thus, each of the properties (and their structures) acted as distractors for the other properties. Additionally, each participant's task randomised differently, ensuring no two participants reacted to or judged a given structure in the same order. This was done to ensure that participants' responses, specifically in response to the final tokens, were not consistently negatively affected as a result of fatigue effects. Refer to Appendices F-H for screen shots of the individual tasks.

4.5.5.1 Acceptability judgement task

As noted above, the AJT required participants to rate, on a Likert scale from "1" to "5", various sentences' (un)grammaticality or acceptability, and the likelihood with which such sentences might feature in the speech of L1 Afrikaans speakers. The AJT began with task instructions, an indication of what the ratings look like and four warm-up trials. Schütze (2016: p.78) stresses the importance of warm-up trials for rated AJTs as participants can only make accurate use of the rating scale if they know what kind of sentences to anticipate. For the reasons discussed in §4.5.4 above, a 1-5 rating scale, as opposed to a binary grammatical/ungrammatical distinction, was chosen to detect the nuances of acceptability in spoken speech.

With regard to how many distinctions are adequate for AJT rating scales, Schütze (2016, p.78) notes that "if you have too few levels, people collapse true distinctions arbitrarily, whereas if you have too many, people create spurious distinctions arbitrarily". In determining "how many is enough" versus "how many is too many", the literature is conflicting.

The AJT initially employed a 7-point scale. However, based on the pilot participants' feedback, it was generally found that the first two points above and below the upper- and lower-level boundary (i.e. "2" and "3"; "5" and "6") were indistinct and created the arbitrary and "spurious distinctions" accurate AJT data aims to avoid. As such, the rating scale was reduced to five points, with specific point-for-point descriptions for each rating. The final rating scale is given in full in (4.6) below:

(4.6)

    1 – *This sounds completely ungrammatical, and no Afrikaans speaker would say this.*

    2 – *This sounds strange, and it is very unlikely that an Afrikaans speaker would say this.*

    3 – *This is not standard Afrikaans, but an Afrikaans speaker could say this in certain contexts.*

    4 – *This may not be standard Afrikaans, but an Afrikaans speaker could say this.*

    5 – *This sounds completely grammatical, and an Afrikaans speaker could definitely say this.*

Including a rating scale with point-for-point descriptions guaranteed that participants' judgements would be more comparable. In other words, the associated descriptions ensure that when assessing the difference between a judgement of "4" and a judgement of "5", the crucial distinction is that "4", but not "5", indicates that the participant recognises that the structure is not prescriptively sanctioned (i.e. it is ungrammatical), but is still acceptable and commonly occurring in Afrikaans. Here I wish to address the fact that the theoretically inaccurate quantifier "completely" precedes "(un)grammatical". As discussed in §4.5.4, a grammatical rule is either violated or it is not violated; the (non-)violation is not a matter of degree. However, with respect to the term "(un)grammatical", this is something that *linguists* understand to be the case, and not necessarily those who do not have a formal training in linguistics. In personal discussion with informants, (un)grammatical structures were often described as follows: "*That's completely/absolutely fine*"; "*That's perfectly acceptable*"; "*No, that's definitely wrong/ungrammatical*". In other words, when a structure was (un)grammatical, informants generally seemed to quantify "its grammaticality". Although it would be misplaced to describe a structure as "completely (un)grammatical" in a linguistics textbook, this was done here to align with what appeared to be quite a natural occurrence for the informants when ascribing a judgement on linguistic stimuli. As such, the ungrammatical structures are referred to as such in the discussion of the results.

The AJT consisted of 60 tokens in total: 22 testing verb placement, 26 testing sentential negation and 12 testing pronominal scrambling. To account for the number discrepancy between the property-specific tokens, note that while the different pronominal scrambling classes tested the exact same structures (all adverb-containing structures), the verb placement and sentential negation classes included different structures. For example, the verb placement classes probed (standard/MsA/ungrammatical) included different nonthematic verb-containing structures, as well as both subject-initial and fronted locative structures. The sentential negation structures included MCs, ECs, negative imperatives, and structures whereby *nie*[1] had been emphasised. In the present investigation, the structure-by-structure results are, with exception

of the MsA verb-placement structures (see Chapter 6, §6.7.4), not reported on. The reason for the task design was based on the study's exploratory nature; whereby it was hoped that inclusion of an array of structures might facilitate further fine-grained structure-specific investigations in the future.

After the warm-up trials, participants were shown the detailed rating scale again before moving on to the first of the 60 sentences. The AJT was an exclusively auditory task. Note that in an attempt to reduce interference from English, only the numerical rating scale (i.e. no corresponding text) was shown on the screen as participants made their judgements. It is, however, acknowledged that this might undermine the clarity of what each numerical rating point stands for. In spite of this, as interference from English was deemed a greater concern, this task design was opted for. The keys "1" to "5" on participants' keyboards were used as input for their ratings. Due to the auditory nature of the task (i.e. to ensure participants did not mishear a sentence), a repeat button was situated below the rating scale to afford participants the opportunity to repeat the audio as required.

It has been argued that the repetition of tokens is not entirely without methodological issue. Schütze (2016: 133) cites Nagata (1989) in postulating two possibilities when tokens are repeated. The first is that repetition results in habituation, whereby repeated exposure results in a desensitisation to the sentence's ungrammaticality (see also i.a. Snyder, 2000; Zervakis & Mazuka, 2012); the second is that judgements may become more stringent as participants zoom in on more aspects of the sentence that could be worrisome. A third possibility, (discussed via personal communication between Schütze and Graeme Hirst) is that (un)grammatical judgements become more polarized with repetition (Schütze, 2016: p.133). In Schütze's (2016) review of Nagata's extensive work on the issue, it was found that "good" sentences were consistently given better ratings than "bad" ones in spite of the fact that repetition did result in lower ratings overall. A crucial finding of Nagata's (1989) study, which looked at how repetition affected different sentence types, was that more blatant violations (incorrect lexical category, subcategorization violation, or selectional restriction violations) were unaffected by repetition, whereas subtle violations were affected (say those at the syntax-discourse interface, for example). Brown, Fanselow, Hall & Kliegl (2021), however, find that repeated exposure does not necessarily target specific grammatical constructions, but rather that mid-level ratings specifically rise with repeated exposure. In other words, when participants assign mid-level ratings to structures, upon repeated exposure, the structures are perceived more favourably, and their ratings rise. While the above issues are important to take into consideration, particularly because multiple properties are being tested, it was still deemed beneficial to ensure

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participants in fact heard a sentence and made a considered judgement about it, as opposed to randomly inserting a judgement to move on to the next screen. Furthermore, Sprouse (2018: p203) notes that "[t]he current state of evidence suggests that, to the extent that repetition effects exist, they are relatively small, and may be influenced by factors that are not relevant to grammatical theories". As such, repetition was regarded as the best strategy for the present study.

As soon as participants had rated the sentence, using the keys "1" to "5", the next trial began automatically. The only exception to this was the first token of the 60 sentences (after the warm-up trial) as it was found during the pilot period that pilot participants "forgot" to pay attention to the audio when it started automatically, thus resulting in a higher number of replay repetitions. Thus, the first token of the data set required participants to activate the audio themselves, an adjustment that ensured they were focussed on the task.

Examples of the conditions tested for verb placement (§4.5.51.1), sentential negation (§4.5.5.1.2) and pronominal scrambling (§4.5.5.1.3) in the AJT are presented in the sub-sections that follow. Refer to Appendices I & J for the full inventory included in the present data analysis.

4.5.5.1.1 AJT verb placement conditions

The AJT verb placement structures are assigned one of the following labels: *standard, MsA* or *ungrammatical.* Recall that 22 structures probing verb placement were included in the AJT. Three structural pairs were however, subsequently removed as the structures were either not well matched or introduced an additional complexity which might interfere with participants' judgements. In total, eight structures were used to probe the informants' judgements of ungrammatical versus prescriptively sanctioned verb placement in Afrikaans: four *ungrammatical* (V3/S.aux.V.O) and four *standard* (V2/S.aux.O.V) structures; and eight structures probed verb placement in *MsA*: three "verb early" *MsA* structures (with either a modal, auxiliary or copula in V2 position in an EC *with* an overt complementiser), an embedded *wh*-V2 structure, and their four respective *standard* counterparts. The verb placement component of the AJT therefore includes eight *standard* structures and eight structures which are either *ungrammatical* ($n = 4$), or *MsA* structures ($n = 4$). An example of each condition pair is provided in (4.7) below. Note that the verb in question (i.e. the one that is either in the correct V2/SOV position in the standard structure, or the one that has been repositioned in the *ungrammatical* or *MsA* structure) is underlined.

(4.7)   *Ungrammatical* verb placement

(i)   *In Kaapstad   reën dit met   tussenposes.*
         in Cape.Town rain it   with   intervals
         "In Cape Town it rains intermittently."   [Standard]

(ii)   **In Durban dit reën voortdurend.*
         in Durban it rain continuously   [Ungrammatical]

(4.8)   Verb placement in *MsA*

(i)   *… dat hulle dit moet doen!*
         … that they it must do
         "…that they must do it!"   [Standard]

(ii)   *… dat hulle moet   dit doen; ek het   gesê   hulle hoef nie.*
         … that they must it   do;   I   have said.PART they   need not
         "… that they must do it; I said they don't need to."   [MsA]

4.5.5.1.2   AJT negation conditions

For the sentential component of the AJT, omission of clause-final *nie2* was probed. AS such, the following labels apply: *standard* and *nie-drop.* Recall that in the case of sentential negation, *standard* refers to a structure that is both grammatical and prescriptively correct, whereby *nie2* is positioned sentence-finally. The label *nie-drop* straightforwardly refers to the structures whereby *nie2* has been omitted sentence-finally. Recall that, although not prescriptively correct, such "*nie*-less" structures do commonly occur in MsA (Chapter 3, §3.4.3)

Leaving the conditions aside that did not form part of the present inquiry, eighteen structures form the basis of the sentential negation component of the AJT. Nine are *standard* structures and nine are *nie-drop* structures. See the examples provided below in (4.9) below. Note that *nie*-drop is indicated with the strikethrough (~~nie~~) font.

(4.9) *nie*-drop in sentential negation

(i) *Sy   het   gesê   dat sy nie teleurgesteld is nie.*
she have   said.PART that   she not disappointed is POL
"She said that she's not disappointed."   [Standard]

(ii) *Hy het   gesê   dat hy nie   siek is ~~nie~~.*
he have said.PART that he not sick is
"He said he's not sick."   [*nie*-drop]

4.5.5.1.3   AJT scrambling conditions

For the AJT scrambling structures, the structures are straightforwardly labelled as either *scrambled* (O-ADV-V) or *unscrambled* (ADV-O-V). Where the results reported on pertain to bare pronoun scrambling (BP scrambling) or object marked pronoun scrambling (OM scrambling) is made explicit when reported. The BP and OM pronominal scrambling structures include six structures each: three scrambled and three unscrambled for BP and OM scrambling respectively.

Examples of the BP and OM scrambling structures are provided in (4.10) and (4.11) below. The bare or OM pronoun is underlined.

(4.10) BP scrambling

(i) *Jan het <u>hom</u> gister   gehelp.*
Jan have him yesterday helped.PART
"Jan helped him yesterday."

[Scrambled: $_{BP}$O-ADV-V]

(ii) **Hulle het   gereeld   <u>haar</u> gesien.*
they   have regularly.PART her   saw.PART
≠ "They saw her regularly."   [Unscrambled: ADV-$_{BP}$O-V]

(4.11) OM scrambling

(i)   *Sy   weet   dat sy   vir hom altyd   sal ondersteun.*
she knows that she for him always will support
"She know she will always support him."

[Scrambled: _{OM}O-ADV-V]

(ii)   *Sy onthou   dat sy altyd   vir hom gehelp   het.*
she remember that she always for him helped.PART have
"She remembers that she always helped him."

[Unscrambled "MsA innovation": ADV-_{OM}O-V]

4.5.5.2 Contextualised acceptability judgement task

The CAJT, based on a task used by Grabitzky (2014) to test topicalisation in German (see Chapter 2, §2.4.2.3), consisted of two parts. The CAJT is concerned with (i) discourse-driven scrambling and (ii) the distinction between double negation (DN) versus negative concord (NC) structures. Part I tested participants' knowledge of (non-obligatory) discourse-determined scrambling insofar as an either "old" or "new" information structure would be appropriate within the context provided (see Chapter 3, §3.5.2.3, for this old/new information distinction). Part II probed participants' judgements pertaining to the use of two negative indefinites within one structure, resulting in a (contextually determined) DN or NC reading (see Chapter 3, §3.4.4.2, for this specific distinction).

Both Part I and Part II of the task began with task instructions and two warm-up trials. For the first part of the task, which consisted of 10 trials, participants were provided with contextual scenarios (the written text was presented on the screen) as in (4.12) and (4.13). As the properties tested in the CAJT are syntactic properties that interface with the discourse domain, it was crucial to provide participants with contextual information which they could base their judgements on. Participants were then required to listen to the two accompanying audio options (represented by the text positioned next to the numbers "1" or "0" below) and select which they felt an Afrikaans speaker was more likely to utter in the context of the scenario. Note that the scrambled/unscrambled structures were presented in an exclusively audio format.

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The instructions read as follows:

You will be presented with 10 scenarios and two corresponding audio replies for each scenario.

Please select which sentence you think an Afrikaans speaker would be more likely to say **in the context of the scenario** you read.

Please ensure that you click on the **audio bar** below the number 1 and 0 to listen to the audio.

(4.12) Anaphoric/old-information context: eliciting scrambled order

Matthew en   Jan, besigheid mede-eienaars, bespreek 'n onlangse klagte   deur   een van
Matthew and Jan, business   co-owners,   discuss   a   recent   complaint through one of
hulle kliënte.
their clients

 "Matthew and Jan, business co-owners, discuss a recent complaint that was laid by one of their clients."

Matthew vra: *Hoekom het   jy   haar nie gehelp   nie?*
Matthew asks: Why   have you her   not helped.PART POL
                       "Why didn't you help her?"

Jan antwoord:
Jan answers:

1   *Ek het   nie die kliënt gehelp   nie,   want   sy was   onbeskof.*
        I   have not the client helped.PART POL   because she was rude   (unscrambled)

0   *Ek het die kliënt nie gehelp   nie,   want   sy was onbeskof.*
        I   have the client not helped.PART POL because she was rude   (scrambled)
        "I didn't help the client, because she was rude."

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(4.13) Non-anaphoric/new information context: eliciting unscrambled order

Twee dosente, Louise en Nicola, bespreek waarom 'n student nie van 'n onlangse taak
 two lecturers, Louise and Nicola, discuss   why   a student not of   a recent   task

geweet,   het nie.
know.PART, have POL.

"Two lecturers, Louise and Nicola, discuss why a student did not know about a recent task."

Louis vra: *Maar sy het sekerlik daarvan geweet?*
Louis asks: But   she have surely   there.of knew.PART

                          "But surely she knew about it?"

Nicola antwoord:
Nicola answers:

1   Sy   het altyd klas gemis.
       She have always class missed.PART   (unscrambled)

0   Sy   het klas altyd gemis.
       She have class always missed.PART   (scrambled)

       "She always missed class."

Each audio clip was positioned below a "1" or "0" on the screen and participants were instructed to use the keys "1" or "0" on their keyboards as input for their choices. Participants were also instructed that they could press the "spacebar" key if they felt both options were permissible, or the "enter" key if they did not know which option to select. The decision to use only an auditory presentation for the structures to be judged was based on Bialystok & Ryan's (1985) argument that textual presentation draws participants' attention to structure, whereas speech draws their attention to meaning (see also Murphy, 1997). As such, auditory presentation seemed the most appropriate in assessing intuitions pertaining to a property at the syntax-discourse interface. The task was not, however, of an exclusively auditory nature as the contextual scenario needed to be clearly set out in such a way that participants had a firm grasp of the context. In this regard, the text allowed participants time to reread and "digest" the given scenario before making their judgement.

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Note that the final results represent only six of the initial 10 structures. Two of 10 the scrambled structures had to be excluded, as they were deemed to be ambiguous. Thus, participants' data in response to these structures had to be removed. Due to the nature of the statistical analysis (Chapter 5, §5.2), the number of trials that elicited either a scrambled or unscrambled reading needed to be identical. As a result, two unscrambled structures had to be removed for statistical symmetry. This was done at random. When the CAJT scrambling results are presented (Chapter 8), the conditions are grouped into two broad categories distinguishing between those scenarios that should elicit a scrambled structure or an unscrambled structure, labelled: *anaphoric/old information* (scrambled order) and *non-anaphoric/new information* (unscrambled order) respectively.

Part II of the task probed participants' DN/NC judgements by providing them with a brief scenario and an eventual outcome/statement/observation. Excluding the two warm-up trials, Part II consisted of 12 trials in total. The scenario set up the latter part of the sentence as either a DN or an NC reading. It was this (**bolded**) DN/NC reading that participants were asked to assess, using the same five-point Likert scale used for the AJT. Once again, to ensure participants had a good understanding of the contextual scenario, the scenario was presented as written text.

In this respect, Part I (scrambling) and Part II (DN/NC) of the CAJT differ. In the case of the latter, the structure to be judged often formed a part of the previous sentence, often only separated by a clause boundary (see (4.14) and (4.15) below). This made an exclusively auditory presentation of the structure clumsy and unnatural. Thus, the entire scenario and structure to be judged were presented textually, with accompanying audio for the final DN/NC structure only. The audio clips were vital in indicating intonation, which plays a crucial role in how the DN/NC structures are interpreted. Participants were instructed to use the keys "1" to "5" as input for their judgements. See (4.14) and (4.15) below for examples of the kinds of DN and NC scenarios judged, and Appendix J for the full inventory.

The instructions read as follows:

You will be presented with 12 scenarios.

In the context of each scenario, please rate, on a scale of 1 to 5, the likelihood of an Afrikaans speaker saying the final **bolded** part of the sentence.

Please ensure that you click on the speaker **below** the sentence to listen to the accompanying audio. Please listen to the audio for each sentence **before** you make your decision.

(4.14) Forced DN reading (SMALL CAPS indicate emphasis)

Met 'n onlangse besoek aan die Kruger   Wildtuin,   was die meeste dae maar stil
With a recent   visit   to the Kruger game.reserve was the most   days but quiet
en niemand het enige wild   kon   sien nie. Die laaste dag was egter   fantasties:
and no.one   have any   game   could see POL the last   day was however fantastic
NIEMAND het   niks   gesien   nie!
no.one   have nothing saw.PART POL

"On a recent visit to the Kruger National Park, most of the days were quiet and no one
saw any game. The last day was, however, fantastic: **No one saw nothing**!"
(Forced DN reading: i.e. 'Everyone saw something')

(4.15) Forced NC reading

Kersfees   was nie 'n gelukkige tyd   in Jaco se huis   nie: niemand het   niks
Christmas was not a happy   time in Jaco PP house POL: no.one   have nothing
vir Kersfees   gekry   nie.
for Christmas got.PART   POL

"Christmas was not a happy time in Jaco's house: **no one got anything for Christmas**."
(Forced NC reading)

With the exception of the various tokens that were excluded on the bases described above,
the remaining test sentences and tasks worked as intended and were thus included in the data
analysis reported on in Chapter 5 to follow.

4.6   Chapter Summary

This chapter described the methodology of the present study. The participant recruitment
process was detailed, as were the details of the ref- and experimental-group participants. The
extralinguistic variables under investigation were set out, identifying which variables will be

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taken forward in the presentation of the results. The background of the study was discussed, as were methodological considerations in research concerned with spoken varieties, and research which employs acceptability judgement tasks. Lastly, the data collection instruments used in the present study were set out in detail.

Note that the results for the verb placement, negation and scrambling data obtained in the tasks described above, are presented and discussed separately in Chapters 6 (verb placement), 7 (negation) and 8 (scrambling) respectively. Against the background of the methodological procedures discussed in this chapter, and prior to the presentation of the results, Chapter 5 presents the details of the statistical procedures employed, the approach taken in the data analysis, as well as how the ensuing results were interpreted.

Chapter 5
Statistical analysis

5.1 Introduction

This short chapter presents the details of the statistical tests performed on the data, as well as the details pertaining to the interpretation of the results. The chapter begins with the details of the statistical procedures employed in §5.2. Section 5.3 briefly introduces the exploratory data analysis (EDA) approach employed in the present (exploratory) study. Section 5.4 presents the details of how the results are interpreted, and §5.5 discusses statistical power in parametric tests. The purpose of this short chapter is to facilitate an understanding of how the data was analysed and interpreted, not only to ensure methodological transparency, but also to facilitate study replicability.

5.2 Statistical procedures

It should first be noted that although this study is exploratory in nature, confirmatory procedures – discussed in this section – were used to provide insight into the role played by the extralinguistic factors under investigation. The difference between exploratory and confirmatory data analyses will discussed in §5.3 below. For the purpose of present discussion, note that two different statistical procedures were used to analyse the data obtained in the present study. These will be described in turn below.

Professor Martin Kidd, the director of the Centre for Statistical Consultation at Stellenbosch University, ran the statistical analyses on the data.[59] In the statistical analyses of the data, a mixed model two-way ANOVA (Fisher, 1925; see Howell, 2017: p.418) was used to analyse the "1" – "5" ordinal judgement responses of the AJT and DN/NC component of the CAJT. The dependent variable was the Likert scale judgements. The independent variables were as follows: the respondents were entered into the model as the random effect, with the structures' grammaticality (i.e. *standard*, *MsA*, or *ungrammatical*, and in the case of the CAJT, *DN* or *NC*) and the relevant exposure/use-related variables entered as the fixed effects. For post hoc testing, Fisher Least Significant Difference (LSD) testing was used (Fisher,

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[59] Professor Kidd has a special interest in the modelling of Likert Scale data.

1935). Note that although Fisher LSD is the most liberal multiple comparison test, Howell (2017: p.398) argues that only running multiple comparisons if the overall F is significant is "surprisingly effective in controlling familywise error rates when we have only a few groups". In other words, if we demand a significant F in the initial two-way ANOVA, then the chance of a Type I error (a false positive) is low.

For the CAJT scrambling responses, a Generalized Estimating Equations (GEE; Liang & Zeger, 1986) analysis with Binomial distribution was performed, i.e. a type of distribution that has two possible outcomes: "success" or "failure". The GEE is an appropriate analysis for non-normally distributed data with binomial correlations (Pekár & Brabec, 2017). The purpose of a GEE is to model the expected response for an individual/group, based on their repeated responses and/or covariates or factors. The latter corresponds with the language exposure and use variables. The participants were used as the "id variable", which identifies the different data clusters, with the structures' grammaticality, and the relevant exposure/use-related variables as the two categorical factors. Note that although an ANOVA *could* have been performed on this data, ANOVAs have no maximum and minimum threshold (e.g. the "0" and "1" that GEE models have), but are rather $\pm$ infinity. As a consequence, when the confidence intervals are determined, the confidence intervals can be greater than "1" or less than "0" – which is, of course, problematic if what is at stake is a binomial distribution. For post hoc testing, Fisher LSD was used.

5.3 Exploratory and confirmatory data analysis

An exploratory data analysis (EDA) approach (Tukey, 1977) entails that initial investigations are carried out on the data to uncover general patterns, extract important variables, and test underlying assumptions. Note that although EDA is generally done using graphical representations, it is not a set of statistical techniques, but is rather an *approach* to data analysis, and is typically presented as "model-free" (Gelman, 2004: p.757). In contrast to this approach, a confirmatory data analysis (CDA) approach, through p value analysis, confirms or rejects a specific null hypothesis.

The two approaches are typically thought to be mutually exclusive. However, Behrens & Yu (2003: p.36) note that Tukey (1973) in fact "considered quantitative methods to be applied in stages of exploratory, rough confirmatory, and confirmatory data analyses". Thus,

although the present study employs a CDA approach in that it entails the analysis of p values, an EDA approach was initially adopted to narrow the focus of the investigation. Furthermore I wish to emphasise that although a CDA approach was used to help deepen our understanding of the role played by the variables under investigation, the study itself is by no means intended to be *confirmatory* in any respect. Rather, as already noted, the study itself is exploratory in nature.

The statistical graphs of the variables of interest (for the properties under investigation) were first analysed to identify which of the variables revealed patterns worth pursuing further: the exploratory stage. If the graph indicated between-group variance, the p value was then analysed: the rough confirmatory stage. In cases where differences of statistical significance emerged for the global analysis of each respective property, i.e. where the overall F was significant, a post-hoc analysis determined the locus and significance of the difference: the confirmatory stage.

5.4   Interpretation of the results

More recently, the practice of only reporting results that fall below an alpha level (i.e. a significance level) of .05 has come under criticism (Wasserstein, Schirm & Lazar, 2019). The reasoning is that if a p value represents the probability of a false finding, a p value of .04 equates to a 4% probability of a false finding, and a p value of .06 equates to a 6% chance of a false finding. To then identify the former but not the latter as "statistically significant", and worthy of discussion, poses a risk, under at least some circumstances, of not reporting on crucial trends. Although this is particularly true in cases where the sample sizes are small (reducing the statistical power), the type of testing as well as the number of tests conducted needs to be kept in mind.

In the case of p values smaller than the .05 threshold, recall that Fisher Least Significant Difference (LSD) testing was used (see §5.2), which is the most liberal multiple comparison test. In the case of p values greater than the .05 threshold, because multiple variables were investigated for five different properties of interest, one needs to keep the "multiple testing problem" in mind. The multiple testing problem pertains to the fact that in hypothesis testing (with alpha set at .05), for each test conducted, there is a chance (approximately 5%) of getting a statistically significant result that is spurious, i.e. a Type I error. If one conducts numerous tests, then the number of possible Type I errors increases. If multiple tests have been conducted,

and then additionally *F* values below the threshold of significance are considered, the chances of accepting a false positive become *even* higher. For both aspects under consideration, by demanding an overall *F* of statistical significance, we can reduce the chances of a Type I error.

A further consideration with regard to the multiple testing problem is the difference between *statistical* significance and *practical* significance. In this regard, and in terms of researchers using *p* value thresholds alone to select which findings to report, Wassertein et al. (2019) maintain that in deciding which results to present, a *p* value below the .05 threshold is not enough; the results need to be contextually situated and analysed accordingly. While the <.05 threshold is a necessary guideline, using it as an absolute marker of significance is, they argue, misleading. Lambdin (2012) notes that:

[S]ignificance testing creates in the minds of researchers the impression of automating the difficult process of thinking through inferences, seemingly reducing the complex notion of scientific support to the mindless task of an assembly line inspector, stamping "accept" or "reject" on every good that is rolled along.

(p.70)

An overall *F* that is significant serves only as an indication that a difference exists, but does not provide insight into where the difference lies. A post-hoc analysis identifies the locus/loci of the difference(s), but it is a researcher's task to identify whether the data support our scientific hypotheses and are practically significant. The focus should be "on our scientific hypotheses, what the data tell us about the magnitude of the effects [and] the practical significance of the effects" (Kirk, 2003: p.100).

Thus, not each and every significant *F* warrants a post hoc analysis and discussion. A simple analysis of the *F* value's corresponding graph serves as a good indicator as to whether the difference is in fact the result of the *variable* under investigation (and thus whether a further post-hoc analysis is warranted), or if the significant *F* is spurious in terms of the hypothesis being tested: this is why, following an EDA approach, the graphical representations are closely analysed *first*.

To illustrate, consider the graph in Figure 5.1 below, which diagrammatically presents the AJT verb placement results for language use with siblings (SIBL). The overall *F* is significant at <.01 (F(6,2430)=4.71).[60]
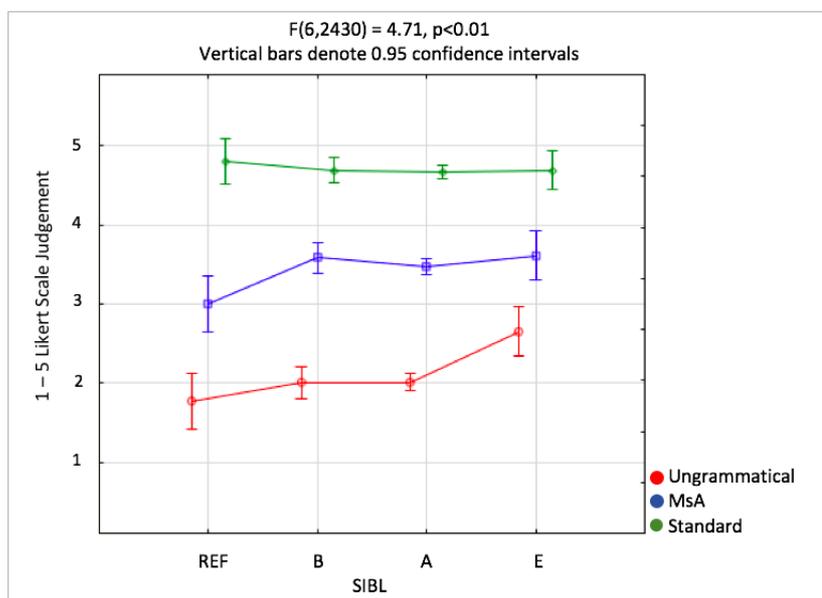
Figure 5. 1 Verb Placement results for the variable SIBL[61]

Let us first consider participants' *MsA* judgements (the blue display plot) in relation to the following null hypothesis: *Language use with siblings does not affect bilinguals' judgments of verb placement in MsA*. The four groups' MsA verb placement judgements are as follows:

- ref-group participants (mean = 3.0; SD = 1.32);
- B-group participants (mean = 3.58; SD = 1.29);
- A-group participants (mean = 3.47; SD = 1.28);
- E-group participants (mean = 3.61; SD = 1.4).

A comparison of the groups' judgements indicates that although the ref-group participants' judgements are lower than the other three groups' judgments (significant at <.01 for B-group; .01 for A-group; and <.01 for E-group), B-, A-, and E-group participants' judgements are virtually identical (and non-significant). Therefore, although a difference exists, it is not a

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[60] These specific results will be presented in detail in Chapter 6 to follow, the present example is simply for illustrative purposes.
[61] REF: "reference group"; A: "only Afrikaans"; B: "both languages"; E: "only English"

difference that rejects the null hypothesis related to this specific variable; if it did, we would expect the three variable-related groups' judgements to differ in some way (note, however, that the ref-group participants' lower MsA judgements will be discussed in more detail in Chapter 6 and 7, where this pattern emerges).

In contrast to this statistically, but not empirically, significant result, let us consider participants' judgements of *ungrammatical* verb placement (the red display plot) in relation to the following null hypothesis: *Language use with siblings does not affect bilinguals' judgments of ungrammatical verb placement in Afrikaans*. The four groups' judgements are as follows:

- ref-group participants   (mean = 1.77; SD = 0.91);
- B-group participants   (mean = 2.00; SD = 0.94);
- A-group participants   (mean = 2.01; SD = 1.03);
- E-group participants   (mean = 2.65; SD = 1.39).

As the above means indicate, the ref-group's judgements are only marginally lower, but not (statistically) significantly lower, than B- or A-group participants' judgments (highly non-significant at .26 for B-group; and .21 for A-group participants judgements). The E-group participants' judgments, on the other hand, are markedly higher than the ref-group's judgments *and* higher than both B- and A-groups' judgments (significant at <.01 in all three instances). Therefore, for the null hypothesis tested, the result obtained for the effect the variable SIBL has on participants' *ungrammatical* judgements is both statistically and empirically significant.

Accordingly, only results that are both statistically significant *and* empirically meaningful in the context of the null hypotheses tested are reported.

5.5   Statistical power

I wish to conclude this short chapter by making a final note on the effect of uneven group sizes on statistical power. In a study such as this one, where the groupings are naturally occurring and based on numerous extralinguistic variables under investigation, it is impossible to control for uneven group sizes, which are therefore inevitable. This was also the case in Schmid's (2002) study concerned with the L1 attrition German under the influence of L2 English, where multiple extralinguistic factors where investigated. The number of total informants in Schmid's

(2002) study ($n = 35$) was, however, smaller than the number of participants in the present study ($n = 166$, including the ref-group participants). In the present study, the difference between the various group sizes is therefore often more marked.

What is worth noting in this respect is that the statistical power is mostly determined by the *smallest* group in the sample. In other words, in a comparison of two groups of 10 and 100 participants respectively, the statistical power is mostly determined by the group of 10, meaning that the extra 90 participants in the larger group have little influence on the statistical power. Crucially, however, uneven group sizes do not bias results, they simply reduce the statistical power (Blanca Mena, Alarcón Potigo, Arnau Gras, Bono Cabré & Bandayan, 2017). It is therefore important to note the following: **if a statistically significant effect is evidenced for a test with low statistical power, it can be argued that the difference in question is indeed quite marked.**

In terms of between-variable equivalence, given that the ref-group participants were included in every statistical analysis, the statistical power of each two-way ANOVA is therefore comparable. It should be noted, however, that the post hoc analyses are based on the individual groups in question. As a consequence, here the statistical power can vary based on different group sizes, a point which needs to be kept in mind when considering the significance of post hoc *p* values.

It is acknowledged that, although subsequent rounds of participant recruitment could have been conducted to balance out the group sizes, after three rounds of participant recruitment, which recruited more than 300 prospective participants, only 190 full data sets were obtained. After further exclusions, only 166 full data sets were viable. As such, the participant attrition rate was high, and it was therefore decided to begin with the analysis in spite of the uneven group sizes. This decision was again taken in consultation with the statistician due to the fact that the study is exploratory, and not confirmatory, in nature.

Furthermore, it should be noted that this decision was taken after further attempts to get in touch with participants who had started, but not completed, with the tasks. Unfortunately, due to the Covid-19 pandemic, the participant response rate was low and most participants who did respond were unable to make the time to complete the tasks given the added pressure of family responsibility coupled with working from home.[62]

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[62] This might have been different if the participant age threshold was lower (e.g. if the study included only university students). However, many of the participants had children, making the work-life balance during the pandemic very difficult.

It is, however, acknowledged that these uneven group sizes reduce the reliability and generalisability of the results substantially. I wish therefore for this exploratory study to be seen only as a first attempt at gaining insight into points of L1 (in)stability and predictive variables in EotSLotF in Afrikaans-English bilinguals.

5.6   The data's suitability for parametric testing

Finally, I wish to note that although the group sizes of many of the variables were vastly different, the data analysed in the two-way ANOVA met the requirements for parametric testing, and specifically for the ANOVA analyses undertaken here. That is, although the data was measured on a 1-5 ordinal scale, which strictly speaking would not be normally distributed, the statistician inspected the probability plots for each analysis and deemed them to be acceptable. Furthermore, as ANOVA analyses are relatively robust against deviations of normality, such an analysis provides reliable results on ordinal data. In scenarios where there are extreme outliers, an ANOVA can be problematic. However, with the 1-5 scores used in the model, there were no outliers. In consultation with the statistician, it was therefore decided that the parametric analysis was warranted.

Chapter 6
Verb placement results and discussion

6.1   Introduction

This chapter presents and discusses the verb placement results. Section 6.2 gives an initial overview of the variables which appear to be predictive in determining bilinguals' acceptability judgements of verb placement in Afrikaans. Section 6.3 serves as a summary of the relevant verb placement structures under investigation. Section 6.4 presents the ref-groups' judgements of the *standard* (V2/SOV), ungrammatical (V3/S.aux.O.V) and MsA (verb-early structures and embedded *wh*-V2) verb placement structures. Section 6.5 presents the results for the variable SA-EX, which informs the first primary research question concerned with whether bilinguals' acceptability judgements of their L1 Afrikaans differ according to whether they are in South Africa or the diaspora. Thereafter, §6.6 presents the remaining variable-specific results for participants' judgements of verb placement in Afrikaans. Finally, the verb placement results are discussed in §6.7 to address research question (ii) and associated sub-question (ii-a), which asks whether bilinguals' acceptability judgements of their L1 Afrikaans exhibit variation indicative of EotSLotF as a result of differing amounts of language exposure and use in childhood and adulthood; and if so, how this variation is evidenced. Section 6.7 also discusses the results which inform research question (iii) and its associated sub-question, which probe whether the acceptability judgements of bilinguals show evidence of a specific L1 language-internal multi-competence that is indicative of their ability to distinguish between what is prescriptively sanctioned in StdA, in comparison to what is permissible in MsA. Furthermore, if such a distinction is evidenced, it is asked whether this distinction remains in place despite changes in bilinguals' L1/L2 exposure and usage patterns. Section 6.8 summarises.

6.2   Predictive variables

This section narrows down which of the 12 variables were found to be potentially predictive with regard to bilinguals' acceptability judgements of verb placement in Afrikaans. Note that here, and in the property-specific results chapters to follow, predictive and non-predictive variables are indicated by a significant p value or an indicator of non-significance (ns.) respectively.

6.2.1   Language exposure and use in childhood and adolescence

The childhood and adolescence exposure- and use-related variables investigated were:

    (i)   *Age of onset of bilingualism* (AoO-B);

    (ii)   *Languages of learning and teaching at nursery school* (LoLT-N);

    (iii)   *Languages of learning and teaching at primary school* (LoLT-P); and

    (iv)   *Languages of learning and teaching at secondary school* (LoLT-S).

Of these variables, only LoLT-P and LoLT-S were found to be potentially predictive for verb placement in the two-way ANOVA. These interaction effects are summarised in Table 6.1 below.

Variable	Significance
AoO-B	ns.
LoLT-N	ns.
LoLT-P	<.01
LoLT-S	<.01

Table 6. 1 Significance of two-way ANOVAs for verb placement: language exposure and use in childhood and adolescence

6.2.2   Circumstances of a dominance shift to English

Recall that the two variables probing the circumstances of a dominance shift to English are:

(i)   *Age of onset of English dominance* (AoO-D), and

(ii)   Length of time since reduced contact or use (LTRCU).

Both variables resulted in a statistically significant interaction effects for verb placement.

Variable	Significance
AoO-D	<.01
LTRCU	<.01

Table 6. 2 Significance of two-way ANOVAs for verb placement: circumstances of a dominance shift

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6.2.3   Language exposure and use in adulthood

Recall that three variables related to *language exposure and use in adulthood* are not reported on due to these variables each having a single group that is far too small to warrant parametric testing (see Chapter4, §4.4.3.3). The variables in question were:

(i)   *Language use for professional purposes* (WORK);
(ii)   *Language use with partner* (PART); and
(iii)   *Language use with friends* (FRIENDS).

The variable probing *language use for professional purposes* has repeatedly been found to be predictive in studies concerned with L1 attrition (see Chapter 2, §2.5.2.2). It is thus unfortunate that the present study cannot weigh in on the role of this factor. In the case of the variables probing informal language (*language use with one's partner and friends*), recall that this kind of language use has not previously been found to be particularly predictive in determining L1 attrition (see Dostert, 2009; Keijzer, 2007; Lubińska, 2011; Varga, 2012; Yilmaz & Schmid, 2012). Recall also, however, that Schmid & Dusseldorp (2010) caution against overgeneralising the different language use contexts under one theoretical heading – in other words, not all informal language use is necessarily equal. Schmid & Dusseldorp (2010) in fact found that language use with one's partner, but not with one's friends, was protective if language use was frequent. It was hoped that the present study could follow up on these fine-grained considerations. However, given the very small group sizes, this was not possible. Note that this discussion will not be repeated in results chapters 7 and 8, although it applies to all the properties of interest.

The variable probing the effect that *linguistic environment* (SA-EX), and therefore *exposure alone* has on bilinguals' acceptability judgements of verb placement did not result in a statistically significant interaction effect. This is somewhat surprising, given that, as noted in Chapter 2 (§2.2.5), in studies concerned with L1 attrition, age at emigration (i.e. a break with the L1 environment) is often regarded as the point which marks the age of onset of attrition. Accordingly, although revealed to be non-significant, these results will be set out separately in §6.4.

The variable probing how *frequency of use* (FREQ) affects speakers' L1 grammar was found to be potentially predictive in the domain of verb placement. Recall that in relation to L1 attrition, the "use it or lose it" approach to language use is often intuitively thought to be

predictive in determining the state of the L1 (see Chapter 2, §2.5.2.2). However, quantity of use alone has not proven to be as important as one might assume it to be (see Schmid, 2007). The results for the variable FREQ will reveal whether this is also the case for the variation evidenced in lifelong bilinguals' judgements of verb placement in Afrikaans.

Language use with siblings (SIBL) and the variable *probing internal language use* (INT) both resulted in statistically significant differences for verb placement.

Finally, of the two variables probing *receptive language use* (WRIT and TV-RAD), only continued exposure to written Afrikaans (WRIT) is revealed to be potentially predictive with regard to participants' judgements of verb placement in Afrikaans.

A summary of the areas in which the above variables emerged as potentially predictive is presented in Table 6.3 below.

Variable	Significance
SA-EX	ns.
FREQ	<.01
SIBL	<.01
INT	<.01
WRIT	<.01
TV-RAD	ns.

Table 6. 3 Significance of two-way ANOVAs for verb placement: Language exposure and use in adulthood

6.2.4 Summary of the predictive variables for verb placement

Of the 12 variables brought forward from Chapter 4, seven yielded statistically significant interaction effects that were potentially empirically meaningful in their ability to reject the various null hypotheses posed. The predictive variables are summarised in Table 6.4 below.

Variable	Significance
AoO-B	ns.
LoLT-P	<.01
LoLT-S	<.01
AoO-D	<.01
LTRCU	ns.
SA-EX	ns.
FREQ	<.01
SIBL	<.01
INT	<.01
WRIT	<.01

Table 6. 4 Significance of two-way ANOVAs for verb placement across all extralinguistic variable

This first exploratory stage has paved the way for the presentation of the verb placement results to follow below, whereby the loci of these statistical differences will be presented in detail. A similar presentation will be given in Chapter 7 and 8 with respect to the negation and scrambling results respectively.

Recall that Schmid (2010: p.2), quoted in Chapter 2 (§2.2.3) and repeated here, observes that "the single most astonishing feature of first language attrition is how minimal and localised it usually appears to be". Recall again that this is particularly true in the case of the grammatical domain (see Schmid, 2008). Although the present study is concerned with EotSLotF more generally, and not specifically with "attrition" (which, recall, is thought to specifically refer to changes that take place in the L1 grammar of *adult* L2 acquirers; see Chapter 2, §2.2.3), it should be kept in mind that the effects evidenced may also be minimal. The property-specific analyses to follow will therefore rely not only on group means, but will present the details of each participant groups' Likert scale judgement distributions. This will be done to determine how, if at all, these various extralinguistic factors in fact affect bilinguals' judgements of verb placement. Chapters 7 and 8 will cover the same ground for Negation and Scrambling, respectively.

Prior to the presentation of the results, let us briefly recapitulate the relevant verb placement structures the judgements are based on.

6.3   The relevant verb placement structures

Recall that the judgements are based on structures which fall into the following three classes: *standard* structures (V2/S.aux.O.V), *ungrammatical* structures (V3/S.aux.V.O) and *MsA* structures (verb early structures and an embedded *wh*-V2 structure).

As a reminder, and using structures that featured in the AJT, consider the *standard* (6.1), *ungrammatical* (6.2), and *MsA* (6.3) structures below (finite verb in **bold**, lexical verb underlined, and first position element [bracketed]).

(6.1)   (a)   [*In Kaapstad*] **reën** *dit met tussenposes*

in Cape.Town   rain it   with intervals

"In Cape Town it rains intermittently."

[standard – V2]

(b)   [*Die hond*] **het** *aanhoudend*   *geblaf*

       the   dog have continuously barked.PART

       "The dog barked continuously."

[standard – verb final]

(c)   *Het jy gehoor*   [*hoe*] *sy   oor   haar ma*   **praat***?*

       have you heard.PART how   she about her mother speak

       "Have you heard how she talks about her mother?"

[standard – *wh*.verb final]

In the *standard* declaratives in (6.1-a) and (6.1-b) above, the finite verb is in V2 position, with the non-finite lexical verb (in example (6.1-b)) in a clause-final position. The *standard* interrogative in example (6.1-c) sees the verb *praat* in a clause-final position.

The following examples are two examples of the type of *ungrammatical* English-style V3/S.aux.V.O structures that featured in the AJT.

(6.2)   (a)   [*In Durban*] *dit* **reën** *voortdurend.*

       in Durban it rain   continuously

       "In Durban it rains continuously"

[ungrammatical – V3]

(b)   [*Die   meisie*] **het** gepraat   *die hele   tyd.*

       the   girl   have spoken.PART the entire time

       "The girl has spoken the entire time."

[ungrammatical – S.aux.V.ADV]

In the two ungrammatical structures in (6.2) above, the verbs surface in what would be the standard English orders: V3 (6.2-a) and S.aux.V.ADV (6.2-b).

The two examples below are examples of the two MsA innovations probed in the present investigation: verb early placement in an EC with a complementiser (6.3a) and a *wh*-V2 complementiserless EC (6.3b).

(6.3) (a)   *…dat [hulle] **moet** dit <u>doen</u>.*

         …that   they   must it do.

         "…that they must do it."

                                                           [MsA - verb early]

       (b)   *Sien [hoe] **kyk** hy vir haar*?

                see   how look he for her

                "Can you see how he's looking at her?"

                                                           [MsA - *wh*V2]

In example (6.3-a) the modal verb directly follows the subject in the EC in what is superficially "second-position" (see Chapter 3, §3.3.3.1). In StdA the modal verb would precede the lexical verb in a clause-final position. In example (6.3-b), the verb *kyk* is in the V2 position after the *wh*-word *hoe,* again instead of in a clause-final position as it is in StdA (see example (6.3-c) below, and also example (6.1-c) above).

       (c)   *Sien [hoe] hy vir haar **kyk***?

                see   how he for her look

                "Can you see how he's looking at her?"

                                                   [standard – *wh*.verb final]

With these facts recapitulated, let us now consider the results for verb placement.

6.4   Reference group participants' verb placement results

The ref-group participants' acceptability judgements of verb placement in Afrikaans are presented in this section.

6.4.1 Preamble

The following section presents the descriptive statistics for the ref-group participants' verb placement judgements. As discussed in Chapters 1 (§1.1) and 4 (§4.4.2), given the exploratory nature of this study, the purpose of this ref-group is to establish what the Afrikaans

acceptability judgements of Afrikaans-English bilinguals who are largely Afrikaans-dominant in fact look like. Thus, to establish a baseline against which the more heterogenous experimental group can be compared, the ref-group participants' results are presented descriptively here. Chapters 7 and 8 again cover the same ground for negation and scrambling respectively.

6.4.2 Reference group participants' judgements of the *standard*, *ungrammatical* and *MsA* structures

The ref-group participants' mean AJT judgements in response to the *standard*, *ungrammatical* and *MsA* verb placement structures are presented in Table 6.5 below.

Verb Placement						
Group	*Standard* (*n* = 8)		*Ungrammatical* (*n* = 4)		*MsA* (*n* =4)	
REF (*n* = 10)	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
	4.80	0.53	1.77	0.91	3.00	1.32

Table 6. 5 The ref- group participants' verb placement AJT judgement means

At 4.80 the mean for the *standard* structures is almost at ceiling. Additionally, with an SD of 0.53, participants' judgements exhibit the least variability among the classes tested. At 1.77 the mean for the *ungrammatical* structures falls well below the mid-range of the Likert scale, with an SD indicative of more variability (0.91). Finally, at 3.00, the mean for the *MsA* structures is exactly at mid-range on the Likert scale, and the SD indicates a great deal of within-group variability (SD = 1.32).

As we will see throughout the course of this chapter, and as reflected by the SDs, means can be misleading in their ability to reflect group performance. Therefore, here, and in the presentation of the results in the chapters to follow, a breakdown of each group's Likert scale ratings (in percentages) is provided. Consider Figure 6.1 below.
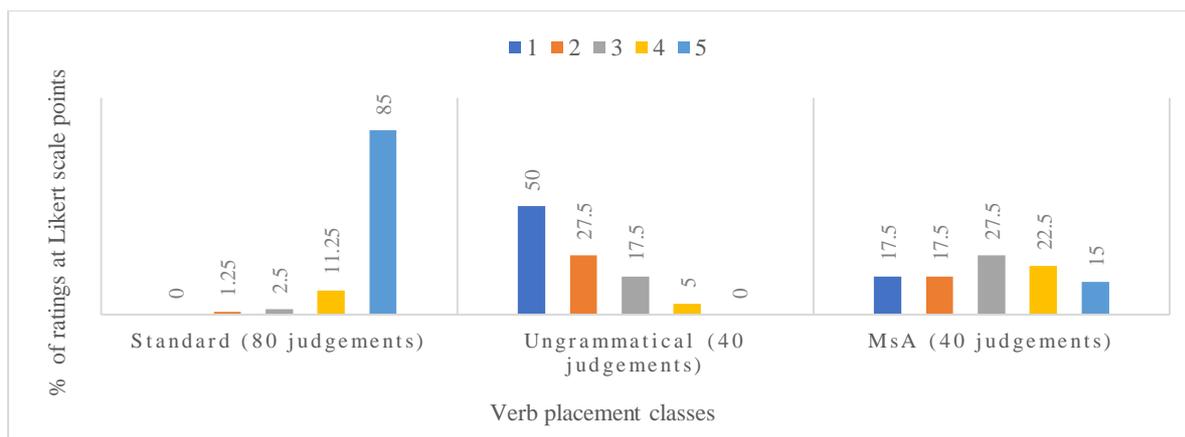
Figure 6. 1 The ref-group participants' Likert scale rating distribution for verb placement

The above Likert scale judgement distribution indicates that when the structure in question is unequivocally acceptable (i.e. the *standard* V2/SOV structures), the vast majority of the ref-group participants' judgements fall at rating point "5".

The rating distribution for *ungrammatical* verb placement indicates that although ref-group participants' judgements still fall primarily at the lower end of the Likert scale (with 77.5% of the structures rated either a "1" or "2"; 31/40 judgements), it is interesting that only 50% (20/40 judgements) of these *ungrammatical* structures are in fact regarded as "completely ungrammatical". Additionally, there are still a non-trivial number (17.5%; 7/40 judgements) of mid-range ratings ("3" = *This is not standard Afrikaans, but an Afrikaans speaker could say this in certain contexts*). It is worth noting, however, that close analysis of the individual participants' ratings across the *ungrammatical* structures reveals that one ref-group participant rates three of the four structures a "3", and thus accounts for almost half of these judgements.[63] Overall, however, in line with what we would expect, not a single ref-group participant rates the *ungrammatical* structures a "5" (i.e. "completely grammatical") and only two ratings (from two different participants) fall at rating point "4".

In contrast to the ref-group participants' judgement distribution for the *ungrammatical* structures, their judgements of the *MsA* structures span across the entire Likert scale spectrum. The majority of the ratings falling at rating point "3", closely followed by a "4" (*This may not be standard Afrikaans, but an Afrikaans speaker could say this*). Their judgement patterns for *ungrammatical* verb placement and verb placement in MsA are therefore very different.

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[63] Note that, in spite of this, this participant was not excluded because their other judgements (for verb placement and the other properties under investigation) were comparable to those of the other ref-group participants' judgements.

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Importantly, their MsA judgement pattern is also very different when compared to their judgements in response to the *standard* structures, as only 15% (6/40 judgements) of their ratings for the MsA structures fall at rating point "5". In contrast, for *standard* verb placement, 85% (68/80 judgements) of their judgements fall at rating point "5".

The ref-group participants' MsA judgements reveal that there is an interesting discrepancy between speakers' judgements of the different structures that warrants further attention. Recall that the *MsA* structures included in the present study were verb-early structures (early auxiliary, copula, and modal placement; see example (6.3-a) above), as well as an embedded *wh*-V2 structure (example (6.3-b) above). The distribution of these MsA structures has been shown to differ (Chapter 3, §3.3.3), with embedded *wh*-V2 being the most established of the structures (Biberauer, 2017). Significantly, embedded *wh*-V2 is also judged differently by the participants in this investigation. Although no structure-specific results will be presented for any of the other verb placement classes, nor for the negation and scrambling properties, a breakdown relating to the MsA structures is provided here. Consider the ref-groups' descriptive statistics in Table 6.6 below.

MsA structure	*Standard*		*MsA*	
	Mean	SD	Mean	SD
Auxiliary placement	4.95	0.22	2.10	0.99
Copula placement	4.80	0.61	2.8	1.47
Modal placement	4.90	0.31	3.4	1.26
***wh*-V2/V-final**	5	0	3.7	1.05

Table 6. 6 The ref-group participants' structure-specific AJT judgement means for standard verb placement and verb placement in MsA

As the above structure-specific descriptive statistics illustrate, the ref-group participants are the most internally uniform in their judgements of:

(i)   early auxiliary placement (SD = 0.99), which is rated quite poorly (mean = 2.10); and

(ii)   *wh*-V2 in EC (SD = 1.05), which is rated the most acceptable of the *MsA* structures (mean = 3.7).

Ref-group participants' judgements of early modal placement also results in a higher mean (= 3.4) than the other two verb-early structures, although with more internal variability (SD = 1.26) than was evidenced for embedded *wh*-V2.

To better understand the distribution of these judgements, let us consider the individual breakdown of ref-group participants' MsA judgements across the "1"-"5" Likert scale in Table

6.7 below. Note that each ref-group participant is assigned a code for anonymity ranging from "R1" to "R10", and that the judgements at rating point "5" are marked by the grey cells.

Ref-group participant	early auxiliary	early modal	early copula	*wh*-V2
R1	1	5	4	4
R2	3	4	1	3
R3	3	3	5	5
R4	2	1	1	2
R5	1	5	3	4
R6	2	2	1	5
R7	2	3	3	5
R8	2	3	2	3
R9	1	4	4	3
R10	4	4	4	3

Table 6. 7 The ref-group participants' individual structure-specific Likert scale judgements

As the above table illustrates, embedded *wh*-V2 is the most likely to be rated "completely grammatical" by the ref-group participants.

As the *wh*-V2 structure is the most established MsA pattern (Biberauer, 2017; see Chapter 3, see §3.3.3), these judgement patterns align with what might expect in this regard. Although perhaps unsurprising, it is nevertheless interesting that these fine-grained judgement differences appear to correspond with how frequently the various structures have been found to occur in MsA. These judgement patterns are based on only one structure per sentence-type, and, additionally, on the judgements of only 10 Afrikaans-dominant bilinguals. Their generalisability is therefore extremely limited. As such, it is important to establish whether the same patterns are replicated in a larger group of bilinguals. Accordingly, §6.4.3 below presents the MsA verb placement results of the 33 experimental-group participants (NS-group participants) who have not made a dominance shift to English, and thus either regard themselves as largely Afrikaans-dominant, or as equally proficient in both languages (although with language exposure and usage profiles that exhibit more heterogeneity than those of the ref-group participants; see Chapter 4, §4.4.2 & §4.4.3.2).

6.4.3 Replicability of the reference group participants' MsA judgement patterns

To establish whether the above patterns are replicated in a larger group of bilinguals with more heterogenous language exposure and usage patterns, the 33 NS[64]-group participants' MsA

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[64] Recall that *NS* refers to "no shift" (to English-dominance), and not "native speaker".

judgements are discussed below. The descriptive statistics of all four structures together are presented in Table 6.8, and the structure-specific descriptive statistics are presented in Table 6.9.

In Table 6.9, the mean for each MsA structure is compared with its corresponding *standard* counterpart. Each MsA structure is paired with its standard counterpart based on the nonthematic verb in question (e.g. modal, copula or auxiliary), with the embedded *wh*-V2 structure paired with its V-final counterpart. Note that a structure-by-structure analysis was not conducted for the *ungrammatical* structures (only an overall comparison of the three classes was run in the two-way ANOVA, and not a structure-specific one as we see for the MsA-StdA structures). The reason for this is that the third and final research question asks whether bilinguals distinguish between the StdA structures on the one hand, and the *MsA* structures on the other – with their judgements of ungrammatical structures not applicable to that specific question. Thus, the means for *ungrammatical* verb placement are not presented in Table 6.9, although the overall mean is presented in Table 6.8 for comparative purposes.

Verb Placement	*Standard*		*Ungrammatical*		*MsA*	
Group	Mean	SD	Mean	SD	Mean	SD
NS (*n* = 33)	4.56	0.95	2.06	1.21	3.28	1.34

Table 6. 8 The NS-group participants' overall AJT judgement mean for standard verb placement and verb placement in MsA

MsA structure	*Standard*		*MsA*	
	Mean	SD	Mean	SD
Auxiliary placement	4.87	0.577	2.81	1.37
Copula placement	4.75	0.76	2.93	1.26
Modal placement	4.53	1.04	3.31	1.33
***wh*-V2/V-final**	4.78	0.79	4.12	1.00

Table 6. 9 The NS-group participants' structure-specific AJT judgement means for standard verb placement and verb placement in MsA

As the structure-specific means in Table 6.9 reveal, the overall mean for the *MsA* structures in Table 6.8 indeed conceals distinctive structure-specific judgement differences. This is particularly true in the case of the embedded *wh*-V2 structure, which results in the highest of the four MsA means. Additionally, as with the ref-group participants' SD, the NS-group participants' SD for the *wh*-V2 structure is smaller (SD = 1.0) than the other SDs obtained in response to the other structures. The fact that these bilinguals' judgements of the *wh*-V2 structures exhibit the least variability therefore again lends support to its status as the most established of the MsA structures (Biberauer, 2017). Let us consider the NS-group participants' Likert scale judgement distributions across the four structures in Figure 6.2 below:
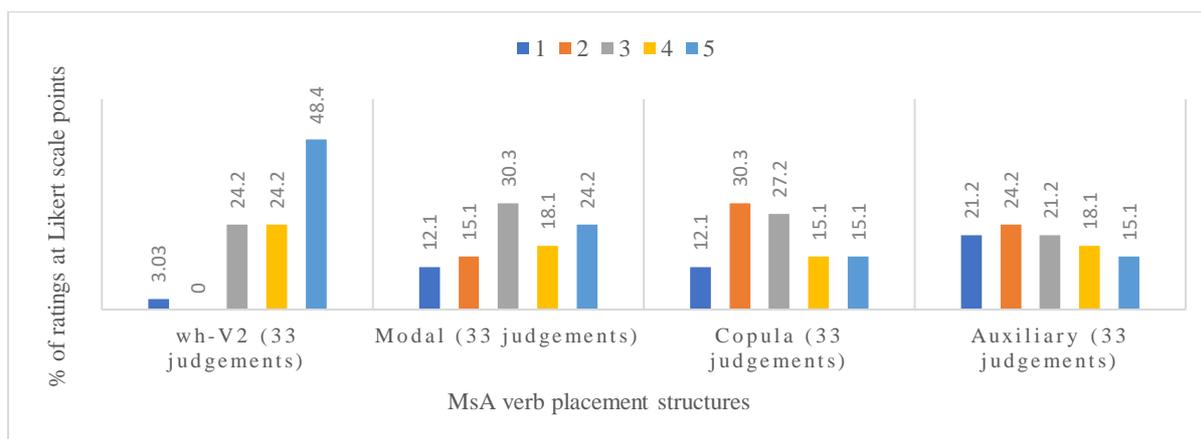
Figure 6. 2 The NS-group participants' structure-specific Likert scale rating distributions for verb placement in MsA

As the descriptive statistics indicate, and judgement distribution patterns confirm, across all four structures, the NS-group participants are the least internally variable in their assessment of *wh*-V2. The judgements of the *wh*-V2 structure, although still spread across rating points "3" to "5" on the Likert scale, see the majority of the NS-group participants' ratings fall at rating point "5" (16/33 judgements; i.e. "completely grammatical"). Additionally, what is particularly striking about their judgements of *wh*-V2 structures, in comparison to the other MsA structures, is the near-total absence of judgements at the lowest end of the scale.

In sum, different structure-specific judgement patterns emerge for both the ref- and NS-group participants' judgement of the *MsA* structures, particularly with respect to embedded *wh*-V2. However, as each sentence-type has only one corresponding structure, it is not meaningfully possible to investigate whether L2-induced variation is evidenced for each individual structure. This is especially true if we take into account some of the already small group sizes for the variables of interest. The above results make apparent that, in fact, the *MsA* structures cannot be regarded as a homogenous class. However, as stated above, they can also clearly not be considered individually in the present study. It is therefore not possible to meaningfully address the final research question, concerned with whether the acceptability judgements of bilinguals show evidence of a specific L1 language-internal multi-competence that is indicative of their ability to distinguish between what is prescriptively sanctioned in StdA, in comparison to what is permissible in MsA. However, despite the *MsA* structures' lack of homogeneity, they will be considered as a group to determine whether there is consistency in the experimental group participants' ability to distinguish between the *standard*, *ungrammatical* and *MsA* structures.

The above patterns do suggest, however, that further research is certainly required to investigate the fine-grained structure-specific differences that emerge for these structures.

6.5 The role of linguistic environment

6.5.1 Preamble

One of the primary aims of the present investigation was to disentangle the respective roles of language exposure and use in L1 (in)stability under the influence of an L2. In other words, the present study aims to isolate the role played by community-level exposure to the L1 *alone*. Recall that in studies concerned with L1 attrition, a rupture in contact with the L1 community (e.g. emigration) is often regarded as the point which marks the age of onset of attrition (Chapter 2, §2.2.5). However, in multilingual contexts where a shift to L2 dominance is not uncommon, the picture is not quite so straightforward. As a consequence, the present study is well situated to attempt to isolate the role played by community-level L1 *exposure* as opposed to L1 *use*. The first primary research question therefore asks whether bilinguals' acceptability judgements of their L1 Afrikaans differ according to whether they are in South Africa or the diaspora. This section presents the results that inform this research question in relation to verb placement.

Note that in this chapter, as well as Chapters 7 and 8, the results of *only* those variables which yielded statistically significant and empirically meaningful results are presented. Recall, however, that the role played by linguistic environment is central to the present study's research design, with the participant cohort divided into bilinguals who live in South Africa and those in the diaspora. As such, the results for the variable SA-EX are presented in detail in each chapter, regardless of statistical significance in the initial two-way ANOVA.

Recall that, prior to the analysis of post-hoc results (see Chapter5, §5.3), in order to reduce the chance of a Type I error, we need to demand a significant F in the initial two-way ANOVA. This will be strictly adhered to in the presentation of results that were found to be both empirically and statistically significant in §6.6 to follow. However, as the present discussion pertains to the *lack* of significance evidenced for the variable SA-EX, this is not a prerequisite. Thus, in order to facilitate a discussion with regard to the lack of effect evidenced for the variable SA-EX and participants' judgements of verb placement, the descriptive

statistics and the ensuing post-hoc results will be presented in §6.5.2 (with the post hoc results presented purely for illustrative purposes).

6.5.2 SA-EX: Verb Placement

The results for the variable SA-EX and the three verb placement classes (*standard*, *ungrammatical*, and *MsA*) are presented in Table 6.10 below. The post-hoc p values for the difference between the SA- and EX-group participants' judgements are presented directly below each column. For ease of identification, SA- ($n = 70$) and EX-group ($n = 86$) participants' means are indicated by the grey cells in the table below.

		Verb Placement $F_{(4, 2477)} = 4.22$, $p < .01$					
		Standard ($n = 8$)		*Ungrammatical* ($n = 4$)		*MsA* ($n = 4$)	
Variable	**Group**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
SA-EX							
	REF ($n = 10$)	4.80	0.53	1.77	0.91	3.00	1.32
	SA ($n = 70$)	4.71	0.70	2.01	1.03	3.45	1.32
	EX ($n = 86$)	4.64	0.80	2.11	1.09	3.53	1.27
post-hoc p value		.37		.26		.39	

Table 6. 10 Verb placement AJT judgement means for the variable SA-EX

As the above verb placement means indicate, SA- and EX-group participants' mean judgements are virtually identical across all three verb placement classes. Furthermore, the post hoc p values for the difference between SA- and EX-group participants are all highly non-significant at .37 (*standard*), .26 (*ungrammatical*), and .39 (*MsA*). In spite of these comparable means, the two-way ANOVA results in a significant F. As the above means and post-hoc p values indicate, this appears to be the result of the difference between the ref-group participants' judgements of the *MsA* structures in comparison to the other *two* groups' judgements, and not any differences between the SA- and EX-group participants' judgements. As the ref-group participants all reside in South Africa, the difference cannot (as discussed in Chapter 5, §5.4) plausibly be related to the variable SA-EX. In other words, the significant F is statistically, but not empirically, significant (see §6.7.4 for further discussion).

6.6   Variable-specific verb placement results

Prior to the presentation of the variable-specific verb placement results, let us briefly recapitulate the sensitive period, interface and structural overlap conditions as they are relevant to verb placement in Afrikaans. Recall that based on the limited data available (Cable, 2005), verb placement in Afrikaans, as with Dutch, appears to be acquired early. In terms of syntactic realisation at the interfaces, recall that the structures under consideration do not interface with discourse-related considerations (see Chapter 3, §3.3.2.3). Therefore, based on the fact that verb placement is an early acquired property of the narrow syntax, bilinguals' judgements of verb placement in Afrikaans were predicted to be stable under the influence of L2 English (Chapter 3, §3.3.5). Furthermore, the StdA structures probed in the present investigation do not overlap structurally with English. Thus, CLO, predicted under circumstances of a *partial* structural overlap, was not predicted (Kupisch, 2014; see Chapter 2, §2.2.6.2).

The results suggest that the predominant picture is one of stability. However, bilinguals' judgements of verb placement were also not completely invulnerable to variation indicative of EotSLotF. Between-group differences arise for multiple variables. The results for:

(i)   the childhood and adolescence language exposure- and use-related variables are presented first in §6.6.1 (LoLT-P and LoLT-S);

(i)   the circumstances of a dominance shift to English (AoO-D and LTRCU) are presented in §6.6.2; and

(iii)   the results for the adult language exposure- and use-related variables are presented in §6.6.3 (FREQ, SIBL, INT and WRIT).

An important observation about the data under consideration here is that participants' judgements of *standard* verb placement remain comparable across all the variables investigated. Section 6.7.3.1 will provide a detailed discussion of the stability evidenced for bilinguals' judgements of prescriptively sanctioned verb placement in Afrikaans. Therefore, only the differences/similarities related to the *ungrammatical* and *MsA* structures, where applicable, will be detailed in the presentation of the results below.

6.6.1   Language exposure and use in childhood and adolescence

The statistical analysis of the childhood and adolescence variables yielded statistically significant results in relation to *ungrammatical* verb placement for the variables LoLT-P and LoLT-S. The following sub-sections present these outcomes in detail.

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6.6.1.1 The variable LoLT-P

Based on whether participants' LoLT at primary school was Afrikaans (A), English (E) or both languages in a dual-medium school (B), participants' mean AJT judgements in response to the *ungrammatical, MsA* and *standard* verb placement structures are plotted in Figure 6.3 below.
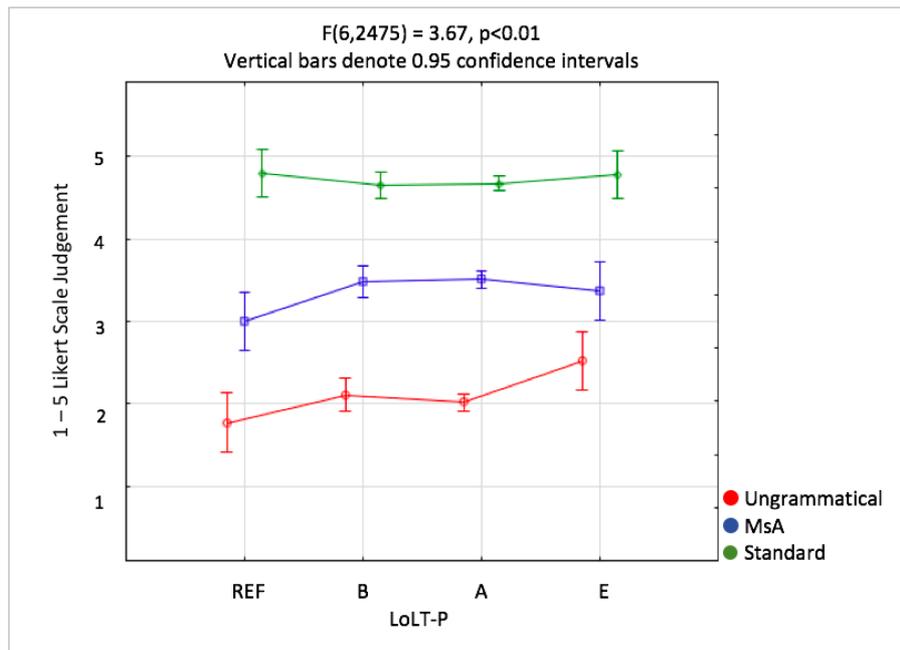
Figure 6. 3 Verb placement judgement means for the variable LoLT-P

Results from the two-way ANOVA reveal that the effect for the interaction between LoLT-P and verb placement is statistically significant at <.01 (F(6,2475)=3.67, p<0.01). An analysis of the graph in Figure 6.3 above indicates that E-group participants' performance, which appears to diverge from the ref-, A- and B-group participants' judgements of the *ungrammatical* structures (the red plot), is likely to be the cause of this statistically significant *F*.

Participants' verb placement means for the variable LoLT-P are set out in Table 6.11 below (means identified by grey cells below).

Variable: LoLT-P	Verb Placement F(6,2475)=3.67, p<0.01					
	Standard (*n* = 8)		*Ungrammatical* (*n* = 4)		*MsA* (*n* = 4)	
Group	Mean	SD	Mean	SD	Mean	SD
REF (*n* = 10)	4.80	0.53	1.77	0.91	3.00	1.32
A (*n* = 114)	4.67	0.75	2.01	1.01	3.51	1.28
B (*n* = 32)	4.62	0.81	2.10	1.14	3.48	1.29
E (*n* = 10)	4.77	0.61	2.52	1.21	3.37	1.42

Table 6. 11 Verb placement AJT judgement means for the variable LoLT-P

A comparison of the above means supports the initial pattern observed in Figure 6.3: participants whose LoLT was English in primary school have a higher mean rating for the *ungrammatical* structures than the other three groups. This was the case across all four V3/S.aux.O.V structures, and for all the variables revealed to be predictive. Furthermore, E-group participants also have the highest SD, suggesting the highest degree of within-group variability (note that SD values will only be commented on where noteworthy differences emerge).

The post hoc *p* values are presented below, with the corresponding *p* value for each pair at the intersection between the horizontal and vertical axis of the respective column (statistically significant values indicated by the grey cells).

	REF	**A**	**B**	**E**
REF	–	.20	.10	<.01
A	.20	–	.41	<.01
B	.10	.41	–	.04
E	<.01	<.01	.04	–

Table 6. 12 Post hoc p values for ungrammatical verb placement and the variable LoLT-P

As Table 6.12 illustrates, only the mean for E-group participants' judgements of *ungrammatical* structures is different enough from the other three groups' judgements to be statistically significant in the post hoc analysis.

Turning now to the Likert scale rating distributions presented below. In considering the rating distributions, the uneven group sizes need to be kept in mind. Just as with statistical graphs (e.g. see Figure 6.3 above), in which large and small groups yield narrow and wide confidence intervals respectively, the same applies for percentage breakdowns. In this regard, it is acknowledged that uneven group sizes problematise comparability; and furthermore, that small sample sizes are problematic as our ability to generalise from them is diminished.

However, where differences in means are evidenced, the Likert scale rating distributions do effectively facilitate an understanding of why these differences are evidenced by providing clarity in terms of *how* participants' judgements differ across the Likert scale.[65]
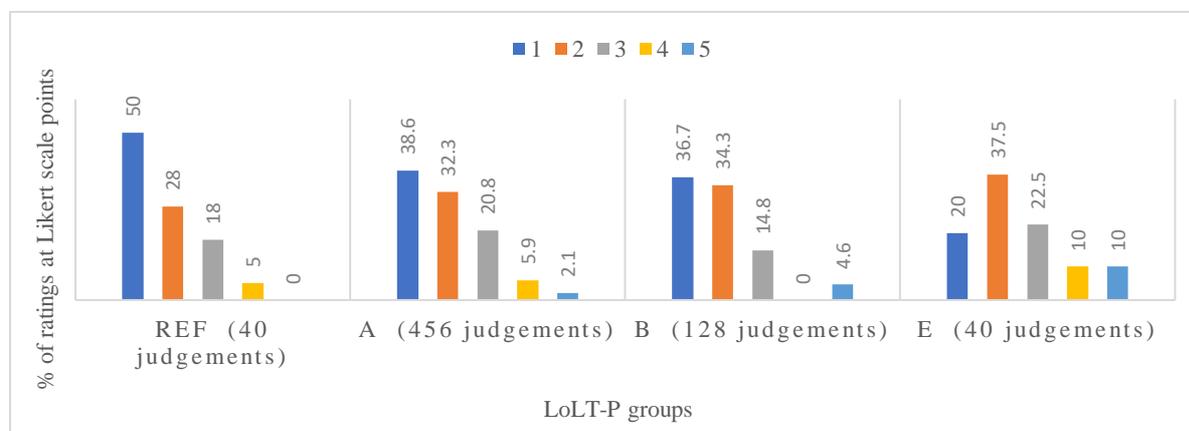
Figure 6. 4 Likert scale rating distribution for ungrammatical verb placement and the variable LoLT-P

Figure 6.4 reveals that, regardless of participants' LoLT at primary school, the majority of participants' judgements fall at the mid ("3") to lower end ("1s" and "2s") of the Likert scale. Thus, the overall picture is one of between-group uniformity.

However, as initially revealed by E-group participants' SD (see Table 6.11), the judgements of those whose LoLT was English at primary school exhibit the most within-group variation across the Likert scale. At the bottom-end of the Likert scale, the E-group participants rate 20% (8/40 judgements) of the *ungrammatical* structures "completely ungrammatical". This is in contrast to the A- and B-group participants, who rate them ungrammatical closer to 40% of the time (A-group = 38.6%, 176/455 judgements; B-group = 36.7%, 47/128 judgements), and the ref-group participants who rate them "completely ungrammatical" 50% (20/40 judgements) of the time.

Furthermore, while only 5% (2/40 judgements), 8% (37/455 judgements) and 4.6% (18/128 judgements) of the *ungrammatical* structures are rated either a "4" or "5" by ref-, A- and B-group participants respectively, E-group participants rate 20% (8/40 judgements) of the *ungrammatical* structures a "4" or "5".

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[65] Note that confidence intervals for each percentage *could* be calculated via a particularly laborious process. However, the statistician that I worked closely with (Prof. Martin Kidd) advised against it due to the fact that such an analysis would only overly complicate the presentation of the results, and not better our understanding of the observed patterns.

The percentage breakdown above indicates that, although based on the judgements of very few participants, the 10 E-group participants appear less inclined to commit to the judgement that a structure is "completely ungrammatical", and, more often than the other groups, regard the *ungrammatical* structures to be either "completely grammatical" or utterances that, while not prescriptively correct, they expect an Afrikaans speaker could say.

As this group is so internally variable, and additionally because the pattern is based on the judgements of so few informants, it would, however, be unwise to strongly commit to the significance of these results. As will be see below, however, its significance lies in the fact that the pattern is repeated for the variable LoLT-S.

6.6.1.2 The variable LoLT-S

Participants' mean AJT judgements in response to the *ungrammatical, MsA* and *standard* verb placement structures are plotted in Figure 6.5 below according to their LoLT-S groupings.
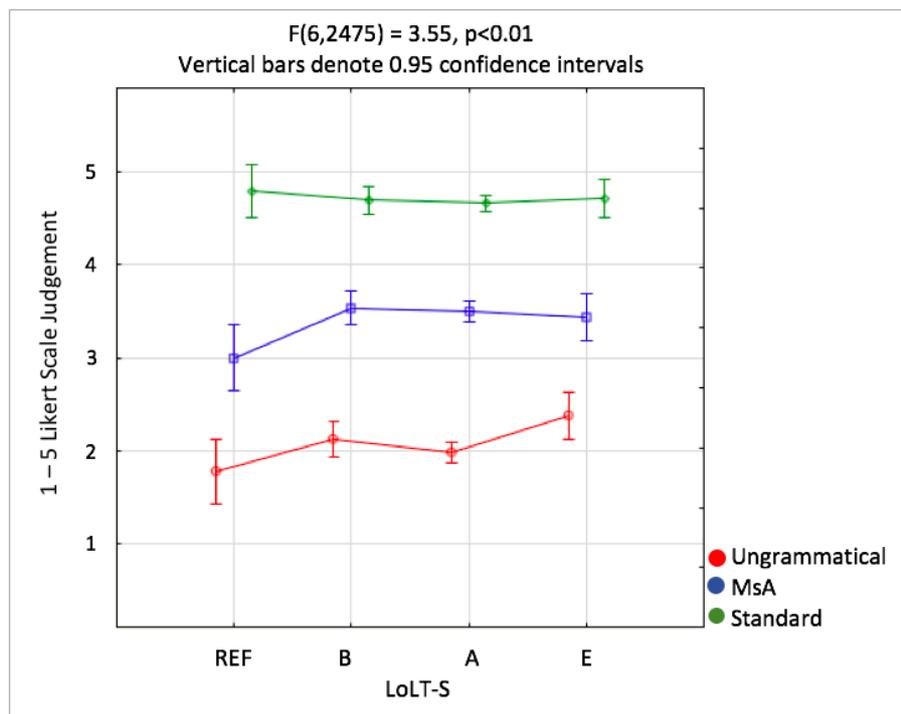
Figure 6. 5 Verb placement judgement means for the variable LoLT-S

The initial two-way ANOVA for the variable LoLT-S in relation verb placement is statistically significant at <.01 (F(6,2475)=3.55). As with the variable LoLT-P, an analysis of the graph in Figure 6.5 suggests that E-group participants' performance, to a lesser and greater degree

depending on the group in question, again diverges from the other three participant groups' judgements of *ungrammatical* verb placement (the red plot). The overall verb placement means are presented below in Table 6.13 below (again, means are marked by the grey cells).

| | Verb Placement F(6,2475)=3.55, p<0.01 | | | | | |
| Variable: LoLT-S | *Standard* (*n* = 8) | | *Ungrammatical* (*n* = 4) | | *MsA* (*n* = 4) | |
Group	Mean	SD	Mean	SD	Mean	SD
REF (*n* = 10)	4.80	0.53	1.77	0.91	3.00	1.32
A (*n* = 100)	4.66	0.77	1.98	0.98	3.49	1.28
B (*n* = 36)	4.69	0.74	2.12	1.12	3.53	1.32
E (*n* = 20)	4.71	0.73	2.37	1.25	3.43	1.32

Table 6. 13 Verb placement AJT judgement means for the variable LoLT-S

The above means indicate that participants whose LoLT was English in secondary school again have the highest mean rating for *ungrammatical* verb placement. Furthermore, E-group participants also have the highest SD, suggesting that the E-group is again the most internally variable. However, unlike what was revealed for the variable LoLT-P, E- and B-group participants' judgement means are more comparable. Furthermore, as Table 6.14 below indicates, the difference between the means is non-significant at .12. The post hoc *p* values for LoLT-S are set out below.

	REF	A	B	E
REF	_	.27	.09	<.01
A	.27	_	.21	<.01
B	.09	.21	_	.12
E	<.01	<.01	.12	_

Table 6. 14 Post hoc p values for ungrammatical verb placement and the variable LoLT-S

Only E-group participants' judgements of the *ungrammatical* structures are different enough from both the ref- and A-group participants' judgements to be statistically significant in the post hoc analysis. However, as noted above, unlike what was revealed for the variable LoLT-P, there are no statistically significant differences between B- and E-group participants' judgements of *ungrammatical* verb placement in Afrikaans.

To confirm whether these mean differences do in fact reflect between-group variation, a breakdown of the groups' Likert scale ratings is again presented below in percentages.
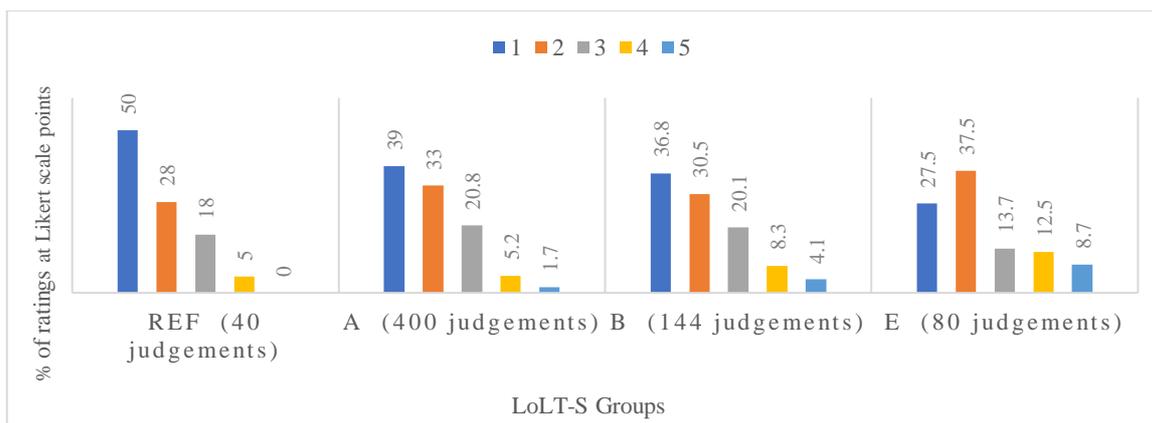
Figure 6. 6 Likert scale rating distribution for ungrammatical verb placement and the variable LoLT-S

Figure 6.6 reveals that the majority of participants' judgements, regardless of their LoLT at secondary school, fall at the mid ("3") to lower end ("1s" and "2s") of the Likert scale. Again, the overall picture is one of uniformity.

However, the judgements of those whose LoLT was English at secondary school, exhibit the most within-group variation across the Likert scale. Specifically, as with the variable LoLT-P (albeit to a lesser degree), E-group participants rate fewer *ungrammatical* structures "completely ungrammatical" than the other three groups. A- and B-group participants again rate the *ungrammatical* structures "completely ungrammatical" (i.e. a "1") approximately 40% of the time (A-group = 39%, 156/399 judgements; B-group = 36.8%, 53/144 judgements), while E-group participants opt for a "1" only 27.5% of the time (22/80 judgements).

At the top end of the Likert scale, E-group participants opt for a "4" or "5" on the Likert scale 21.2% (17/80 judgements) of the time. The ref- and A-group participants only opt for either a "4" or "5" 5% (2/40 judgements) and 6.9% (28/399 judgements) of the time respectively, with B-group participants rating the *ungrammatical* structures a "4" or "5" 12.4% of the time (18/144 judgements). The E-group participants, and to a lesser degree the B-group participants therefore rate more *ungrammatical* structures likely to occur in the speech of L1 Afrikaans speakers than the ref- or A-group participants.

6.6.2 Circumstances of a dominance shift to English

The statistical analyses of the variables probing the circumstances of a dominance shift to English, LTRCU and AoO-D yielded statistically significant effects for verb placement in MsA for both variables.

6.6.2.1 The variable AoO-D

Based on whether participants shifted to English dominance at the age of 13 or under, between the ages of 14 and 17, over the age of 18, or have remained Afrikaans-dominant, participants' mean AJT judgements in response to the *ungrammatical, MsA* and *standard* verb placement structures are plotted in Figure 6.7 below.
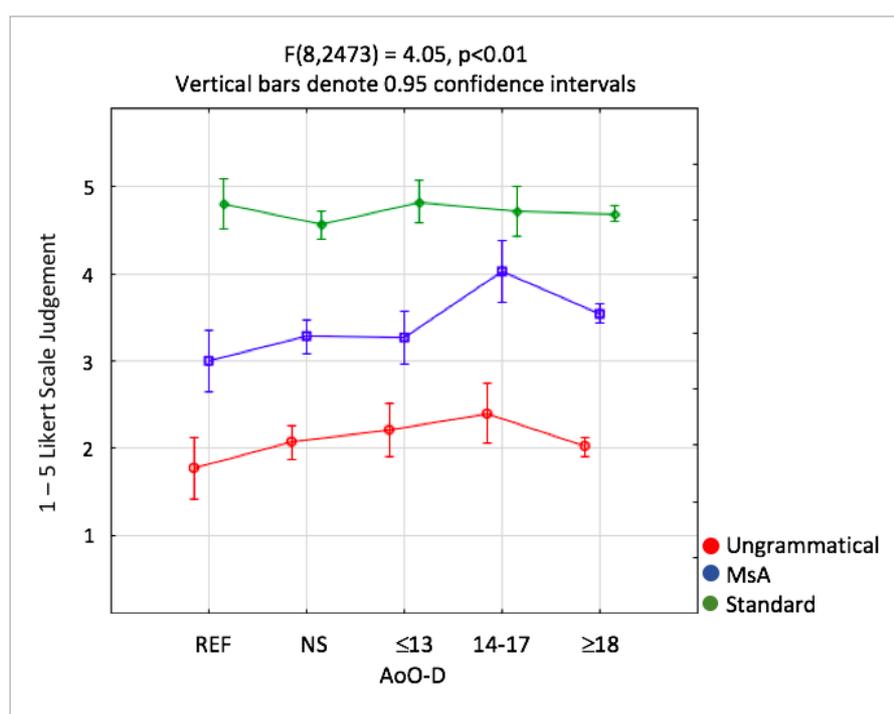
Figure 6. 7 Verb placement judgement means for the variable AoO-D

The two-way ANOVA is significant at <.01 (F(8,2473)=4.05). Unlike what was revealed for the variables LoLT-P and LoLT-S, the difference appears to be primarily in relation to verb placement in *MsA* (the blue plot in Figure 6.7), and potentially also *ungrammatical* verb placement, albeit to a far lesser degree.

Participants whose AoO is between the ages of 14 and 17 appear to rate the *MsA* structures markedly higher than all other participant groups, and the *ungrammatical* verb placement structures only slightly higher on the Likert scale than the other participants.

The overall verb placement means for the variable AoO-D are presented below (means marked by the grey cells).

	Verb Placement F(8,2473)=4.05, p<0.01					
Variable: AoO-D	*Standard* (*n* = 8)		*Ungrammatical* (*n* = 4)		*MsA* (*n* = 4)	
Group	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
REF (*n* = 10)	4.80	0.53	1.77	0.91	3.00	1.32
NS (*n* = 33)	4.56	0.95	2.06	1.21	3.28	1.34
≤13 (*n* = 13)	4.82	0.58	2.21	1.12	3.26	1.44
14-17 (*n* = 10)	4.72	0.69	2.40	1.00	4.02	0.97
≥18 (*n* = 100)	4.69	0.70	2.01	1.00	3.54	1.27

Table 6. 15 Verb placement AJT judgement means for the variable AoO-D

While the above means indicate that participants with an AoO between the ages of 14 and 17 have the highest overall mean for *ungrammatical* verb placement of all the groups (mean = 2.40), followed by those with an AoO of ≤13 (mean = 2.21), the post hoc results were not significant. The Likert scale percentage distribution revealed the judgement patterns of the five groups to be fairly comparable.

In response to the *MsA* structures, the difference is evidently quite marked as the judgement mean for those with an AoO of dominance between the ages of 14 and 17 is considerably higher than all the other groups, including participants whose AoO is ≤13.

Note that overall, the SDs for *ungrammatical* verb placement are considerably smaller than the SDs for verb placement in *MsA*. This is unsurprising, as the *MsA* structures, while not prescriptively grammatical, readily occur in the speech of many L1 Afrikaans speakers. The same is not true for the *ungrammatical* structures, which are very unlikely to feature in the speech of L1 Afrikaans speakers. An analysis of the *MsA* structures' SDs reveals that, apart from having the highest *MsA* mean, participants with an AoO of dominance between the ages of 14 and 17 also have the smallest SD value. In other words, they exhibit the most internal uniformity.

To determine whether the above mean differences are in fact statistically significant, the post hoc results for verb placement in *MsA* are presented in Table 6.16 below.

	REF	NS	≤13	14-17	≥18
REF	–	.17	.26	<.01	<.01
NS	.17	–	.95	<.01	.02
≤13	.26	.95	–	<.01	.10
14-17	<.01	<.01	<.01	–	.01
≥18	<.01	.02	.10	.01	–

Table 6. 16 Post hoc p values for verb placement in MsA and the variable AoO-D

The post hoc analysis reveals that there are numerous between-group differences that are statistically significant. It appears, then, that there is a considerable degree of between-group variation across the groups. However, the difference between the judgement mean of those who shifted to English dominance in adolescence (AoO between 14 and 17 years) is statistically significant when compared to *all* the other groups' means. In other words, their judgements are always the most divergent. Note that, although this effect is evidenced in the judgements of only 10 participants, recall that if the effect is *statistically* significant, in spite of the power problem that results from a small sample size, then the difference in question is indeed quite marked.

To understand how the participants' judgements differ, a breakdown of the groups' Likert scale judgements for verb placement in *MsA* is presented below in Figure 6.8 in percentages.
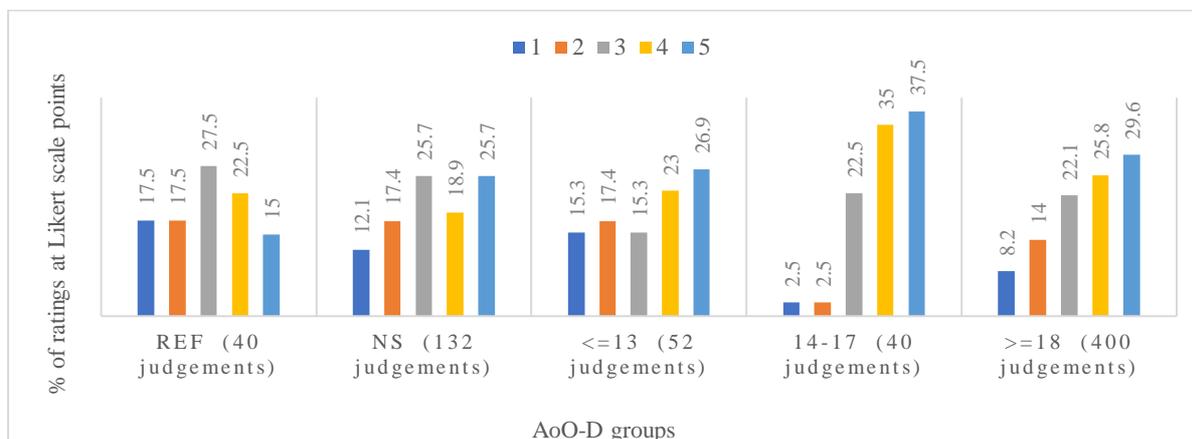
Figure 6. 8 Likert scale rating distribution for verb placement in MsA and the variable AoO-D

As the SD value in Table 6.15 indicates, and the distribution pattern in Figure 6.8 confirms: the judgements of participants whose AoO is between the ages of 14 and 17 are far less evenly spread across the Likert scale than the other participant groups. Participants whose AoO falls between 14 and 17 years of age rate a mere 5% (2/40 judgements) of the MsA structures a "1"

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or "2", with 72.5% (29/40 judgements) of the structures rated either a "4" or "5". This is a considerably different judgement pattern when contrasted with the other groups, who rate between 22.2% and 35% of the structures either a "1" or "2", and between 37.5% and 55.4% of the structures either a "4" or "5".

The above Likert scale distribution for verb placement in *MsA* suggests the following: participants who shifted to English dominance between the ages of 14 and 17, unlike many participants in the other groups, appear less sensitive to the fact that these MsA structures are not in fact prescriptively sanctioned in Afrikaans. Although there are only 10 adolescent switchers, a fact which undermines the robustness of this result, it appears that these bilinguals, more than any of the other participant groups, rate the MsA structures very likely to occur in the speech of L1 Afrikaans speakers.

6.6.2.2 The variable LTRCU

Participants stipulated that they had either made a dominance shift to English, or that they had remained Afrikaans-dominant or equally proficient in both languages (NS-group participants). For the English-dominant group, based on their specified length of time since reduced contact or use of Afrikaans (LTRCU), the judgement means in response to the *ungrammatical, MsA* and *standard* verb placement structures are plotted in Figure 6.9 below.
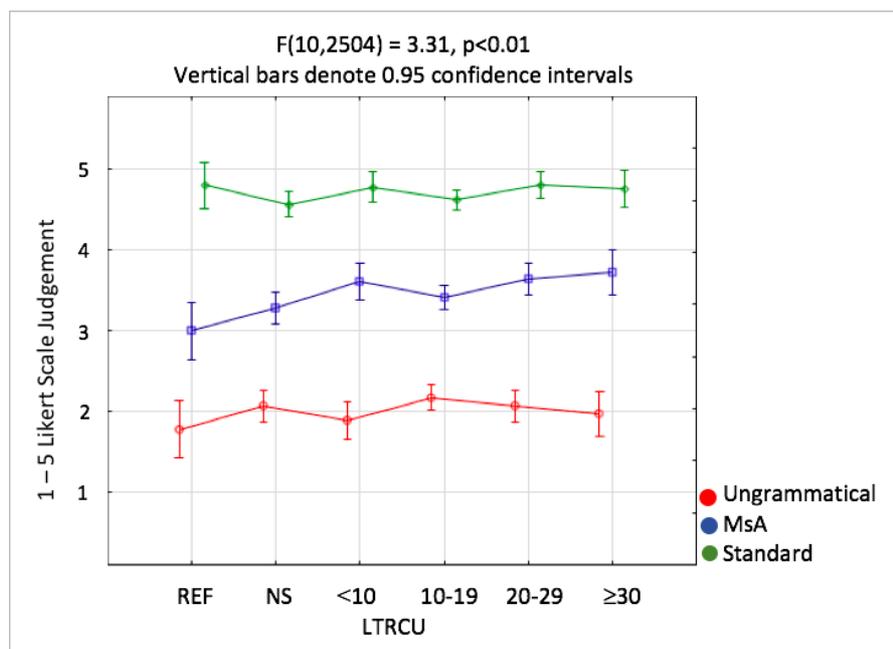

Figure 6. 9 Verb placement judgement means for the variable LTRCU

As the Figure 6.9 indicates, the two-way ANOVA is significant at <.01 (F(10,2504)=3.31)). Although the above graph appears to in fact reveal some between-group variability across all three structures, the most considerable differences appear to correspond with their judgements of the *MsA* structures. Close analysis of participants' judgement distributions indicates that all groups in fact perform comparably, and as one would expect, in response to the *standard* and *ungrammatical* structures. As such, these results will not be discussed further. Participants' mean judgments are presented in Table 6.17 below.

Variable: INT	Verb Placement F(10,2504)=3.31, p<0.01					
	Standard (*n* =8)		*Ungrammatical* (*n* =4)		*MsA* (*n* =4)	
Group	Mean	SD	Mean	SD	Mean	SD
REF (*n* = 10)	4.80	0.53	1.77	0.91	3.00	1.32
NS (*n* = 32)	4.56	0.95	2.06	1.21	3.28	1.34
<10 (*n* = 21)	4.76	0.59	1.87	0.98	3.59	1.26
10-19 (*n* = 55)	4.61	0.77	2.16	1.07	3.41	1.27
20-29 (*n* = 32)	4.80	0.59	2.07	0.97	3.64	1.27
>=30 (*n* = 16)	4.75	0.70	1.96	0.90	3.71	1.41

Table 6. 17 Verb placement AJT judgement means for the variable LTRCU

The means for participants' judgements of the MsA structures indicate that the ref- and NS-group participants' means are lower than the means of those who have shifted to English dominance. However, the difference between NS-group participants' mean is not *always* that much lower than the means of those who maintain they have shifted to English dominance. Rather, instead of a linear increase in mean ratings as participants' LTRCU increases, there appears to be a very slight dip around 10-19 years which is more closely matched with NS-group participants' means (although still substantially higher than the ref-groups' mean). To determine which, if any, differences are statistically significant, the post hoc *p* values for the interaction between the variable LTRCU and participants' judgements of the *MsA* structures are set out in Table 6.18 below.

	NS	<10	10-19	20-29	>=30
REF	.17	<.01	.04	<.01	<.01
NS	<.01	.03	.30	.01	.01
<10	.04	–	.16	.82	.55
10-19	<.01	.16	–	.07	.06
20-29	<.01	.82	.07	–	.67
>=30	<.01	.55	.06	.67	–

Table 6. 18 Post hoc p values for verb placement in MsA and the variable LTRCU

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As the post hoc *p* values confirm, with the exception of NS-group participants' mean (non-significant at .17), the difference between the ref-group participants' mean and all the English-dominant groups' means is statistically significant in every instance. The specific *p* values do, however, reveal that the effect is strongest for participants with a LTRC of <10 years, or over 20 years (all highly significant at <.01).

Furthermore, the above *p* values indicate that if we compare the post hoc results for the difference between NS-group participants' mean and the other variable-specific groups' means, only the difference between those whose LTRCU is between 10 and 19 years is *not* statistically significant. Additionally, the difference between the mean of those whose LTRCU is between 10 and 19 years is approaching significance when compared with the means of those whose LTRCU is between 20 and 29 years (at .07) and ≥30 years (0.6).

To shed further light on this less than straightforward pattern, and to identify how exactly the groups differ, the distribution of participants' Likert scale judgements for the variable LTRCU is presented in the figure below.
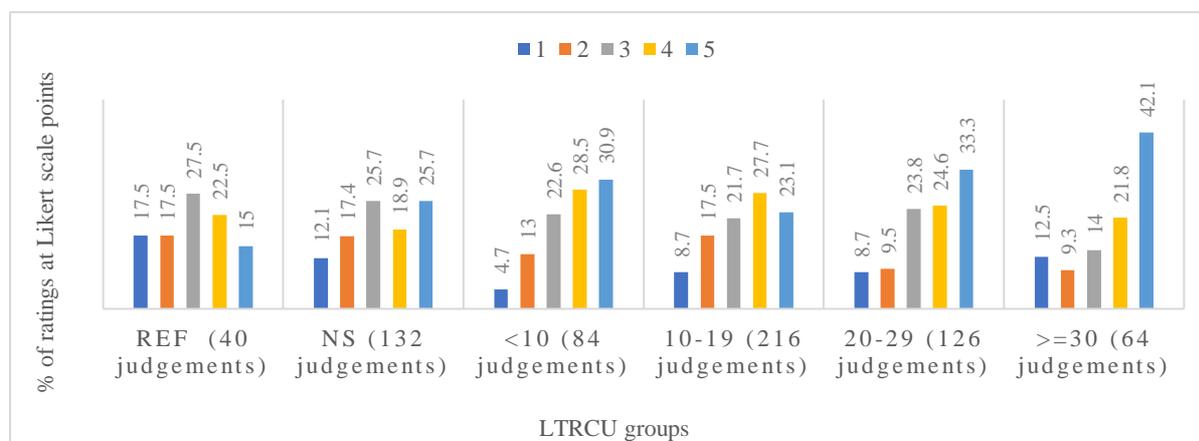
Figure 6. 10 Likert scale rating distribution for verb placement in MsA and the variable LTRCU

Across all the groups, participants' MsA judgements are far more evenly spread across the entire Likert scale spectrum than they are in response to *ungrammatical* verb placement. In the case of the latter, they are generally pooled closer to the lower end (rating point "1"). As noted for the variable AoO-D, this is unsurprising given that the *MsA* structures, while not *prescriptively* correct, frequently occur in the speech of many L1 Afrikaans speakers.

Although the pattern that emerges is not readily discernible nor marked, it would seem that although all the "shifters" are less conservative in their assessment of the MsA structures

than the "non-shifters", the most recent shifters (with a LTRCU of <10 years) are the least likely to rate the *MsA* structures "completely ungrammatical". Importantly, however, the pattern is not a linear one. Participants with a LTRCU of <10 years perform more comparably to those who have been English-dominant for 20 years or more; whereas those whose LTRCU is between 10 and 19 years appear to perform more comparably to the non-shifters.

The ref- and the NS-group participants as well as those with a LTRCU between 10 and 19 years are the most evenly distributed across the Likert scale. The other groups, however, appear to rate fewer structures either a "1" or "2" on the Likert scale, and more a "4" or "5". Consider the percentage of MsA structures that the various participant groups rate as being either a "1"or "2" ((6.4) below) or a "4" or "5" ((6.5) below) respectively:

(6.4)   Percentage of *MsA* structures rated either a "1" or "2"

(i)   ref-group participants: 35%   (14/40 judgements)
(ii)   NS-group participants: 29.5%   (39/132 judgements)
(iii)   <10 years: 17.5%   (15/84 judgements)
(iv)   10-19 years: 26.6%   (57/216 judgements)
(v)   20-29 years: 18.2%   (23/128 judgements)
(vi)   ≥ 30 years: 21.8%   (14/64 judgements)

(6.5)   Percentage of *MsA* structures rated either a "4" or "5"

(i)   ref-group participants: 37.5%   (15/40 judgements)
(ii)   NS-group participants: 44.6%   (59/132 judgements)
(iii)   <10 years: 57.9%   (50/84 judgements)
(iv)   10-19 years: 50.8%   (112/216 judgements)
(v)   20-29 years: 57.9%   (75/128 judgements)
(vi)   ≥ 30 years: 63.9%   (41/64 judgements)

It appears that in the years immediately following a dominance shift to English (i.e. <10 years), participants' judgments of these MsA structures exhibit more divergence than they do after 10 to 19 years – during which time participants' judgements appear to "stabilise". After 20 years of L2 dominance, however, the changes appear to follow a more linear pattern – with those who have been English-dominant for over 30 years rating as many as 63.9% of the structures either a "4" or "5". This is a considerable increase when compared to the judgements

of the ref- and NS-group participants, who rate 37.5% and 44.6% of the structures either a "4" or "5".

The non-linear pattern that emerges here correlates with a similar pattern evidenced for pronominal scrambling (Chapter 8). Thus, although it is acknowledged that the above trend is not particularly robust, it is suggestive of an interesting non-linear process with respect to how L2-induced influence may fluctuate over a period of time. A possible explanation for this pattern will be offered in §6.7.4 below and discussed again in Chapter 8 (§8.6.2.2).

6.6.3   Language exposure and use in adulthood

The statistical analysis of the language exposure- and use-related variables in adulthood yielded statistically significant results for verb placement for the variables FREQ, SIBL, INT and WRIT. The following sub-sections discuss these outcomes in detail.

6.6.3.1 The variable FREQ

Based on whether participants stipulated that they speak Afrikaans "daily" (D), "weekly" (W) or "rarely" (R), participants' mean AJT judgements in response to the *ungrammatical, MsA* and *standard* verb placement structures are plotted in Figure 6.11 below.
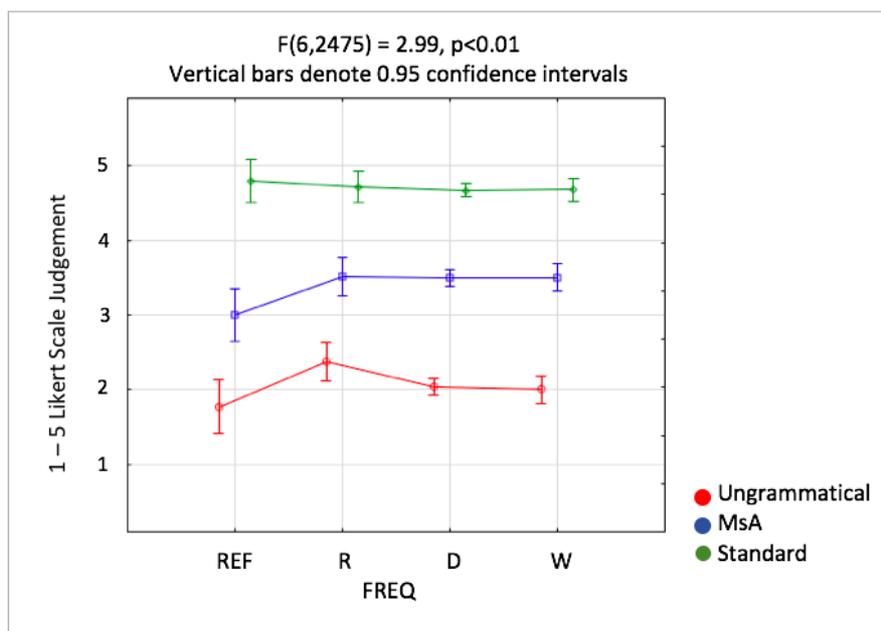
Figure 6. 11 Verb placement judgement means for the variable FREQ

The two-way ANOVA is significant at <.01 (F(6,2475)=2.99). The R-, D- and W-group participants' judgements appear to differ only in their judgements of *ungrammatical* verb placement (the red plot in Figure 6.11). In comparison to the other participant groups, the R-group participants' mean judgements reveal an upwards spike for the instances of *ungrammatical* verb placement. In other words, participants who only "rarely" speak Afrikaans appear to rate the *ungrammatical* structures higher on the Likert scale than those who speak Afrikaans more frequently.

The overall verb placement means for FREQ are presented in the Table below (means marked by the grey cells).

	Verb Placement F(6,2475)=2.99, p<0.01					
Variable: FREQ	*Standard (n = 8)*		*Ungrammatical (n = 4)*		*MsA (n = 4)*	
Group	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
REF (*n* = 10)	4.80	0.53	1.77	0.91	3.00	1.32
D (*n* = 101)	4.66	0.76	2.03	1.04	3.49	1.25
W (*n* = 37)	4.67	0.75	2.00	0.97	3.50	1.34
R (*n* = 18)	4.71	0.74	2.37	1.29	3.51	1.43

Table 6. 19 Verb placement AJT judgement means for the variable FREQ

The above means indicate that participants who speak Afrikaans daily or weekly indeed have lower ratings for the *ungrammatical* verb placement structures than those participants who maintain that they rarely speak Afrikaans. Additionally, the R-group participants' SD reveals that these participants are also the most internally variable.

To establish whether the above differences are in fact statistically significant, the post hoc *p* values for the variable FREQ are set out in the Table below.

	REF	**D**	**W**	**R**
REF	–	.16	.27	<.01
D	.16	–	.74	.02
W	.27	.74	–	.02
R	<.01	.02	.02	–

Table 6. 20 Post hoc p values for ungrammatical verb placement and the variable FREQ

Only the R-group participants' judgement mean for the *ungrammatical* structures is different enough from the ref-, D-, and W-group participants' means to be statistically significant in the post hoc analysis. The D- and W-group participants' means are almost

identical. A breakdown of participants' Likert scale judgements for the variable FREQ is presented in Figure 6.12.
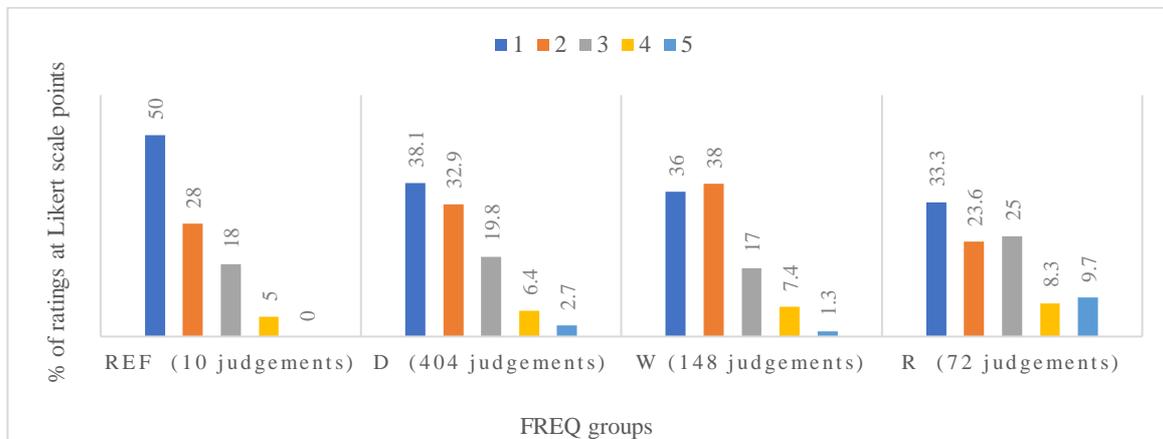
Figure 6. 12 Likert scale rating distribution for ungrammatical verb placement and the variable FREQ

The above distribution reveals that, regardless of how (in)frequently participants speak Afrikaans, the majority of their ratings again fall at the mid ("3") to lower end ("1s" and "2s") of the Likert scale. As with the variables LoLT-P and LoLT-S, which also interacted with *ungrammatical* verb placement, the overall distribution reveals between-group uniformity. In other words, there is agreement that these structures are unlikely to feature in the speech of L1 Afrikaans speakers.

Although this is certainly the predominant pattern, as indicated by the R-group participants' higher SD, the judgement distribution does indicate that participants who "rarely" speak Afrikaans rate more *ungrammatical* structures a "5" than the other groups, who very infrequently award a "5". Across the ref-, D-, and W-groups, no more than 2.7% of the structures are rated a "5".

Overall, although extreme disuse may result in bilinguals who more readily rate instances of *ungrammatical* verb placement more likely to occur in the speech of L1 Afrikaans speakers, their overall judgement patterns are not markedly different from bilinguals who use Afrikaans either daily or weekly. This suggests that in fact, frequency of use alone is not a particularly strong determinant in predicting L2-inducd instability in verb placement.

6.6.3.2 The variable SIBL

Participants' mean AJT judgements are plotted in Figure 6.13 below according to whether they now speak only Afrikaans (A), both Afrikaans and English (B), or only English (E) with their siblings.
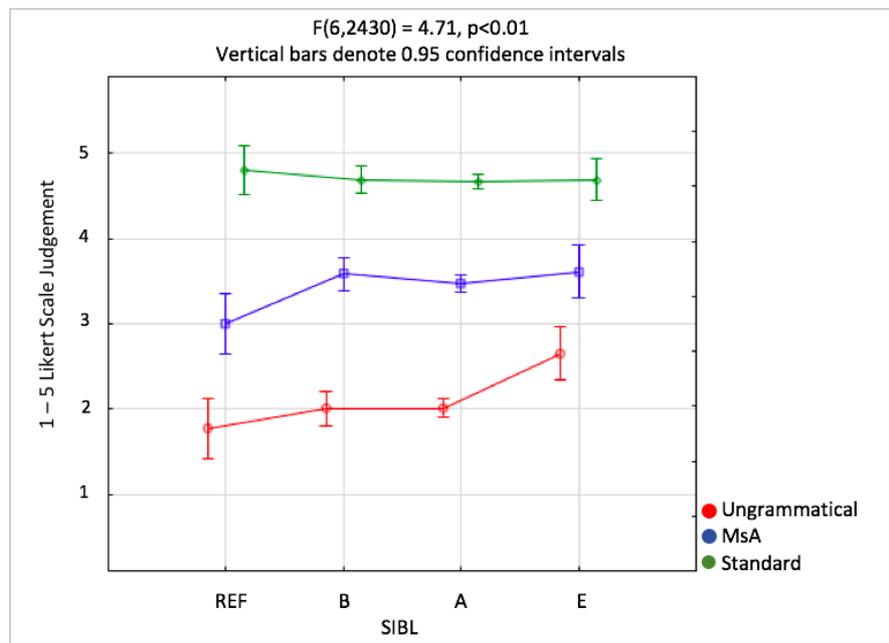
Figure 6. 13 Verb placement judgement means for the variable SIBL

As with the majority of the variables reported on so far, the variable SIBL again appears to interact with only *ungrammatical* verb placement. Here we see that E-group participants' judgement means exhibit a sharp upward trend in comparison to ref-, A- and B-group participants' judgements. The initial two-way ANOVA for the effect the variable SIBL has on participants' verb placement judgements is significant at <.01 (F(6,2430)=4.71).

The overall verb placement means for the variable SIBL are presented below in Table 6.21 below (means again in grey).

| Variable: SIBL | Verb Placement F(6,2430)=4.71, p<0.01 | | | | | |
| | *Standard* (*n* = 8) | | *Ungrammatical* (*n* = 4) | | *MsA* (*n* = 4) | |
Group	Mean	SD	Mean	SD	Mean	SD
REF (*n* = 10)	4.80	0.53	1.77	0.91	3.00	1.32
A (*n* = 109)	4.67	0.76	2.01	1.03	3.47	1.28
B (*n* = 31)	4.69	0.70	2.00	0.94	3.58	1.29
E (*n* = 13)	4.69	0.85	2.65	1.39	3.61	1.41

Table 6. 21 Verb placement AJT judgement means for the variable SIBL

The difference between the E-group participants' mean for *ungrammatical* verb placement and the other three groups' means is the greatest difference evidenced for a variable yet. The same is true of their SD, which is markedly higher than the other groups' respective SDs. This suggests a considerable degree of within-group variability. Post hoc *p* values are presented in Table 6.22 below.

	REF	A	B	E
REF	–	.21	.26	<.01
A	.21	–	.98	<.01
B	.26	.98	–	<.01
E	<.01	<.01	<.01	–

Table 6. 22 Post hoc p values for ungrammatical verb placement and the variable SIBL

As the above post hoc *p* values confirm, the difference in judgement means for *ungrammatical* verb placement for the variable SIBL is only significant for the difference between the E-group participants' judgements and the other three groups' judgements. The difference is highly significant in every instance.

The difference between ref-, B- and A-group participants' judgements is non-significant in every comparison. The distribution for participants' Likert scale judgements for the variable SIBL is in Figure 6.14 below.
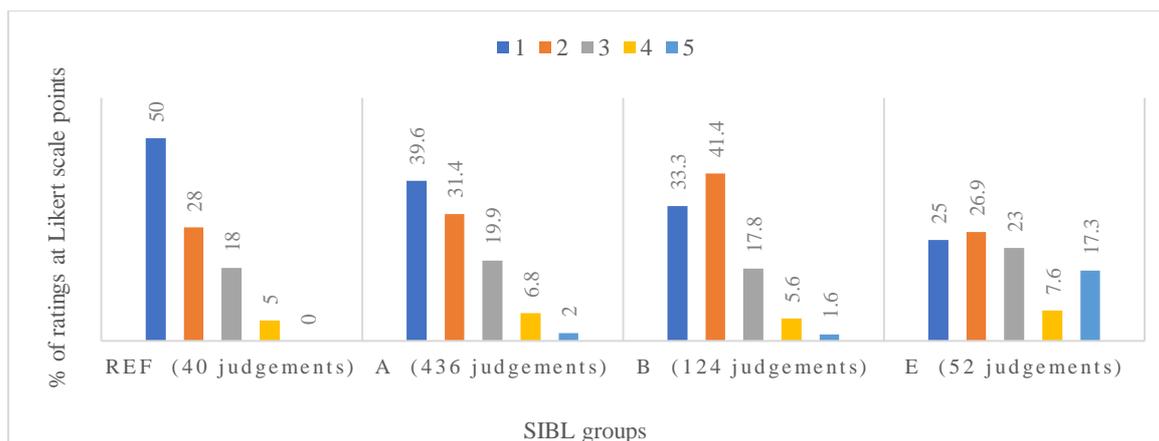
Figure 6. 14 Likert scale rating distribution for ungrammatical verb placement and the variable SIBL

As initially made apparent by the E-group participants' SD, and confirmed by the above distribution, the E-group is indeed internally variable in a way that the other groups are not. The E-group participants rate fewer *ungrammatical* structures "completely ungrammatical" (a "1" on the Likert scale) than the ref- , A- and B-group participants; as well as fewer structures a "2" when compared to the A- and B-group participants.

The most striking difference, however, emerges for the high percentage of *ungrammatical* structures the E-group participants rate a "5" (17.3%; 9/52 judgements), in comparison to the ref- (0%), A- (2%; 9/436 judgements) and B-group (1.6%; 2/123 judgements) participants – the biggest judgement disparity yet.

Although the majority of the E-groups' judgements still fall at the mid to lower end of the Likert scale (with 74.9% of their ratings distributed across rating points "3", "2" and "1"; 39/52 judgements), there do indeed appear to be significant differences between how those who speak only English with their siblings rate instances of *ungrammatical* verb placement in Afrikaans, in comparison to bilinguals who speak either only Afrikaans or both languages with their siblings. It is, however, acknowledged that this group (*n* = 13) is once again particularly small.

6.6.3.3 The variable INT

According to whether participants stipulated that they think or dream in Afrikaans (A), both languages (B), or only English (E), participants' mean AJT judgements in response for verb placement are plotted in Figure 6.14 below.

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Recall that 12 participants maintained that they "do not know" which language(s) they think or dream in. As these participants' judgements do not inform on the relationship between internal language use and the EotSLotF, their mean judgements are not plotted in Figure 6.15 below, nor are they presented in any of the tables that follow or discussed in relation to the effect the variable INT has on participants' judgements.
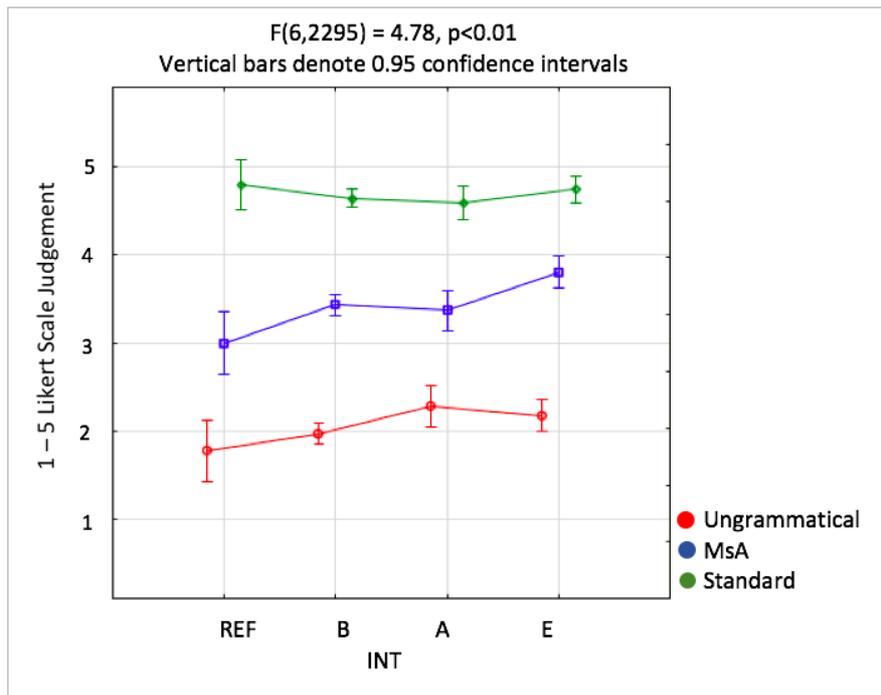
Figure 6. 15 Verb placement judgement means for the variable INT

The above graph reveals a similar pattern to that evidenced for the variable AoO-D. It appears that participants' internal language usage patterns affect their judgements of *MsA* structures, and not *ungrammatical* verb placement. The initial two-way ANOVA is significant at <.01 ($F_{(6,2295)}=4.78$)). Participants' mean judgments are presented in Table 6.23 below.

	Verb Placement F(6,2295)=4.78, p<0.01					
Variable: INT	**Standard (*n* =8)**		**Ungrammatical (*n* =4)**		**MsA (*n* =4)**	
Group	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
REF (*n* = 10)	4.80	0.53	1.77	0.91	3.00	1.32
A (*n* = 23)	4.58	0.97	2.28	1.11	3.36	1.29
B (*n* = 83)	4.64	0.77	1.97	1.02	3.43	1.26
E (*n* = 38)	4.74	0.65	2.17	1.10	3.80	1.31

Table 6. 23 Verb placement AJT judgement means for the variable INT

The above means reveal that, in response to the *MsA* structures, the A-group participants, with a mean of 3.36, perform most comparably to the ref-group participants. Conversely, with a mean of 3.80, the E-group participants' judgement mean is the most divergent when compared to the ref-group participants' mean and considerably higher than the A- or B-group participants' respective means. Post hoc *p* values for the interaction between the variable INT and participants' judgements of the *MsA* structures are set out in Table 6.24 below.

	REF	A	B	E
REF	–	.08	.02	<.01
A	.08	–	.65	<.01
B	.02	.65	–	<.01
E	<.01	<.01	<.01	–

Table 6. 24 Post hoc p values for verb placement in MsA and the variable INT

As the post hoc *p* values confirm, only the difference between the ref- and the A-group participants' mean is non-significant. While the difference between the ref- and the B-group participants' means is statistically significant at .02, the difference between the A- and the B-group participants' mean is non-significant at .65. Crucially, only the E-group participants' judgements are divergent enough from the other experiment groups' judgements to result in differences of statistical significance.

To identify how exactly the groups differ, the distribution of participants' Likert scale judgements for the variable INT is presented in the figure below.
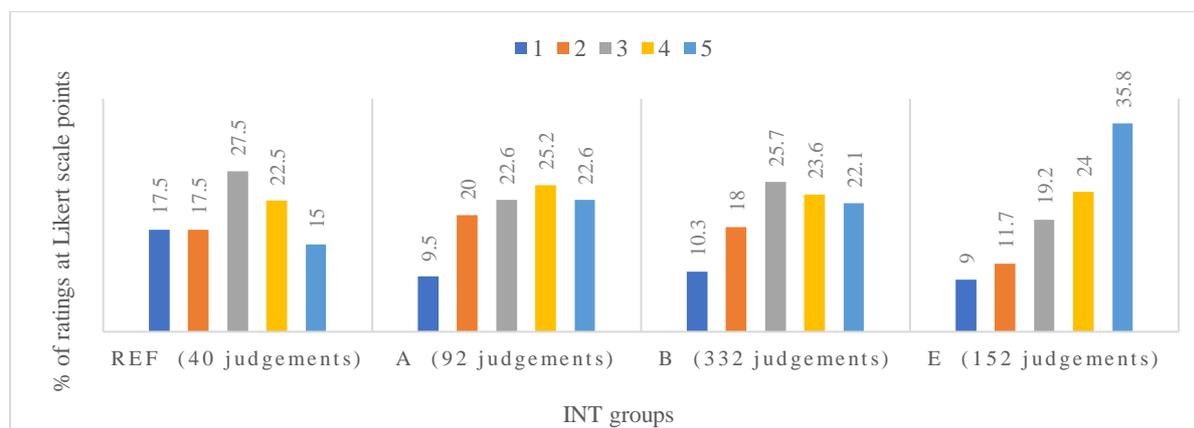
Figure 6. 16 Likert scale rating distribution for verb placement in MsA and the variable INT

As noted for the variables probing the circumstances of a dominance shift to English (see §6.6.2.1 and §6.6.2.2 above), participants' MsA judgements are more evenly spread across the entire Likert scale spectrum than they are in response to *ungrammatical* verb placement.

In spite of the fact that all groups' judgements are evenly spread across the Likert scale, at 35.8% (64/152 judgements), the rating most opted for by E-group participants for the *MsA* structures is a "5" (*This sounds completely grammatical, and an Afrikaans speaker could definitely say this*). This is a considerable difference when contrasted to the percentage of *MsA* structures the ref- A- and B-group, participants rate as "completely grammatical" – 15% (6/40), 22.6% (22/92 judgements) and 22.1% (85/332 judgements) respectively. Thus, more E-group participants, in contrast to A- or B-group participants, regard the *MsA* structures as "completely grammatical". This may suggest that many bilinguals whose internal language is now exclusively English, to some degree, appear to be less sensitive to the distinction between what is prescriptively sancioned in StdA versus what is permissible in MsA.

Overall, for *verb placement in MsA*, there does appear to be a substantial difference between how bilinguals whose internal language is exclusively English in comparison to those whose internal language is either Afrikaans or both languages rate verb placement in MsA. Specifically, the exclusive use of English as one's "internal language" appears to correlate with less sensitivity to the fact that these MsA structures are not in fact representative of StdA.

6.6.3.4 The variable WRIT

According to whether they stipulated that they "often" (O), "sometimes" (S) or "never" (N) read Afrikaans novels, newspapers, blogs or magazines, participants' mean AJT judgements for verb placement are plotted in Figure 6.17 below.
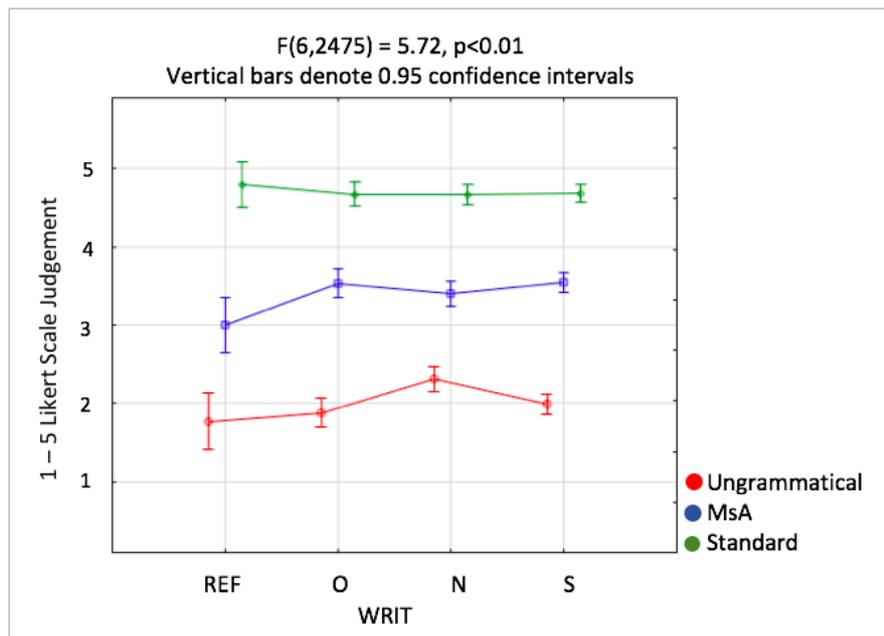
Figure 6. 17 Verb placement judgement means for the variable WRIT

The above graph indicates that the variable WRIT interacts with *ungrammatical* verb placement (the red plot). This is perhaps unsurprising if we consider that the *MsA* structures, which feature in *spoken* Afrikaans, are unlikely to occur in written Afrikaans, except perhaps in dialogue form. Recall, however, that in this regard embedded *wh*-V2 is the exception, as the structure does in fact feature in written Afrikaans (Chapter 3, §3.3.3.2).

The initial two-way ANOVA is significant at <.01 (F(6,2475)=5.72)). The plot for *ungrammatical* verb placement indicates that participants who are "never" exposed to written Afrikaans have a higher mean for the *ungrammatical* structures than participants who "sometimes" or "often" read material written in Afrikaans. Participants' mean judgments are presented in Table 6.25.

	Verb Placement F(6,2475)=5.72, p<0.01					
Variable: WRIT	**Standard (*n* = 8)**		**Ungrammatical (*n* = 4)**		**MsA (*n* =4)**	
Group	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
REF (*n* = 10)	4.80	0.53	1.77	0.91	3.00	1.32
O (*n* = 37)	4.67	0.75	1.88	0.94	3.53	1.38
S (*n* = 70)	4.68	0.70	1.99	1.03	3.54	1.21
N (*n* = 49)	4.66	0.84	2.31	1.15	3.40	1.35

Table 6. 25 Verb placement AJT judgement means for the variable WRIT

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The N-group participants' judgement means for *ungrammatical* verb placement are indeed markedly higher than the other three groups' means, with their SD only marginally higher. The post hoc *p* values are presented in the table below.

	REF	O	S	N
REF	–	.59	.26	<.01
O	.59	–	.35	<.01
S	.26	.35	–	<.01
N	<.01	<.01	<.01	–

Table 6. 26 Post hoc p values for ungrammatical verb placement and the variable WRIT

The above post hoc results confirm that only the N-groups' judgements are different enough from the other groups' judgements to result in differences of statistical significance. A breakdown of participants' Likert scale judgements for the variable WRIT is presented in Figure 6.18 below.
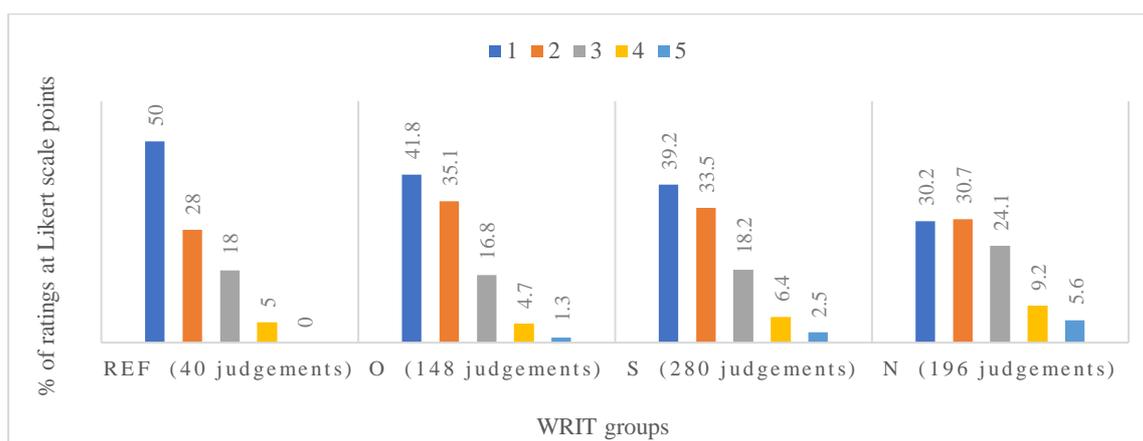
Figure 6. 18 Likert scale rating distribution for ungrammatical verb placement and the variable WRIT

Although there are differences between the N-group participants' judgements and the other groups' judgements across all five of the Likert scale points, the general pattern is that, regardless of exposure to written Afrikaans, most structures are rated either a "1", "2" or "3" – with a fairly comparable between-group distribution. It does, however, appear that the N-group participants rate fewer u*ngrammatical* structures a "1" than the ref-, O- and S-group participants, whose rating distributions are more comparable.

In other words, although there are no marked differences between participants' *overall* judgement patterns, bilinguals who are never exposed to written Afrikaans appear less inclined

to assess *ungrammatical* structures "completely ungrammatical" than those who are exposed to written Afrikaans more frequently.

6.6.4   Summary of the verb placement results

Overall, participants' judgements of *standard* verb placement remain unaffected and comparable to the ref-group participants' judgements regardless of the extralinguistic factors under consideration. For *ungrammatical* verb placement and *verb placement in MsA*, it appears that, although not invulnerable to L2-induced variation, when interaction effects are evidenced, they are quite minimal. The general pattern is one of between-group uniformity.

There are, however, between-group differences that emerge for *ungrammatical* verb placement, which, recall, entails English-type V3 or S.aux.V.O structures. For these structures, it appears that participants' judgements are, to some degree, affected by their LoLT in primary and secondary school, the language(s) they currently speak to their siblings (SIBL) and, to a lesser degree, the frequency with which they speak Afrikaans (FREQ) and their exposure to written Afrikaans (WRIT). Where variation is evidenced, the exclusive exposure to English in primary and secondary school as well the exclusive use of English with siblings results in more within-group variability in participants' Likert scale judgements. For the variables LoLT-P, LoLT-S and SIBL, E-group participants are less likely to rate these structures "completely ungrammatical" (i.e. a "1") and more likely to rate these structures higher on the Likert scale, than bilinguals who use Afrikaans or both languages in these contexts.

The same pattern emerges for bilinguals who infrequently speak Afrikaans (FREQ), although to a far lesser extent. Additionally, those who are never exposed to written Afrikaans (WRIT) appear less inclined to commit to rating structures "completely ungrammatical" (a "1") than participants who are more frequently exposed to written Afrikaans.

Of the five variables, the effect is most prominent for the variable SIBL. It is acknowledged that for the variable SIBL, as well as LoLT-P, the effects are evidenced in relation to very small (E-)group sizes (13 and 10 participants respectively). The results are therefore certainly less robust than one might hope. Note, however, that the same pattern emerges for the variable LoLT-S ($n = 20$), and, to a lesser degree, for the variables FREQ ($n = 19$) and WRIT ($n = 49$), which all involve larger groups. This suggests that less use/exposure to Afrikaans, and more use/exposure to English in these contexts has the potential to affect participants' judgements of *ungrammatical* verb placement in Afrikaans – albeit only minimally.

Turning now to participants' judgements of the *MsA structures*: participants' AoO of English dominance, LTRCU, as well as the language(s) of bilinguals' thoughts and dreams (INT) appear to interact with their judgement of verb placement in *MsA*. The fact that the *MsA* structures are not prescriptively sanctioned, but that they do, to varying extents, occur in the speech of L1 Afrikaans speakers, potentially explains why there is a great deal of within-group variability across the various groups in terms of how these structures are rated. Unlike participants' judgements of *ungrammatical* verb placement in Afrikaans (which, recall, typically pool towards the lower end of the Likert scale), participants' judgements of the *MsA* structures span across the entire Likert scale spectrum. However, as the ref- and NS-group participants' structure-specific MsA judgements reveal (see §6.4), embedded *wh*-V2 is rated higher on the Likert scale than the three verb-early structures. It was therefore noted that the *MsA* structures cannot be regarded as a homogenous class, and that, furthermore, the MsA means and judgements patterns do not reflect the variation that is likely to exist in respect to the acceptability of the different *MsA* structures.

What emerges for the variable AoO-D, however, is that individuals who shifted to English dominance between the ages of 14 and 17 are far more internally uniform in their assessment of the *MsA* structures than the other groups. These "adolescent shifters" rate very few MsA structures either a "1" or "2", and far more either a "4" or "5", i.e. very likely to feature in the repertoires of L1 Afrikaans speakers and "completely grammatical" in the case of rating point "5".

For the variable LTRCU, participants who have been English-dominant for over 30 years appear to be the most accepting of the *MsA* structures as "completely grammatical", i.e. with the highest percentage of judgements rating point "5". Interestingly, however, the variation evidenced in participants' judgements does not reveal a linear pattern based on their LTRCU. Rather, in comparison to the ref-group participants' judgements, as well as those who stipulate they have not shifted to English dominance, there appears to be more variation in bilinguals' judgement patterns within the first 10 years after a dominance shift than there is after 10 to 19 years. Participants with a LTRCU of more than 20 years, again exhibit more divergent patterns (comparable to those with a LTRCU of <10), with the most divergence evidenced in the judgements of those who have been English-dominant the longest (LTRCU of ≥ 30 years).

As with the variables AoO-D and LTRCU, a similar pattern emerges for participants whose internal language is English. These individuals rate more structures a "5" (i.e.

"completely grammatical") than participants whose internal language is Afrikaans or both Afrikaans and English. It appears, then, that participants who shift to English dominance in late adolescence as well as participants whose internal language is exclusively English are less sensitive to the fact that these *MsA* structures are not in fact prescriptively sanctioned in Afrikaans. It is, however, again acknowledged that the effect that is revealed for the variable AoO-D is based on the judgements of only 10 participants. Further research would certainly need to be conducted to establish whether this effect is revealed in a larger scale study. Furthermore, recall that with regard to the MsA judgement patterns, looking at all four MsA structures together will certainly conceal important structure-specific differences. It is therefore imperative that future research follows up on these structures individually.

6.7   Discussion of verb placement results

6.7.1   Preamble

In this section, the verb placement results presented above are interpreted and discussed to address the three primary research questions, and their associated sub-questions, that guided the present investigation. Note that sub-questions (ii-c) and (iii-b) (*concerned with overall the predictive power of the extralinguistic variables under investigation*) will be discussed in detail in Chapter 9 after the various property-specific results have been presented and discussed.

Concerning the research participants, I wish to briefly recapitulate both the ref- and experimental-group participants' language exposure and usage profiles. Recall that the 10 ref-group participants are those who speak mostly Afrikaans across the extralinguistic variables under investigation and could thus be regarded as the "most Afrikaans-dominant" of the subjects participating in the present study (see Chapter 4, §4.4.2). All 10 ref-group participants:

(i)   are based in South Africa;

(ii)   maintain that they are still Afrikaans-dominant;

(iii)   speak Afrikaans daily;

(iv)   maintain that Afrikaans is the language of their thoughts/dreams; and

(v)   still speak Afrikaans to their siblings.

Recall also that for the childhood and adolescence variables probed, all 10 participants have an AoO-B of three years and above; their LoLT at primary and secondary school was either exclusively Afrikaans or they attended dual-medium schools (see 1.3.3 of Chapter 1).

Lastly, all 10 participants maintain that they are "sometimes" or "often" exposed to written Afrikaans.

The 156 experimental group participants include those who have remained in South Africa ($n = 70$) as well as those in the diaspora ($n = 86$). Of the 156 experimental group participants, 33 stipulate that they have not made a dominance shift to English and either regard themselves as mostly Afrikaans-dominant, or equally proficient in both languages (SA: $n = 14$; EX: $n = 19$). In spite of these self-reported L1-L2 proficiency assessments, the language exposure and usage profiles of these 33 participants exhibit a greater deal of heterogeneity across the extralinguistic variables of interest than ref-group participants' profiles, although, less so than is evidenced for those who purport to be English-dominant. The remaining 123 experimental group participants (SA: $n = 56$; EX: $n = 67$) all maintain to have made a dominance shift to English, with an age of onset of English dominance between the ages of 7 and 50 years. The language exposure and usage profiles of these 123 participants exhibit the greatest deal of heterogeneity across the extralinguistic variables of interest (see Chapter 4, §4.2.4).

Let us now address the research questions in relation to verb placement.

6.7.2 *Do bilinguals' acceptability judgements of their L1 Afrikaans differ according to whether they are in South Africa or the diaspora?*

Across all three verb placement classes, there were no differences of statistical significance evidenced for the variable SA-EX. The acceptability judgements of Afrikaans-English bilinguals in South and the diaspora reveal no differences based on their geographical location. For verb placement, then, the answer to research question (i), which asks whether bilinguals' acceptability judgements of their L1 Afrikaans differ according to whether they are in South Africa or the diaspora is therefore *no*. Accordingly, sub-question (i-a), concerned with how the potential differences are evidenced, and sub-question (i-b), concerned with sensitive period considerations and interface status falls away.

6.7.3 *Do bilinguals' acceptability judgements of what is prescriptively sanctioned and/or ungrammatical in their L1 Afrikaans exhibit evidence of EotSLotF as a result of differential language exposure and use in childhood and adulthood?*

This sub-section addresses the second primary research question and its associated sub-questions. Recall that sub-question (ii-a) was concerned with *how EotSLotF are evidenced* and sub-question (ii-b) focuses on *sensitive period considerations and interface status*.

6.7.3.1 Prescriptively sanctioned verb placement in StdA

Across all of the extralinguistic variables probed in the present study, no interaction effects of statistical significance were evidenced for the *standard* verb placement structures (V2/SOV). The results revealed that, regardless of participants' exposure to or use of Afrikaans, the experimental groups' acceptability judgements of the *standard* verb placement structures remained comparable to the ref-groups' judgements (which, recall, resulted in a mean of 4.80 and a SD of 0.53). Accordingly, Afrikaans-English bilinguals' acceptability judgements of what is prescriptively sanctioned for verb placement in Afrikaans reveal no evidence of variation under the influence of L2 English. Thus, for the *standard* verb placement structures, sub-questions (i-a) and (i-b) fall away.

The stability evidenced for the V2/SOV structures aligns with what has previously been found for V2 in studies concerned with L1 attrition and HL grammars (see i.a. Schmid, 2002; Keijzer, 2007; Grabitzky, 2014; and Westergaard et al. 2021, and also Chapter 3, §3.3.5). As the present study is only concerned with bilinguals' *judgements* of verb placement in Afrikaans (and not with spontaneous production, which has repeatedly been shown to produce very different results; see Keijzer, 2007; Chamorro, Sorace & Sturt, 2016; Puig-Mayenco et al., 2018), I will only revisit Grabitzky's (2014) study and the GJT component of Keijzer's (2007) study here. The present study's results for *standard* verb placement align with Keijzer's (2007) results, but not with Grabitzky's (2014). Let us briefly consider again the relevant components and findings of each study in turn to establish why this may be the case.

Recall that Keijzer (2007) looked at the (in)stability of V2 (amongst other properties) in a (written) GJT. As noted in Chapter 3 (§3.3.5), the GJT structures were conventional subject-initial V2 structures as well as *wh*-questions (Keijzer, 2007: p.240). Recall also that participants had to select one of three categorical options: "*Incorrect, it should be*:…"; "*I don't know*"; "*Correct*". The results revealed no evidence of attrition in bilinguals' judgements of

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either structure-type, either in the grammatical or the ungrammatical class (the latter finding will be discussed again in §6.7.3.2 to follow).

Grabitzky's (2014) study tested bilinguals' knowledge of V2 using a bimodal acceptability judgement task with a 7-point Likert scale. Unlike what Keijzer's (2007) study concluded, and unlike what the present results suggest, Grabitzky (2014) concluded that German-English bilinguals' judgements of prescriptively sanctioned V2 are vulnerable to attrition. Crucially, however, the specific class of structures (*n* = 5 structures) where group-level attrition was evidenced entails fronted negation and is therefore a marked word order. Recall the NegAdvP-V-S structure presented as (2.12-d) in Chapter 2 (§2.4.3.2), repeated as (6.6) below (finite verb in bold):

(6.6)   *Nie **würde**   ich   schlecht von   dir   sprechen*!
                not   would   I   bad   of   you speak
                "Never would I speak poorly of you!"

                                                       (Grabitzky, 2014: p.67)

As discussed in Chapter 2 (§2.4.2.3), fronted negation (in the form of sole negative markers) in West Germanic languages involves contrastive topicalization, and thus interacts with discourse considerations (see Zeijlstra, 2013). Such structures, of the type included in Grabitzky's (2014) study, elicit a very strong and specific denial of a presupposition in the prior discourse (Seeliger, 2015). It is therefore important to acknowledge that it is not feasible to think of all V2 structures as being devoid of discourse-related considerations. Rather, depending on the first position element, discourse considerations *can* come into play too; and, in those cases, we might expect acceptability judgements to reflect the extent to which a given V2 structure is contextually restricted (i.e. marked). Furthermore, recall also that because of the structure's marked status, Grabitzky (2014: p.187) suggests that it could therefore be harder to process than its unmarked S-V-NegAdvP counterpart. Accordingly, the specific structure which Grabitzky's (2014) results indicate are subject to attrition is one that interfaces with discourse-related considerations, as well as one that is more syntactically complex and therefore difficult to process.

In the present study, however, the V2 structures probed were either subject-initial structures (example (6.1-b) above), or contained a fronted locative (example (6.1-a) above). Crucially, fronted locatives are interpreted as "scene setters" (Poletto, 1997) and not as fronted non-subject arguments, which always receive a non-discourse-neutral (marked) interpretation

(Haegeman, 2003; see Chapter 3, §3.3.2.3). Specifically, the "scene setter" structure, which entails a fronted a locative, is not an instance of topicalization. The *standard* V2/SOV structures under consideration in the present study do therefore not interface with discourse considerations nor are they marked and syntactically complex (see Appendix I for the *standard* structures tested in the present study).

At least two factors could therefore account for the asymmetries between the present study's *standard* verb placement results and Grabitzky's. Firstly, the bilinguals in the present study are not judging any marked structures of the kind that might incur additional processing costs. Secondly, these asymmetries may be accounted for on the basis of the IH (Sorace & Filiaci, 2006). The IH predicts more L2-induced instability in properties at the syntax-discourse interface than it does in properties that do not interface with discourse considerations. However, recall that, as pointed out by Montrul (2011), many grammatical properties involve multiple interfaces – some more internal, and some more external (Chapter 2, §2.4.2.3). Accordingly, if we test the IH at the level of individual structures, for example, the V2 structures of the narrow syntax included in the present study, and Grabitzky's (2014) NegAdvP-V-S structures, which interface with discourse considerations, the IH is borne out at a property-internal level too. With regard to how we test the IH, these V2-specific asymmetries therefore confirm the need to think of properties as being composite things (see Chapter 2, §2.4.2.3), with the IH therefore tested on a structure-by-structure basis.

6.7.3.2 Ungrammatical verb placement

Participants' judgements of structures in which the verb surfaces in an ungrammatical position (i.e. V3/S.aux.V.O) reveal that, although not invulnerable to what appears to be L2-induced variation, the overall picture is one of stability. Where variation is evident, the effects are mostly quite minimal, and the various groups' patterns are more comparable than they are different. Patterns of variation emerged for the following extralinguistic variables:

(i)   *LoLT at primary and secondary school* (LoLT-P, LoLT-S);

(ii)   *Frequency of L1 use* (FREQ);

(iii)   *Language use with siblings* (SIBL); and

(iv)   *Exposure to written Afrikaans* (WRIT).

The overall predictive power of each specific extralinguistic variable will be discussed in detail in Chapter 9. However, I wish to briefly recapitulate the relative size of the various effects evidenced here. The post hoc analysis reveals that, when compared to ref-group participants' judgements, the variable SIBL resulted in the most marked between-group difference, with differences that are statistically very highly significant ($p = .0002$). The effects evidenced for the variables LoLT-P ($p =. 003$), LoLT-S ($p = .006$), WRIT ($p = .006$), and FREQ ($p = .007$) are less robust. The data reveals that the most marginal effects are evidenced in relation the variables WRIT and FREQ.

With respect to the variable WRIT, recall that Bylund (2014) probed the effect of different types of language use on the occurrence of English loanwords in L1 isiXhosa-L2 English bilinguals. The results revealed that although receptive language use (e.g. exposure through TV, radio and books) was predictive, the effects were also marginal. Furthermore, the marginal effects evidenced for the variable FREQ, align with what was revealed in relation to L1 attrition, that frequency alone appears to have very little predictive power in determining the severity of attrition effects (Schmid, 2007; Chapter 2, §2.5.2.2).

Let us now address sub-question (ii-a), concerned with determining *how* L2-induced variability is evidenced in the acceptability judgements of bilinguals. Before addressing this question, let us first consider the ref-group participants' judgements.

Recall firstly, that for *standard* verb placement (mean = 4.80; 0.53), 85% (68/80 judgements) of the ref-group participants' judgements fell at rating point "5" ("completely grammatical"). In contrast to this pattern, the ref-group participants were more internally variable in their assessment of *ungrammatical* verb placement in Afrikaans (mean = 1.77; SD = 0.91). However, with the majority of their judgements for *ungrammatical* verb placement at:

  (i)   rating point "1" (*This sounds completely ungrammatical, and no Afrikaans speaker would say this*);

  (ii)   no judgements at rating point "5" (*This sounds completely grammatical, and an Afrikaans speaker could definitely say this*); and

  (iii)   only two at rating point "4" (*This may not be standard Afrikaans, but an Afrikaans speaker could say this*),

the ref-group participants' judgements align with the expectation that bilinguals who have remained largely Afrikaans-dominant do not consider these ungrammatical structures as ones which would feature in the speech of L1 Afrikaans speakers.

Let us now turn to the experimental group. The general trend is that the majority (70.1%; 437/623 judgements) of all bilinguals' judgements of *ungrammatical* verb placement fall

below rating point "3" on the Likert scale, in line with ref-group participants' judgements. Recall that in response to the *standard* V2/SOV structures, all bilinguals' judgements remain comparable to the ref-group participants' judgements, with the majority of their judgements at rating point "5". Consider again the descriptive statistics for the groups where variation was evidenced for *ungrammatical* verb placement, in comparison to their *standard* verb placement judgements, in Table 6.27 below.

Group	Standard ($n = 8$)		Ungrammatical ($n = 4$)	
	Mean	SD	Mean	SD
LoLT-P: English ($n = 10$)	4.77	0.61	2.52	1.21
LoLT-S: English ($n = 20$)	4.71	0.73	2.37	1.25
SIBL: English ($n = 13$)	4.69	0.85	2.65	1.39
FREQ: Rarely ($n = 18$)	4.71	0.74	2.37	1.29
WRIT: Never ($n = 49$)	4.66	0.84	2.31	1.15

Table 6. 27 AJT judgement means for standard and ungrammatical verb placement across the groups where variation was evidenced

As the above means clearly illustrate, these bilinguals' judgements still exhibit a clear distinction between prescriptively sanctioned V2/SOV structures on the one hand, and *ungrammatical* English-style V3/S.aux.V.O structures on the other (significant at <.01 in every instance). Nevertheless, their means and judgement distribution patterns for *ungrammatical* verb placement are still divergent when compared to the ref-group participants' judgements, as well as those who use or are exposed to more Afrikaans in the same contexts.

The pattern that emerges is as follows:

(i)   exclusive exposure to English in primary and secondary school (LoLT-P/S),

(ii)   exclusive use of English with siblings (SIBL), and, to a lesser degree,

(iii)   no exposure to written Afrikaans (WRIT) or very infrequent use of Afrikaans (FREQ),

results in judgement patterns that exhibit even more within-group variability than was evidenced for ref-group participants' judgements (contrast the SDs in Table 6.27 above with ref-group participants' SD of 0.99).

In comparison to bilinguals who use or are exposed to either only Afrikaans or both languages in the given contexts, these bilinguals are therefore less likely to judge these V3/S.aux.V.O structures "ungrammatical" (a "1") and more likely to rate them either a "2" or "3" on the Likert scale. Additionally, there is an increase in the number of judgements at the top end of the Likert scale (i.e. a "4", and even a "5"; with an increase between 8.8% and 16.1% depending on the variable in question).

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Perhaps the most noticeable difference, however, is not necessarily the increase in judgements at the top end of the Likert scale, but rather the increase in uncertainty these bilinguals appear to experience in judging a structure "completely ungrammatical" (a "1"). Recall that the ref-group participants' judgement distribution for the *ungrammatical* structures saw 50% (20/40 judgements) of their judgements at rating point "1", followed by 28% (11/40 judgements) at rating point "2". Thus, although the overall consensus is that these structures are not grammatical, with the highest percentage (50%) of judgements falling at rating point "1" ("completely ungrammatical"), the ref-group participants are still more variable in their assessment of *ungrammatical* verb placement than they are for *standard* verb placement. The same pattern emerges for bilinguals who speak either both languages or only Afrikaans in the contexts in question. While it is certainly the case that the majority consensus is that these *ungrammatical* structures are not grammatical, even the more Afrikaans-dominant bilinguals' judgements of verb placement exhibit more uncertainty in their assessment of the V3/S.aux.V.O structures, than they do in their assessment of the V2/SOV structures. However, under circumstances of reduced L1 exposure/use and increased L2 exposure/use, this uncertainty appears to become even more marked, with even fewer judgements at rating point "1".

What emerges with respect to bilinguals whose LoLT at primary and secondary school was English is that the majority of their judgements in fact fall at rating point "2" (37.5% in both cases), and not "1" (20% & 27.5% respectively). Bilinguals who speak Afrikaans with their siblings rate the *ungrammatical* structures a "1", "2", or "3" in almost equal proportion (25%; 26.9%; 23%). The same is true of those who are never exposed to written Afrikaans (with 30.2%, 30.7%, and 24.1% of their judgements at rating points "1", "2", and "3'" respectively). This was not, however, the case for the variable FREQ, where the majority of the judgements of those who infrequently spoke Afrikaans still fell at rating point "1". This again suggests that, in fact, this variable's predictive power is marginal at best: while the other variables point to uncertainty on the judgement front, the judgement patterns yielded for this variable indicate stability in the sense that the majority consensus is still one where these structures are largely considered "completely ungrammatical".

Recall that the *ungrammatical* structures in question are English-style V3.S.aux.V.O structures. While it is acknowledged that these changing judgement patterns could be argued to be the result of direct CLI from English, this is merely one possibility, and furthermore one which doesn't pinpoint the nature of the judgement differences evidenced under L2 influence. As discussed in Chapter 2 (§2.2.6.1), the term *CLI* is used to account for an array of phenomena

that describe bidirectional L1-L2/L2-L1 language influence. As a consequence, exactly *what* effect is at play is obscured. While it seems that the variation evidenced here occurs under increased exposure to or use of English, this also means that these changing judgement patterns occur under circumstances of decreased exposure to or use of Afrikaans. As the two are inextricably linked, an argument for CLI (if one applies the term) cannot be made for the judgement patterns that emerge.

What the results seem to suggest is that there is an increase in uncertainty in these bilinguals' willingness to commit to a judgement that deems the structure "completely ungrammatical" in their L1. In other words, it is not that their intuitions have been affected to such a degree that the majority of their judgements now fall at the top end of the Likert scale, which one might expect them to do if the "English" V3 structure is affecting their Afrikaans judgements; rather, they appear less inclined to commit to a judgement which rules out the possibility that V3 structures *could* occur. Crucially, however, as discussed in §6.7.3.1 above, they do not regard prescriptively sanctioned V2/SOV any less acceptable or less likely to occur in the speech of L1 Afrikaans speakers. These structures, they readily rate as "completely grammatical".

Unlike what was revealed for bilinguals' judgements of V2/SOV in Afrikaans, where the two studies concurred, these results are contrary to what Keijzer's (2007) study concluded for *ungrammatical* verb placement in Dutch. Keijzer (2007) found no between-group variation whatsoever with respect to Dutch-English bilinguals' judgements of *ungrammatical* verb placement. To understand why these findings may differ, recall that Keijzer (2007) used a GJT and not an AJT (see Chapter 4, §4.5.4 for discussion). Although participants were provided with an "*I don't know*" option, the other two options only provided participants with a choice between "*incorrect*" or "*correct*" (see §6.7.3.1 above). In contrast, the present study affords participants the opportunity to rate how (un)acceptable they deem the structures to be on a 5-point Likert scale, allowing for the possibility that, while they recognise it is not prescriptively sanctioned, it may in fact be possible in spontaneous production. Simply put, it may be that when presented with more grey-scale judgement options, participants feel less inclined to commit to a judgement that labels the structure as "ungrammatical" and therefore not at all possible to feature in their L1; instead, they therefore rather leave open the possibility that it *could* occur.

A further factor to consider pertains to that fact that Keijzer's (2007) study and the present study are concerned with different bilingual populations. That is, in the present study, with the exception of one participant (AoO of bilingualism = age 16), all the informants

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acquired English *prior* to the age of 13 – making them child L2 acquirers. Keijzer's (2007) informants, on the other hand, are *L1 attriters*, i.e. adult L2 acquirers. For the purpose of the present discussion, the distinction between adult L2 acquirers (i.e. L1 attriters) on the one hand and child L2 acquirers (i.e.HSs) on the other is particularly important. The reason, recall, is that HSs have been found to underperform in tasks requiring L1 metalinguistic awareness (see i.a. Montrul & Ionin, 2012; Montrul, Davidson, De La Fuente & Foote, 2014; Rinke, Flores, 2014; van Osch & Sleeman, 2018; Sequeros-Valle, Hoot & Cabrelli, 2020). In the case of L1 attriters, however, recall again that the results have been more mixed (Altenberg & Cairns, 1983; Altenberg, 1991; Grosjean & Py, 1991; Gürel, 2007; Keijzer, 2007; Chamorro et al., 2016; Grabitzky, 2014; see §2.3.4 for discussion). Importantly, the higher tolerance that some of the bilinguals have for these *ungrammatical* structures is similar to what has been evidenced in the judgement patterns of HSs. That is, Polinsky's (2018) "*yes*-bias" (see Chapter 2, §2.2.6.3 for discussion). Recall that the *yes*-bias phenomenon refers to the observation that HS tend to accept grammatical sentences at target-like rates but are more likely to incorrectly accept ungrammatical sentences as acceptable. Recall again that this tolerance for structures which are ungrammatical in the L1 is said to be rooted in uncertainty about the language in question (Rinke & Flores, 2014). In the present study and looking at the participant groups where these effects are evidenced, their language exposure and usage patterns are suggestive of English dominance. For example, recall that variation, albeit minimal in some cases, was evidenced in the judgements of bilinguals who rarely speak Afrikaans, never read Afrikaans texts and those who only speak English to their siblings (the effects evidenced for the variable SIBL will be returned to below). In other words, variation is evidenced in the judgements of bilinguals who appear to be the most L2-dominant, and therefore could be argued to most closely resemble the HS-type speaker.

With regard to why this uncertainty is evidenced in response to the *ungrammatical* structures, but not the *standard* structures, let us consider what is known about the processing of (un)grammatical sentences. As discussed in Chapter 4 (§4.5.4), recall that studies involving the recording of ERPs during sentence processing have found that there is a positive electrical response at around 600ms after the onset of the ungrammaticality in ungrammatical structures (the "P600 effect"), with no such response being detected for grammatical structures (Hagoort et al., 1993; Osterhout & Nicol, 1999; Hagoort et al., 2003). As a consequence, this P600 effect indicates that ungrammatical sentences are harder to process than grammatical sentences. The reason, as noted by Frazier (2013), is that syntactic analysis, which proceeds systematically in a step-wise fashion, favours grammatical analyses over ungrammatical ones. The latter

analyses incur processing issues because "we unconsciously slow down whenever we are faced with an ungrammaticality/anomaly" (Marinis 2010:p.141), see Chapter 4, §4.5.2). As ungrammatical structures are harder to process than grammatical ones, it is unsurprising that even the ref-group participants' judgements of *ungrammatical* verb placement exhibit more variability. These judgement patterns are suggestive of more uncertainty with regard to the structures' status than is evidenced in their judgements of the *standard* structures (which, recall, are rated almost at ceiling on the Likert scale).

One of the ways EotSLotF are manifested is in sub-optimal L1 syntactic processing (see i.a. Sorace, 2011, 2019; Orfitelli & Polinsky, 2017; Schmid & Köpke, 2017a; see Chapter 2, §2.2.3 & §2.2.6.3). These processing difficulties are thought to be, in part, the result of a lack of activation of the L1 (Paradis, 1993, 2007; Chapter 2, §2.4.1), as well as inhibitory control-related factors (Köpke, 2004). These extralinguistic cognitive process are complex phenomena that we still know very little about. In terms of structures which we might expect to be subject to variation indicative of sub-optimal L1 syntactic processing, Sharwood Smith (2019, p.76) notes that "the question of what 'processing difficulty' precisely entails is left open because there seems to be no way of expressing with any rigour and precision what that concept actually means". Similarly, the question of what exactly *sub-optimal L1 syntactic processing* entails is not one we yet have an answer to. It is therefore acknowledged that, as a result of this knowledge gap, the phrase *sub-optimal L1 syntactic processing* is vague and lacks the descriptive power we might wish for to better understand the cognitive processes involved. However, given the complexities at play for these extralinguistic cognitive process, a more specific formulation, particularly in a study such as the present one, which only makes use of off-line judgement tasks, is not possible. Using online testing methods, future studies concerned with EotSLotF can hopefully facilitate a better understanding as to what precisely is meant by *processing difficulty* or *sub-optimal L1 syntactic processing*.

Although we may not fully understand the nature of the processing-related considerations at play, we do know that AJTs are not exempt from processing issues (Chapter 4, §4.5.4). As a consequence, it may be that these *ungrammatical* structures become even harder to process under the influence of L2 dominance, worsening the uncertainty these bilinguals appear to experience when judging ungrammatical V3.S.aux.V.O sentences in Afrikaans (see Chapter 2, §2.2.6.3, and Orfitelli & Polinsky, 2017 for discussion).

A further consideration with respect to these judgement patterns is that this variation may be the result of L2-influence during the period when metalinguistic skills are emerging and developing – which, recall, correlates, more or less, with the primary schooling years (see

Chapter 2, §2.3.4). Metalinguistic ability is further thought to correlate with schooling because of the observation that acquirers' linguistic knowledge is reinforced by literacy skills developed at school (see Benelli et al., 2005; see also Janko et al., 2018 for an overview; and Chapter 2, §2.5.1.2). As the primary and secondary schooling years therefore appear to be of particular importance in the development of metalinguistic skills, it is intriguing that the variables LoLT-P and LoLT-S were found to be predictive.

To this end, what the results suggest is that increased L2 exposure during the period when bilinguals' metalinguistic skills are developing may interfere with their L1 metalinguistic awareness, and subsequently, their ability to assess these structures as ungrammatical in an AJT. The outcome is that these bilinguals' language-specific contrasts may not be as sharp as they would be if their metalinguistic skills were developing under the influence of only one language. This, in turn, appears to result in bilinguals whose judgements exhibit a greater degree of uncertainty as to whether the English-style V3/S.aux.O.V structures are acceptable in their L1.

This result lends support to what Serratrice et al. (2009) found in their study concerned with the comparative performance of monolingual and bilingual children in tasks which required metalinguistic judgements (Chapter 2, §2.4.2.2). Recall that the (2009) study revealed that, in comparison to their monolingual peers, bilinguals with reduced input in the language under investigation underperformed in these tasks (see also Gathercole, 2002, 2007; Argyri & Sorace, 2007 for similar results). As noted in Chapter 2 (§2.4.2.2), and repeated here, Serratrice et al. (2009: p.254) therefore maintain that L1 input during this period plays a non-trivial role in determining L1 users' judgements in tasks which require metalinguistic skills. The present study is, of course, concerned with adult bilinguals. However, as with what is evidenced in "typical" HS populations, it appears that the role played by L1 input during these earlier years has a lasting effect on bilinguals' judgements of ungrammatical structures in their L1.

Lastly, and returning to the variable SIBL: It is particularly noteworthy that exclusive use of English with siblings resulted in the most divergent judgement patterns (with as many as 17.3% of the structures rated a "5"; 9/52 judgements). Recall that for V2 (amongst other properties), Schmid's (2002) study of L1 attrition in German-English bilinguals revealed that the group that had the highest degree of attrition also reported the lowest amount of L1 use with their siblings (Chapter 2, §2.5.2.2). Schmid (2002) found that of a corpus of 5,050 sentences, there were 103 V2 violations. Of these, 77 instances saw more than one element before the finite verb (i.e. with the verb in V3 position), and in 26 instances, the verb was in first position in a declarative structure (Schmid, 2002: p.158). Importantly, Schmid's (2002)

study is concerned with production. Taking her results and those of the present study together, it therefore appears that bilinguals who speak their L2 with their siblings are more susceptible to V3 errors in production (Schmid, 2002) *and* more accepting of V3 in an acceptability judgement task (the present study). While the role of language use with siblings will be discussed in detail in Chapter 9, recall that language use with siblings is thought to be affective in nature (Dunn, 2002), and that affective language choices have been shown to correlate with language dominance (Pavlenko, 2004, 2005, 2012). By extension then, bilinguals who use exclusively English with their siblings may therefore be more L2-dominant than those who use either their L1 or both their L1 and L2 – an observation which seems to find support in the present study's verb placement results, as well as Schmid's (2002) (see Chapter 9, §9.5.3 for further discussion).

It should again be noted that some of the (E-)groups where these effects are evidenced are particularly small. It is therefore acknowledged that for the variable SIBL ($n = 13$) as well as the variable LoLT-P ($n = 10$) the robustness of these individual results must be open to question. However, that the same effect, whereby participants are less inclined to rate these *ungrammatical* structures "completely ungrammatical" is evidenced across multiple variables, adds a collective weight to the pattern that is evidenced (see also §6.6.4).

Finally, let us consider sub-question (ii-b) in relation to participants' judgements of these *ungrammatical* structures. Sub-question (ii-b) asks whether variation, indicative of EotSLotF, is limited to bilinguals' judgements of the later acquired and more external interface-oriented properties, or whether their judgements of the earlier acquired properties associated with internal interfaces are also vulnerable to variation under the influence of L2 English. For verb placement, an early acquired property where the structures investigated do not interface with discourse considerations, the answer appears to be that *bilinguals' judgements are vulnerable to variation under the influence of English, however, with minimal effects that only affect their judgements of ungrammatical verb placement*. The *degree* of effect is vital to note here. The IH does not stipulate that properties that do not interface with discourse considerations are necessarily invulnerable to EotSLotF, but rather that they are likely to exhibit *more* stability than properties at the syntax-discourse interface.

In sum, although variation, suggestive of EotSLotF, was evidenced in bilinguals' judgements of *ungrammatical* verb placement, because the effects were so minimal, and, additionally, that bilinguals' judgements of what is prescriptively sanctioned in Afrikaans (V2/SOV) remain unaffected, these results do not refute the IH's predictive power. In fact, as the IH would predict, verb placement, an early acquired syntactic property, appears to be

largely stable under the influence of L2 English. Note that this question will be addressed again in Chapter 9, taking a global perspective once all the relevant property-specific results have been presented and discussed.

6.7.4 *Do the acceptability judgements of bilinguals show evidence of a specific L1 language- internal multi-competence that is indicative of their ability to distinguish between what is prescriptively sanctioned in StdA, in comparison to what is permissible in MsA?*

In order to answer this research question, let us consider again both the ref- and NS-group participants' descriptive statistics in response to the *MsA* and *standard* verb placement structures (Table 6.28). The ref- and NS-group participants' judgements are presented first in order to establish a baseline against which the results that are suggestive of variation in bilinguals' MsA judgement patterns can be discussed. The reasoning for explicitly presenting the NS-group participants' ($n = 33$) structure-specific MsA judgement patterns in §6.4.3 was due to the variation evidenced between the ref-group participants' judgements of the different MsA structures, which, recall, entail only one structure per nonthematic verb/embedded *wh*-V2 option. The NS-group participants' judgements were therefore presented to determine if the pattern was evidenced across a larger group, who either regard themselves as more Afrikaans-dominant bilinguals, or equally proficient in both languages (in spite of their more heterogenous language exposure and usage patterns).

The statistical significance of the difference between the groups' means in response to the *standard* structures on the one hand and the *MsA* structures on the other are presented in the far-right column of Table 6.28.

	Standard (n = 8)		MsA (n = 4)		Significance
Group	**Mean**	**SD**	**Mean**	**SD**	*p*
REF (*n* = 10)	4.80	0.53	3	1.32	<.01
NS (*n* = 33)	4.56	0.95	3.28	1.34	<.01

Table 6. 28 The ref- and NS-group AJT judgement means for standard verb placement and verb placement in MsA

As the above table reveals, the difference between both the ref- and NS-group participants' judgement means of what is prescriptively sanctioned in Afrikaans in comparison to what is permissible in MsA is significant at <.01. The differences evidenced for these groups' judgements of verb placement in StdA and MsA respectively are therefore different enough to

be statistically significant. In other words, the ref- and NS-group participants distinguish between what is prescriptively sanctioned in StdA on the one hand, and what occurs in MsA on the other.

As already noted in §6.4.2 above, with judgements spread across the entire Likert scale spectrum, the MsA judgement pattern is also very different to what was evidenced for *ungrammatical* verb placement (ref-group: mean = 1.77; SD = 0.91; NS-group: mean = 2.06; SD = 1.21). In line with what one might expect, then, the ref-group participants as well as bilinguals who have not made a dominance shift to English make very clear distinctions between the three classes.

Of the four MsA structures included in the present study, recall that three entailed early placement of a nonthematic verb in an EC with an overt complementiser (i.e. early auxiliary, copula and modal verb placement), and one was an instance of *wh*-V2 in an EC. Recall also that, although all structures feature in MsA, *wh*-V2 in ECs is the most established of the three structures (Biberauer, 2017; Chapter 3, §3.3.3.2). This was reflected in the ref- and NS-group participants' judgements of the embedded *wh*-V2 structure (see §6.4 above), which resulted in the highest mean of the four structures (with means of 3.7 and 4.1 for the ref- and NS-group participants respectively). Although all the ref- and NS-group participants clearly distinguish between what is prescriptively sanctioned in StdA in comparison to what is permissible in MsA (with the difference statistically significant at <.01 in every instance), the distinction between embedded *wh*-V2 and its V-final counterpart (with means of 5 and 4.78 for the ref- and NS-group participants' V-final judgements respectively) is less robust (although still statistically significant at <.01 for both groups).

Sub-question (iii-a) was concerned with whether the distinctions bilinguals make between StdA and MsA are subject to variation under the influence of L2 English. The structure-specific judgement patterns described above indicate that to attempt to address this sub-question by looking at all four MsA structures collectively is very likely to conceal important between-structure differences. Furthermore, as each MsA sentence-type (e.g. modal/auxiliary/copula-containing structure or embedded *wh*-V2 structure) corresponds with only one structure, a fine-grained investigation into whether the StdA-MsA distinction remains intact for the participant groups where variation is evidenced is not justified. This is particularly the case because of the small group sizes where such effects were evidenced (with only 10 and 16 participants for two of the variables in question). As a consequence, sub-questions (iii-a) and (iii-b) will not be explicitly addressed. However, in an attempt to understand the broader patterns that emerge under the influence of L2 English for these bilinguals' judgements of verb

placement in MsA, the variation that was evidenced, and the corresponding variables that were revealed to be predictive, will be discussed.

The variables where differences of statistical significance emerged were as follows: AoO-D, LTRCU and INT. Once again, the predictive power of each specific extralinguistic variable will be discussed in detail in Chapter 9. However, the relative size of the various effects evidenced are again presented here. The post hoc analysis reveals that, when compared to the ref-group participants' judgements, the variables AoO-D (p = .00004) and INT (p = .00007) resulted in the most marked between-group difference. The overall effect evidenced for the variable LTRCU (p = .001), although still highly statistically significant, appears to be less robust than the former two variables.

The pattern that emerges is as follows: Adolescent shifters (AoO between 14-17 years), bilinguals who have been English-dominant for more than 30 years, and those whose internal language is English are more likely to rate the *MsA* structures "completely grammatical" (i.e. a "5"), than the ref-group participants or bilinguals who have remained largely Afrikaans-dominant (see Figures 6.8, 6.10 and 6.16 above for their Likert scale judgement distributions).

The descriptive statistics for the participant groups in question are presented again in Table 6.29 below:

Group	Standard (*n* = 8)		MsA (*n* = 4)	
	Mean	SD	Mean	SD
AoO-D: ages 14-17 (*n* = 10)	4.72	0.69	4.02	0.97
LTRCU: ≥30 years (*n* = 16)	4.75	0.70	3.71	1.41
INT: E-group (*n* = 38)	4.74	0.65	3.80	1.31

Table 6. 29 AJT judgement means for standard verb placement and verb placement in MsA across the groups where variation was evidenced

As the above *MsA* SDs reveal, the adolescent shifters are the least internally variable in their assessment of the *MsA* structures (SD = 0.97). In comparison to the other groups, they rate very few *MsA* structures a "1" or "2" (see Figure 6.8 of §6.6.2.1 above). Accordingly, of all the groups, their judgement patterns are in fact the most divergent when compared to the ref-group participants' MsA judgements patterns (*p* = .00004).

Let us now consider why it could be that bilinguals in these three groups appear to be more lenient in their assessment of the *MsA* structures. Looking at the profile of the bilinguals in question, it appears that under circumstances of decreased exposure to Afrikaans, and increased exposure to English, and therefore potentially circumstances of L2-dominance,

bilinguals more readily accept the *MsA* structures as "completely grammatical". It is again interesting that those whose internal language is English also produced these divergent MsA judgements patterns. Recall that, as with language use with siblings, proficiency, and, therefore, language dominance has strongly been shown to correlate with internal language usage patterns (de Guerrero, 2005; Larsen et al., 2002; see also see §6.7.3.2 and Chapter 2, §2.5.2.2).

Although the judgement patterns suggest that these bilinguals are less sensitive to the fact that these *MsA* structures are not prescriptively sanctioned in StdA, the data cannot reliably and explicitly answer sub-question (iii-a), which asks whether the distinctions bilinguals make between StdA and MsA are subject to variation under the influence of L2 English. It does, however, appear that under circumstances of decreased exposure to or use of Afrikaans, these distinctions may be more vulnerable. The result, it seems, is that the distinctions between Afrikaans sub-systems becomes less clear.

It is noteworthy that the group who use the most Afrikaans across the variables investigated, the ref-group participants, have the lowest overall mean for the *MsA* structures. This suggests that it may not *only* be language dominance which affects bilinguals' sensitivity to the variation that exists in Afrikaans (although this seems to certainly be the greatest predictor). Rather, it may additionally be that the use of more English *overall* is predictive (see Chapter 7 to follow, for a similar pattern with respect to ref-group participants' DN & NC judgements). However, because the variable FREQ was not found to be predictive for participants' MsA judgements, it is acknowledged that this proposal is not statistically supported.

Let us return to why the potentially more English-dominant bilinguals' judgements exhibit the least sensitivity to the StdA-MsA distinction. It is, firstly, worth noting that in English embedded clauses, there is no word-order difference between main and embedded clauses like there is in Afrikaans (see Chapter 3, §3.3.3.1). It is therefore possible that increased exposure to English may reduce the sensitivity to the distinction that exists between the prescriptively sanctioned V-final and verb-early/*wh*-V2 MsA structures. This, in turn, may reduce their sensitivity to the fact that the MsA structures are not in fact prescriptively sanctioned when they are asked to assess such structures in an AJT. This, however, is only one possibility. Another is that variation, indictive of EotSLotF may not always manifest in ways that are, either directly or indirectly, indicative of L2 influence (as one may want to propose for CLI) (see Chapter 2, §2.2.61).

To this end, these effects may correspond more with the hypothetical "desert island" situation (see Sharwood Smith & van Buren, 1991; de Bot, 2001), whereby the L1 changes as

a result of lack of L1 exposure (Chapter 2, §2.2.3). The more English-dominant bilinguals, where this variation is evidenced, are also likely to be those who are the least frequently exposed to spoken Afrikaans. This is, in fact, corroborated by specific informants' LBQ responses. As a consequence, this may mean that their exposure to the *variation* that exists in Afrikaans is also less, resulting in judgement patterns that less clearly represent this possible variation. We appear then to be dealing with a *very indirect* EotSLotF.

That EotSLotF are not always the result of L2 influence is noted by Flores & Rinke (2020) (see Chapter 2, §2.2.6.4). On the one hand, we may be dealing with a pattern similar to Polinsky's (2018) *yes*-bias – the result of language uncertainty and also, potentially, processing-related limitations (see the discussion on p.285 to follow). A further possibility, however, is that as with HSs, these bilinguals may amplify the tendencies that already exist in their L1 in such a way that they "further develop the variable phenomenon according to a diachronic path" (Flores & Rinke, 2020: p.26). Flores & Rinke (2020: p.26) note that although this may be triggered by a reduction of L1 input, it is a language-internal phenomenon. Recall that this effect has been borne out in a number of studies (Hopp & Putnam, 2015; Flores & Rinke, 2020; Shah, et al., in press; Zimmer, in press). As a reminder of how this plays out, let us consider again Hopp & Putnam's (2015) study below (see Chapter 3, §3.3.5).

Recall that the HSs of Moundridge Schweitzer German (MSG) in Hopp & Putnam's (2015) study produce more instances of V2 in ECs introduced by *dass* ("that") and *weil* ("because") than they do V-final structures, and, additionally, that they are more accepting of V2 in ECs introduced by *dass* than they are of the V-final order. As noted in Chapter 3 (§3.3.1.3), *dass*-deletion is required for the V2 order to be acceptable in a standard German EC; and V2 in *weil*-clauses is only permissible in spoken German (see Kempen & Harbusch, 2016). However, in spite of the restrictions, Hopp & Putnam's informants' MSG grammar is argued to be restructured *within* the constraints of German syntax: this V2 in EC pattern, and not one indicative of a preference for the English-style SVO order, is the one that is overproduced and favoured (recall that English-style SVO ordering hardly featured in the HSs speech and was rated very poorly in the AJT; see Chapter 3, §3.3.5). Thus, the HSs production and judgement patterns are not indicative of CLI from English, but rather exhibit the kind of language-internal change described by Flores & Rinke (2020).

In the case of the present study, it may therefore be that reduced L1 input has a dual effect. The first is that a reduction of L1 input reduces the amount of L1 variation bilinguals are exposed to, diminishing their sensitivity to variation in the L1. As a result, they may be less certain as to the status of these structures in Afrikaans, and more likely to rate them "completely

grammatical" (i.e. exhibiting something of a *yes*-bias). The second is that a reduction in L1 input changes the L1 grammar in such way that it diverges from those who are more Afrikaans-dominant. Crucially, however, the change adheres to patterns already present in the grammatical system and "boosts" the existing pattern accordingly (Flores & Rinke, 2020).

There appear therefore to be multiple possibilities at play, which need not be mutually exclusive. In this regard, and in relation to L1 attrition, Köpke & Schmid (2004: p.17) note that the changes evidenced in bilinguals' L1 grammar are "generally not the consequence of lack of L1 use alone". This observation is supported by the lack of predictive power evidenced in the present study for the variable SA-EX (§6.5). Apart from the various possibilities explored above, to further understand what the role of the L2 may be in the variation evidenced here, let us consider again the proposal put forward to account for participants' *ungrammatical* verb placement judgements (§6.7.3.2).

Recall that one of the ways that EotSLotF manifest is in sub-optimal L1 syntactic processing (Sorace, 2011, 2019; Schmid & Köpke, 2017a) and that the processing difficulties incurred are thought to be the result of lack of activation of the L1 (Paradis, 1993; 2007). Furthermore, it was also proposed that L1 processing difficulties may be exacerbated under circumstances of L2 dominance. If we consider that the variation evidenced is seen in the judgements of bilinguals who have either been English-dominant since adolescence, or for more than 30 years, then it is very likely that these bilinguals' L1 suffers, in at least some respect, from a lack of activation. It could therefore be argued that their L1 is potentially subject to sub-optimal L1 syntactic processing. This, in turn, may make it more difficult for them in an AJT to disambiguate between structures that are prescriptively sanctioned in StdA in comparison to those which are permissible in *MsA*.

With regard to processing issues, recall that it is assumed that ungrammatical structures are harder to process than grammatical structures (§6.7.3.2). Importantly, it is not, however, assumed that the *MsA* structures necessarily incur more processing costs than their prescriptively sanctioned StdA counterparts. The reason for this is based on what was revealed in the data obtained in the Word Monitoring Task (WMT) which was briefly discussed in Chapter 4 (§4.5.2). Recall that, although not part of the present investigation, the patterns reported on with respect to the WMT indicate that this assumption is on the right track.

Recall that WMTs are used to test participants' comparative response times when presented with sentences that are syntactically (un)grammatical. Ungrammatical structures are expected to elicit slower RTs than grammatical structures, because, recall, "we unconsciously

slow down whenever we are faced with an ungrammaticality/anomaly" (Marinis, 2010: p141; see Chapter 4, §4.5.2).

An analysis of the WMT results revealed that, as with the StdA structures, the MsA structures yielded faster RTs than the ungrammatical structures. This is perhaps unsurprising as the MsA structures are not in fact *anomalous*. However, what was unexpected is that many of the *MsA* structures in fact yielded *faster* RTs than their prescriptively sanctioned counterparts. It was proposed that this may suggest that structures representative of more colloquial language use are potentially processed faster than their equivalent standard counterparts (see Chapter 4, §4.5.2). Extended to the AJT, it is therefore not proposed that the *MsA* structures themselves contribute to the potential processing issues that the more English-dominant bilinguals' judgements may be subject to. Rather, as noted above, under circumstances of sub-optimal L1 syntactic processing, it is proposed that it may simply be more difficult to *disambiguate* between the StdA and MsA structures.

In terms of the potential processing issues that these divergent judgement patterns may be indicative of, I wish also to briefly discuss a pattern that was evidenced for the variable LTRCU. As discussed above, of those who have made a dominance shift to English, participants who have been English-dominant for the longest (LTRCU ≥30 years) have the most divergent judgement patterns. However, the correlation between bilinguals' LTRCU and their judgement patterns is not a linear one. It was revealed that, in comparison to the ref- and NS-group participants' judgements, the judgements of bilinguals with a LTRCU of <10 years were more divergent than those who had been English-dominant for 10-19 years. After 20 years, however, the changes evidenced followed a linear pattern (see §6.6.2.2 above). It appears, then, that in the years immediately following a dominance shift to English (<10 years), participants' judgements were more divergent, followed by what appears to be period of stabilisation (10-19 years). After this period, however, the divergence worsens in a linear fashion the longer bilinguals have been L2-dominant. Interestingly, recall that a similar pattern emerged in Scherag et al.'s (2004) study, which was concerned with German-English bilinguals' knowledge of grammatical gender in German (Chapter2, §2.5.2.1). Recall that Scherag et al. (2004) found that those with a LoR of less than two years performed identically to the long-term attriters (see also Schmid, 2019 for a discussion concerned with the observation that attrition effects are often evidenced in the first decade). Importantly, however, Scherag et al.'s (2004) "long term" attriters had a length of residence of between six and 49 years (see also the discussion to follow in Chapter 8, §8.8.2.2). A comparison between the

bilinguals with the shortest LTRCU in the present study (with a broad LTRCU of <10 years), and those in Scherag et al.'s (2004) study may not therefore be one that can be feasibly made.

Nonetheless, to understand why this kind of non-linear pattern is said to be evidenced, recall that language inhibition is thought to account for divergence in the first few years following emigration or a shift to L2 dominance (Köpke, 2007; see Chapter 2, §2.5.2.1). The proposal is that inhibition is required to prevent interference from one language when the other is in use. Specifically, it is proposed that in the very early stages of L2 acquisition - or, in this case, an L2 dominance shift - more inhibition of the L1 is required. The outcome is that bilinguals experience more processing-related problems at this early stage. As a consequence, the processing issues bilinguals face across the lifespan could be the result of different cognitive processes: inhibition at the earlier stages, and lack of activation at later ones (Chapter 2, §2.4.1). While such an account certainly seems plausible in the first year or two, as in Scherag et al.'s (2004) study, that inhibition will last for nearly a decade, as in the present study, seems less likely. In spite of this, it is still interesting to note that this non-linear pattern corresponds with what has previously been found in studies concerned with L1 attrition, where attrition effects have often been evidenced in the first decade (see Schmid, 2019 for an overview).

Lastly, let us consider again the adolescent shifters, whose judgement patterns were the most divergent. As noted above, recall that metalinguistic awareness is thought to develop gradually through childhood and adolescence (Cekaite, 2012). Recall also that the sensitive period for the acquisition of morphosyntax is thought to taper off after age 17 (see Hartshorne at al., 2018; Chapter 2, §2.3.2). Additionally, and perhaps most importantly, recall also that the adolescent years have been found to be a key period in the development of sociolinguistic variation (Labov, 1964, 1965; Wolfram, 1969; Fasold, 1972; Cheshire, 1982; Eckert, 1989; Eckert, 1997; Rys, 2007; Farrington, Renn & Kohn, 2017; de Vogelaer & Toye, 2017; see Chapter 2, §2.3.3). As we are dealing with MsA structures, it may therefore be that on the one hand, increased L2 exposure during the adolescent years may interfere with bilinguals' L1 metalinguistic awareness, and, on the other, increased L2 exposure during adolescence may interfere with the development of acquirers' sensitivity to variation that exists in the L1. As a consequence, the ability to make the more fine-grained distinctions based on the variation that exists in their L1 is potentially compromised.

Once again, it is acknowledged that because the group sizes for the variables AoO-D ($n = 10$) and LTRCU ($n = 16$) are small, the robustness of these results must be open to question. However, the AoO-D results do suggest that it is important to focus on the later years of the

sensitive period for morphosyntax, and, in particular, on the variation that exists in spoken varieties (see Chapter 9 for further discussion).

6.8   Chapter Summary

This chapter presented and discussed the verb placement results. The variable SA-EX probing the role of linguistic environment was, significantly, revealed to be non-predictive. This null result, along with the fact that other variables were revealed to be predictive, suggests that exposure alone is not predictive in determining L2-induced changes to bilinguals' acceptability judgements of verb placement in Afrikaans.

It was found that bilinguals' judgements of *standard* V2/SOV structures remain unaffected under the influence of L2 English. Bilinguals' judgements of *ungrammatical* English-style V3/S.aux.V.O structures were revealed to be subject to variation, but only with minimal effects. It was concluded that these bilinguals may be affected by sub-optimal L1 syntactic processing. This, in turn, appears to result in increased levels of uncertainty when judging ungrammatical structures in their L1. In this regard, the variables LoLT-P, LoLT-S, SIBL, and, to a lesser degree, the variable FREQ and WRIT were revealed to be predictive. Language use with siblings (SIBL) revealed the strongest effect. Given the proposed correlation between language dominance and language use with siblings, it was suggested that language dominance is the primary determinant in predicting variation in bilinguals' judgements of verb placement in Afrikaans under the influence of L2 English.

Afrikaans-English bilinguals' judgements of verb placement in MsA revealed fine-grained differences that correspond with the respective MsA structures' distribution in spoken Afrikaans. Overall, however, bilinguals' judgements do show evidence of a specific L1 language-internal multi-competence that is indicative of their ability to distinguish between what is prescriptively sanctioned in StdA in comparison to what is permissible in MsA. With respect to embedded *wh*-V2, the most established of the MsA patterns, this distinction is less robust, with both the embedded *wh*-V2 structure and its corresponding V-final structure rated high on the Likert scale, and therefore accurately said to be very likely to occur in the speech of L1 Afrikaans speakers.

As the *MsA* structures can very clearly not be considered as a homogenous class, sub-question (iii-a), concerned with whether the StdA-MsA distinction remains intact, cannot be addressed. However, where variation from the overall MsA judgement patterns was evidenced,

the results appear to suggest that under circumstances of decreased L1 exposure/use, and increased L2 exposure/use, these distinctions may be more vulnerable. Numerous factors were discussed that may account for these more lenient judgements of the MsA structures, including L2 influence, language-internal changes, which are the result of reduced L1 input, less exposure to L1 variation in the speech community, and sub-optimal L1 processing skills, which may interfere with the bilinguals' ability to disambiguate between the StdA and MsA structures in an AJT.

Additionally, it was noted that the effects evidenced for bilinguals' judgements of both the *ungrammatical* and *MsA* structures may be the result of increased exposure to L2 English during the period when their metalinguistic skills were developing in childhood and adolescence. The outcome is therefore that these bilinguals' judgements of the contrasts that exist in their L1, may not be as sharp as they would be if their metalinguistic skills were developing under the influence of only their L1.

Lastly, although bilinguals' judgements of verb placement in Afrikaans were not revealed to be invulnerable to variation indicative of EotSLotF, the effects evidenced were minimal and, as already noted, did not affect bilinguals' judgements of what is prescriptively sanctioned in Afrikaans (V2/SOV). This suggests that, as predicted for an early acquired property that does not interface with discourse considerations, V2/SOV in Afrikaans appears generally stable under the influence of L2 English.

Chapter 7
Negation results and discussion

7.1   Introduction

The negation results are presented and discussed in this chapter. Section 7.2 offers an initial overview of the variables which appear to be predictive in bilinguals' acceptability judgements of sentential negation and the double negation/negative concord (DN/NC) distinction that exists in Afrikaans. Section 7.3 briefly recapitulates the relevant structures under investigation. The ref-groups' judgements for sentential negation and DN/NC are presented in §7.4. As with the presentation of the verb placement results, §7.5 presents the results for the variable SA-EX, which, recall, informs the first primary research question, concerned with the role of linguistic environment in determining variation indicative of EotSLotF. Following this, §7.6 and §7.7 present the variable-specific results for sentential negation and DN/NC respectively. A discussion of the results is presented in §7.8 to address research question (ii) and associated sub-question (ii-a), concerned with whether bilinguals' acceptability judgements of their L1 Afrikaans exhibit evidence of variation as a result of differing amounts of language exposure and use in childhood and adulthood, and, if so, how the variation is evidenced. Section 7.8 discusses the results which inform research question (iii) and its associated sub-question, which, recall, probe whether the acceptability judgements of bilinguals show evidence of a specific L1 language-internal multi-competence that is indicative of their ability to distinguish between what is prescriptively sanctioned in StdA, in comparison to what is permissible in MsA. A chapter summary is again provided in §7.9.

7.2   Predictive variables

This section identifies which of the 12 variables were found to be potentially predictive in relation to bilinguals' acceptability judgements of sentential negation and the DN/NC distinction in Afrikaans.

7.2.1 Language exposure and use in childhood and adolescence

Recall that the childhood and adolescence exposure- and use-related variables investigated were:

   (i)   *Age of onset of bilingualism* (AoO-B);

   (ii)   *Languages of learning and teaching at nursery school* (LoLT-N);

   (iii)   *Languages of learning and teaching at primary school* (LoLT-P); and

   (iv)   *Languages of learning and teaching at secondary school* (LoLT-S).

As with verb placement (Chapter 6, §6.6.1), the variables LoLT-P and LoLT-S were revealed to be predictive. For participants' judgements of DN and NC in Afrikaans, none of the childhood and adolescence exposure- and use-related variables investigated were revealed to be predictive. As DN is expected to be a later-acquired property, and one at the syntax-discourse interface, this is not entirely surprising (although compare the results presented in §7.6.2 for the variable AoO-D and the childhood and adolescent shifters' judgements of DN and NC respectively). These interaction effects are summarised in Table 7.1 below.

Variable	Significance for sentential negation	Significance for DN/NC
AoO-B	ns.	ns.
LoLT-N	ns.	ns.
LoLT-P	<.01	ns.
LoLT-S	<.01	ns.

Table 7. 1 Significance of two-way ANOVAs for sentential negation and DN/NC: language exposure and use in childhood and adolescence

7.2.2 Circumstances of a dominance shift to English

The two variables probing the circumstances of a dominance shift to English are *age of onset of English dominance* (AoO-D), and *length of time since reduced contact or use* (LTRCU). LTRCU was not revealed to be predictive for either sentential negation or DN/N. On the other hand, the variable AoO-D resulted in statistically significant effects for sentential negation and DN/NC. This is presented in Table 7.2 below.

Variable	Significance for sentential negation	Significance for DN/NC
AoO-D	<.01	<.01
LTRCU	ns.	ns.

Table 7. 2 Significance of two-way ANOVAs for sentential negation and DN/NC: circumstances of a dominance shift

7.2.3 Language exposure and use in adulthood

Recall that six variables concerned with exposure and use in adulthood are investigated (see Chapter 4, §4.4.3.1 and Chapter 6, §6.2.3 for a discussion of three variables that had to be excluded as a result of extremely small group sizes). The variables are as follows:

(i)   *The role of linguistic environment* (SA-EX);

(ii)   *Frequency of Afrikaans use* (FREQ);

(iii)   *Language use with siblings* (SIBL);

(iv)   *Internal language use* (INT); and

(v)   *Receptive language exposure* (WRIT and TV-RAD).

The variable SA-EX resulted in a statistically significant interaction effect that was potentially empirically meaningful for sentential negation. However, as §7.5 will illustrate, between-group differences are marginal at best, and ultimately insignificant.

Of the remaining variables investigating the role of exposure and use in adulthood, the variable SIBL resulted in a statistically significant interaction effect for both sentential negation and DN/NC; with a statistically significant interaction effect evidenced for the variable INT and participants' judgements of DN/NC. These effects are summarised in Table 7.3 below.

Variable	Significance for sentential negation	Significance for DN/NC
SA-EX	<.01	ns.
FREQ	ns.	ns.
SIBL	<.01	<.01
INT	ns.	.03
WRIT	ns.	ns.
TV-RAD	ns.	ns.

Table 7. 3 Significance of two-way ANOVAs for sentential negation and DN/NC: Language exposure and use in adulthood

7.2.4 Summary of the predictive variables for negation

Of the 12 variables brought forward from Chapter 4, four resulted in statistically significant interaction effects that were potentially empirically meaningful (see §7.5 below for a discussion of why these effects are not, however, empirically meaningful for the variable SA-

EX). For DN/NC, three of the 12 variables resulted in differences of statistical significance. The predictive variables for sentential negation and DN/NC are summarised in Table 7.4 below.

Variable	Significance for sentential negation	Significance for DN/NC
AoO-B	ns.	ns.
LoLT-P	ns.	ns.
LoLT-S	<.01	ns.
AoO-D	<.01	<.01
LTRCU	ns.	ns.
SA-EX	.03	ns.
FREQ	ns.	ns.
SIBL	<.01	<.01
INT	ns.	.03
WRIT	ns.	ns.

Table 7. 4 Significance of two-way ANOVAs for sentential negation and DN/NC across all extralinguistic variables

As with the verb placement results presented in Chapter 6, this preliminary analysis has identified which variables are potentially predictive in determining variation in bilinguals' judgements of sentential negation and DN/NC. To gain further insight into what may be at play here, the loci of these statistical differences are presented in detail in §7.5 and §7.6 to follow.

Prior to this, the ref-group participants' sentential negation and DN/NC acceptability judgements are presented in §7.4. Let us first briefly recapitulate the relevant sentential negation and DN/NC structures the judgements are based on (§7.3).

7.3 The relevant negation structures

7.3.1 Sentential negation

Recall that for sentential negation, the judgements are based on structures which fall into two classes: *standard* structures (*nie…nie*) and *MsA* structures (*nie…~~nie~~*). As a reminder, and again using structures that featured in the AJT, consider the *standard* (7.1), *nie*-drop (7.2) structures below.

(7.1)   *Sy   het   gesê   dat sy **nie** teleurgesteld is **nie**.*
          she have   said.PART that she not disappointed is POL
          "She said that she's not disappointed."

                                                        [Standard]

(7.2)　　　　　*Hy het　gesê　　dat hy　**nie**　siek　is ~~nie~~.*

　　　　　　　he　have said.PART that he　not sick is

　　　　　　　"He said he's not sick."

　　　　　　　　　　　　　　　　　　　　　　　　　　　[*nie*-drop]

7.3.2　Double negation and negative concord

The DN and NC judgements, which, recall, are based on contextualised scenarios, elicit either a forced DN or NC interpretation. Consider the examples below (see Chapter 4, §4.5.5.2) repeated as (7.3) and (7.4) below.

(7.3)　Forced DN reading (SMALL CAPS indicate emphasis)

　　　　Met 'n onlangse besoek aan die Kruger　　Wildtuin,　　was die meeste dae maar stil
　　　　With a　recent　visit　　to the Kruger　game.reserve　was the most　days but　quiet
　　　　en niemand het enige wild　kon sien nie.　Die laaste dag was　egter　　fantasties:
　　　　and no.one have any　game could see POL　the　last　day　was however　fantastic
　　　　NIEMAND** het　**niks　gesien　nie!
　　　　no.one　　have nothing saw.PART POL

　　　　"On a recent visit to the Kruger National Park, most of the days were quiet and no one saw any game. The last day was, however, fantastic: **No one saw nothing**!"
　　　　(Forced DN reading: i.e. "Everyone saw something")

(7.4)　Forced NC reading

　　　　*Kersfees　　was nie 'n gelukkige tyd　in Jaco se　huis　nie: **niemand　het　niks***
　　　　Christmas was not a　happy　time　in Jaco PP house POL: no.one　have nothing
　　　　vir Kersfees gekry　　nie.
　　　　for Christmas got.PART POL

　　　　"Christmas was not a happy time in Jaco's house: **no one got anything for Christmas**."
　　　　(Forced NC reading)

With the relevant negation structures recapitulated, let us now consider the ref-group participants' results in the sub-sections that follow.

7.4   Reference group participants' negation results

The ref-group participants' acceptability judgements of sentential negation in Afrikaans are presented in §7.4.1, followed by their acceptability judgements of DN and NC in §7.4.2.

7.4.1   Reference group participants' sentential negation judgements

The ref-group participants' mean AJT judgements in response to *nie*-drop and the *standard* sentential negation structures are presented in Table 7.5 below.

Sentential negation				
Group	*Standard* (*n* = 9)		*nie-drop* (*n* = 9)	
REF (*n* = 10)	**Mean**	**SD**	**Mean**	**SD**
	4.85	0.57	2.52	1.35

Table 7. 5 The ref-group participants' sentential negation AJT judgement means

As with the ref-group participants' judgements in response to the structures probing *standard* verb placement, the ref-group participants rate the *standard* sentential negation structures almost at ceiling (4.85), with an SD that reveals very little within-group variation (0.57).

However, their judgements in response to *nie*-drop, which produce an overall mean of 2.52, reveal far more within group variability (SD = 1.35). The Likert scale rating distribution for the ref-group participants' judgements is presented in Figure 7.1 below.
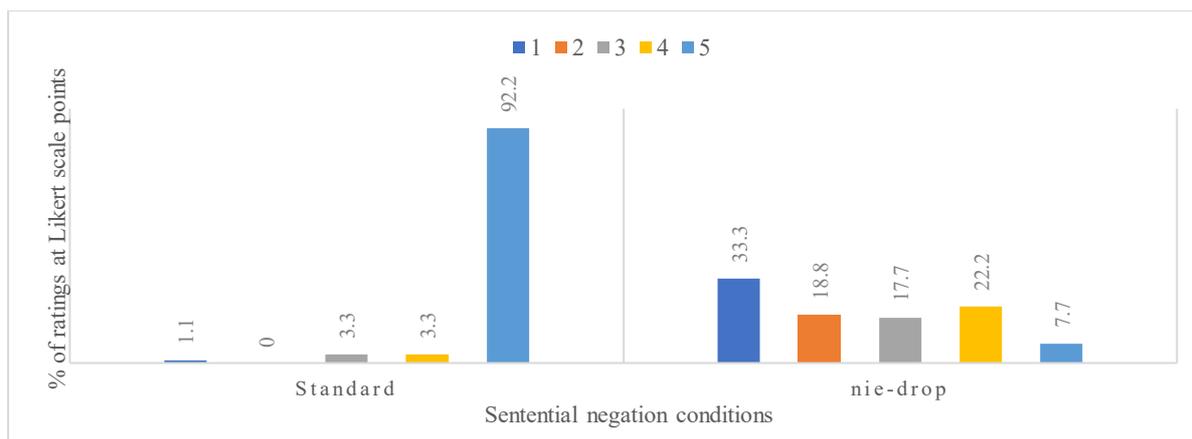
Figure 7. 1 The ref-group participants' Likert scale rating distributions for sentential negation

As the above distributions illustrate, the ref-group participants' judgements for the *standard* structures fall primarily at rating point "5" on the Likert scale. In response to *nie*-drop, however, although the majority of their judgements fall at rating point "1" (33.3%; 30/90 judgements), there is a fairly even spread across rating points "2" to "4".

As noted above, and as detailed in Chapter 3 (§3.4.3), although prescriptively ungrammatical, *nie*-drop features in MsA. It is therefore perhaps unsurprising that as many as 22.2% (20/90 judgements) of the structures are at rating point "4" (*This may not be standard Afrikaans, but an Afrikaans speaker could say this*). As expected, however, there does appear to be a majority agreement that *nie*-drop is not "completely grammatical" in Afrikaans, with only 7.7% (7/90 judgements) of judgements falling at rating point "5". This is a marked difference when compared to the percentage of judgements at rating point "5" for the standard condition (92.2%; 83/90 judgements).

7.4.2   Reference group participants' DN/NC judgements

As discussed in Chapter 3 (§3.4.4), DN interacts with discourse-related considerations, and is typical of denial contexts. Additionally, DN is universally marked. Recall also that NC is not prescriptively sanctioned in StdA, but rather only features in MsA. With these points in mind, consider the ref-group participants' DN and NC judgements below.

Double Negation and Negative Concord				
Group	**DN (*n* = 6)**		**NC (*n* = 6)**	
REF (*n* = 10)	**Mean**	**SD**	**Mean**	**SD**
	3.45	1.41	3.35	1.28

Table 7. 6 The ref-group participants' DN/NC CAJT judgement means

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The ref-group participants' judgement means for DN and NC are virtually identical, both with SDs that are indicative of a considerable amount of within-group variation. To determine how, if at all, their judgement patterns differ in response to these two types of structures, the ref-group participants' judgement distributions for DN and NC are presented below.
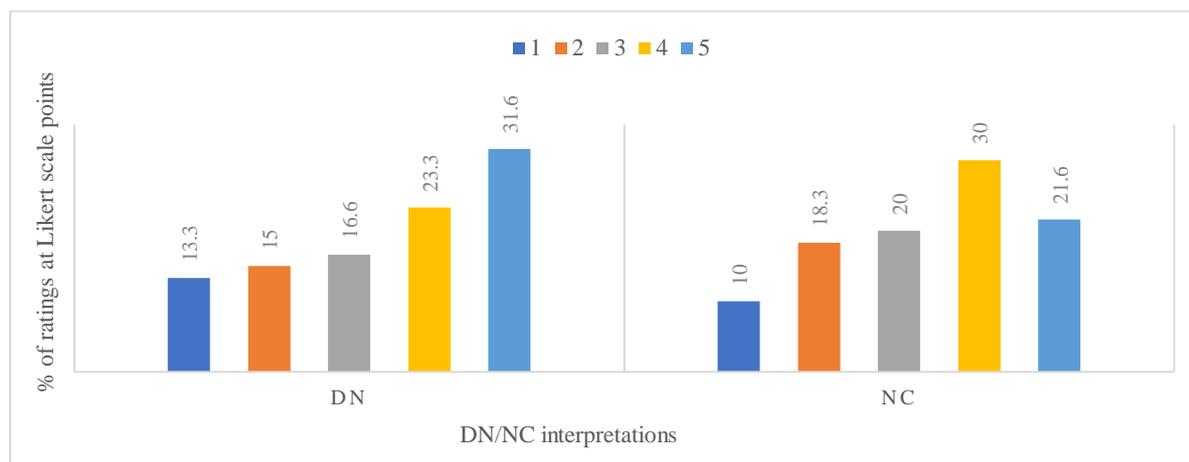
Figure 7. 2 The ref-group participants' Likert scale rating distributions for DN/NC

The ref-group participants' Likert scale judgement distributions in response to DN and NC are both spread out across the entire Likert scale spectrum. However, close comparison reveals that for DN, but not NC, the majority of the ref-group ratings fall at rating point "5" (*This sounds completely grammatical, and an Afrikaans speaker could definitely say this*). Interestingly, however, although DN is the prescriptively sanctioned option of the two structures, the fact that 44.9% (27/60 judgements) of the ref-group participants' ratings fall at the mid to lower end of the Likert scale strongly suggests that even the most Afrikaans-dominant of bilinguals seem to exhibit uncertainty when assessing the acceptability of this structure in Afrikaans. This is in all likelihood because the structure is linguistically complex and marked (Chapter 3, §3.4.4).

In contrast to DN, NC is the non-standard colloquial option, and only features in MsA. With 30% (18/60 judgements) of the ref-group participants' judgements falling at rating point 4 (*This may not be standard Afrikaans, but an Afrikaans speaker could say this*), this is the rating most readily applied by the ref-group participants in response to NC. However, as many as 21.6% (13/60 judgements) of the structures are still in fact rated "completely grammatical"

(i.e. a "5") by the ref-group participants, with only 10% (6/60 judgements) of the NC structures are rated "completely ungrammatical" (i.e. "1").

7.5   The role of linguistic environment

As discussed in Chapter 6 (§6.5), one of the central concerns of the present study is to probe the role of linguistic environment in relation to EotSLotF. Therefore, as was the case for verb placement (Chapter 6, §6.5.2), the results for the variable SA-EX for sentential negation (§7.5.1) and DN/NC (7.5.2) are presented below.

7.5.1   SA-EX: Sentential negation

Participants' mean AJT judgements in response to *nie*-drop and the *standard* sentential negation structures are presented in Table 7.7 below.

		Sentential Negation F (2,2813) = 5.94, p = <.01			
		***Standard* (*n* = 9)**		***nie*-drop (*n* = 9)**	
Variable	**Group**	**Mean**	**SD**	**Mean**	**SD**
SA-EX					
	REF (*n* = 10)	4.85	0.57	2.52	1.35
	SA (*n* = 70)	4.82	0.54	2.54	1.17
	EX (*n* = 86)	4.79	0.66	2.72	1.22
post-hoc p value		.73		.03	

Table 7. 7 Sentential negation AJT judgement means for the variable SA-EX

Participants' judgement means for sentential negation indicate that the ref-, SA- and EX-group participants' means are equally matched for the *standard* structures, and that the SA- and EX-group participants' means are only marginally different for *nie*-drop. However, the post-hoc analysis reveals that this difference is statistically significant at .03. As the overall *F* is significant, and the difference between the SA- and EX-group participants is statistically significant in the post hoc analysis, the results are considered in more detail. Participants' Likert scale judgement distributions for *nie*-drop in Afrikaans are presented in Figure 7.3.
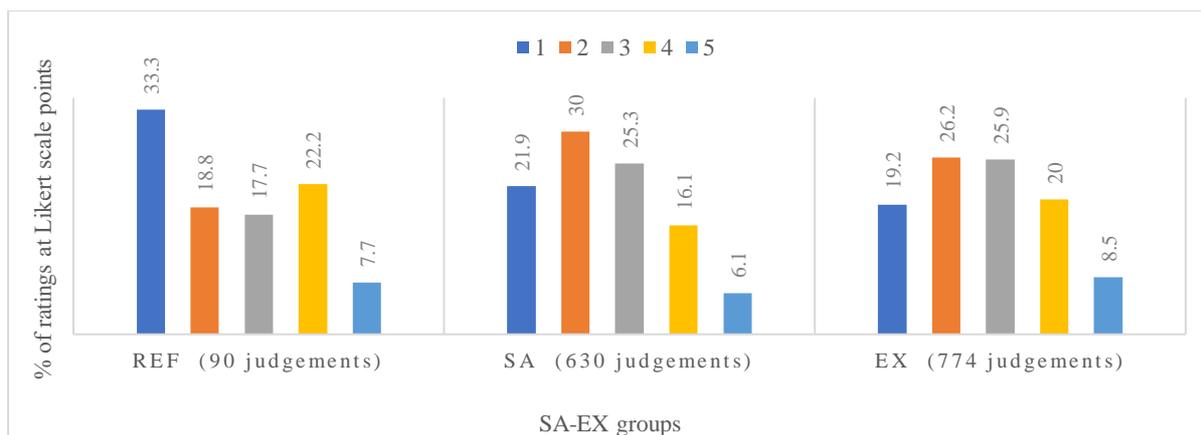
Figure 7. 3 Likert scale rating distribution for *nie*-drop and the variable SA-EX

Although the 0.18 difference between the SA- and EX-group participants' judgement mean is significant at .03, let us consider how their judgement distributions compare. In a point-for-point comparison of the two groups' Likert scale judgement distributions (i.e. rating points "1" to "5"), it appears that the two groups' overall judgement patterns are comparable: both rate the fewest structures a "5", the most either a "2" or "3", with the remaining judgements divided fairly evenly at rating points "1" and "4" (with a slight dip in the SA-groups' judgements at rating point "4"). The two groups' respective judgement distributions above indicate that the difference, although statistically significant, is not empirically meaningful. It does therefore not appear to be indicative of any real between-group differences for their respective assessments' of *nie*-drop. Thus, this marginal difference is revealed to be insignificant.

7.5.2   SA-EX: DN/NC

The results for the SA- and EX-group participants' judgements in response to the DN and NC structures in the contextualised acceptability judgement task (CAJT), are presented below. Their Likert scale judgement means are presented in Table 7.8.

		Double Negation and Negative Concord F(2,1823) = 1.07, p = 0.34			
		DN (*n* = 6)		NC (*n* = 6)	
Variable	Group	Mean	SD	Mean	SD
SA-EX					
	REF (*n* = 10)	3.45	1.41	3.35	1.28
	SA (*n* = 70)	3.01	1.43	2.55	1.24
	EX (*n* = 86)	3.15	1.51	2.71	1.36
post-hoc p value		.24		.17	

Table 7. 8 DN/NC CAJT judgement means for the variable SA-EX

The difference in participants' judgements of DN and NC structures is non-significant. This is evidenced by the two-way ANOVA's non-significant overall *F*, and, additionally, by the post-hoc analysis: the difference between SA- and EX-group participants' judgements is non-significant at .24 and .17 for DN and NC structures respectively. Note, however, that the ref-group participants' means are higher for both DN and NC. Recall, however, that the ref-group participants all reside in South Africa. Thus, as discussed in §6.5.2 with respect to verb placement, the difference can again not plausibly be related to the variable SA-EX (see § 7.8.3.2 to follow for discussion).

7.5.3   Summary of results for the variable SA-EX and negation in Afrikaans

As with what was revealed for verb placement in Chapter 6, the variable SA-EX, and thus the role played by community-level exposure to the L1 *alone* is revealed to be unpredictive in determining bilinguals' acceptability judgements of both sentential negation and DN/NC in Afrikaans.

7.6   Variable-specific sentential negation results

The Afrikaans sentential double-*nie* requirement, like verb placement, is an early acquired property, and one that, by virtue of its obligatoriness, does not interface with discourse-related considerations. There is also no structural overlap between Afrikaans and English in these constructions. Because sentential negation is realised differently in Afrikaans and English, CLO (Kupisch, 2014), which is predicted where there is a *partial* overlap, is not expected. Overall, sentential negation was predicted to be stable under the influence of English as an L2.

In the population under investigation, sentential negation did indeed not reveal instability. However, under circumstances of more exposure to and use of English, the informants' judgement patterns did reveal divergence from those whose exposure and usage patterns suggest that they are more L1-dominant (see §7.8.3.1 for discussion). Between-group differences of statistical significance emerged for the following variables: LoLT-P, LoLT-S (§7.6.1); AoO-D (§7.6.2); and SIBL (§7.6.3). The results of each variable will be presented below in turn, with the overall sentential negation results summarised in §7.6.4. Recall that the conditions for sentential negation are as follows: *standard* (inclusion of clause-final *nie*), and *nie-drop* (omission of clause-final *nie*).

Importantly, note that participants' judgements of the *standard* negated structures remain comparable to the ref-group participants' judgements at ceiling level, regardless of the extralinguistic variable in question and participants' ensuing language exposure- and use-related patterns.

7.6.1 Language exposure and use in childhood and adolescence

7.6.1.1 The variable LoLT-P

Based on whether participants' LoLT at primary school was Afrikaans (A), English (E), or both languages in a dual medium school (B), participants' Likert scale judgements for sentential negation are plotted in Figure 7.4 below.
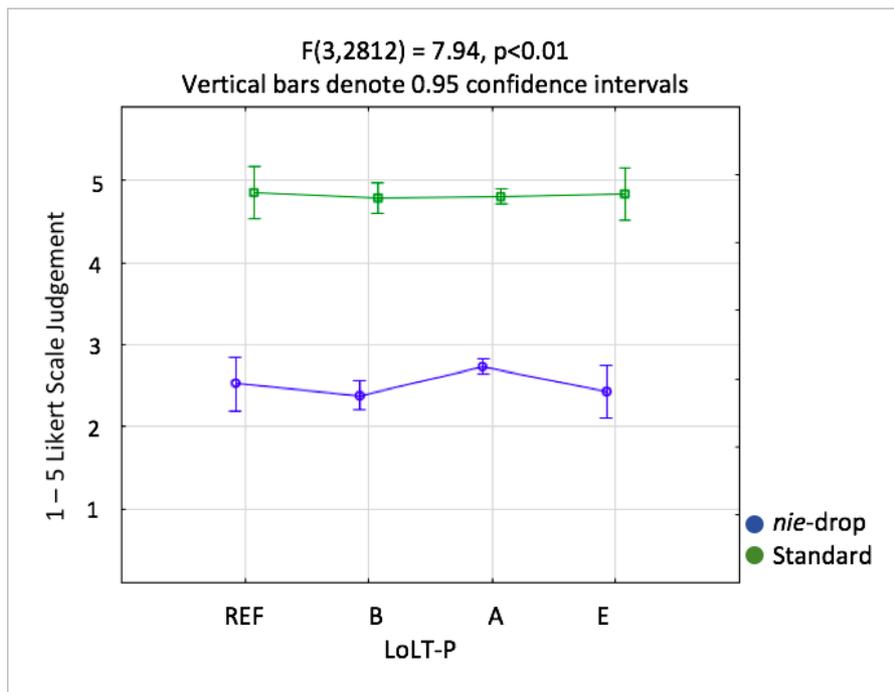
Figure 7. 4 Sentential negation judgement means for the variable LoLT-P

The overall two-way ANOVA yields a statistically significant interaction effect ($F_{(3,2812)}$=7.94, p <.01). Participants' judgements of the *standard* negated structures remain unaffected by the variable LoLT-P. On the other hand, it seems that those whose LoLT was either both languages or only English at primary school appear to rate *nie*-drop the least acceptable of all the groups, i.e. they have a lower mean rating for the *nie*-drop structures. Participants' means are presented in Table 7.9 below.

Variable: LoLT-P	Sentential negation ($F_{(3,2812)}$=7.94, p <.01)			
	Standard (*n* = 9)		*nie-drop* (*n* = 9)	
Group	**Mean**	**SD**	**Mean**	**SD**
REF (*n* = 10)	4.85	0.57	2.52	1.35
A (*n* = 114)	4.80	0.62	2.73	1.23
B (*n* = 32)	4.78	0.62	2.38	1.11
E (*n* = 10)	4.84	0.47	2.42	1.02

Table 7. 9 Sentential negation AJT judgement means for the variable LoLT-P

The above means indicate that, although the B- and E-group participants do have the lowest judgment means of all the groups, and although these means are substantially lower the A-group participants' mean, their means are comparable to that of the ref-group participants (see the post hoc *p* values below). Of all the groups, they do, however, both have the smallest

SDs, indicating less within-group variability. To determine whether these lower means and small SDs are in fact indicative of any real between-group differences, let us consider the post hoc *p* values in Table 7.10, and participants' judgement distributions in Figure 7.5.

	REF	A	B	E
REF	–	.21	.46	.67
A	.21	–	<.01	.06
B	.46	<.01	–	.83
E	.67	.06	.83	–

Table 7. 10 Post hoc p values for nie-drop and the variable LoLT-P

The post hoc results indicate that the difference between the A-group participants' judgement mean and the B-group participants' judgement mean is statistically significant at <.01, and approaching significance at .06, for the difference between the E-group participants' judgement mean. No differences of statistical significance emerge for the ref-group participants' judgements. The fact that the ref-group participants' mean is more comparable to the B- and E-group, suggests that these differences may not in fact be particularly meaningful.

To establish whether they are, and to determine *how* (if at all) these groups' judgment patterns differ from one another, a breakdown of the groups' Likert scale ratings in response to *nie*-drop is presented in Figure 7.5 below in percentages.
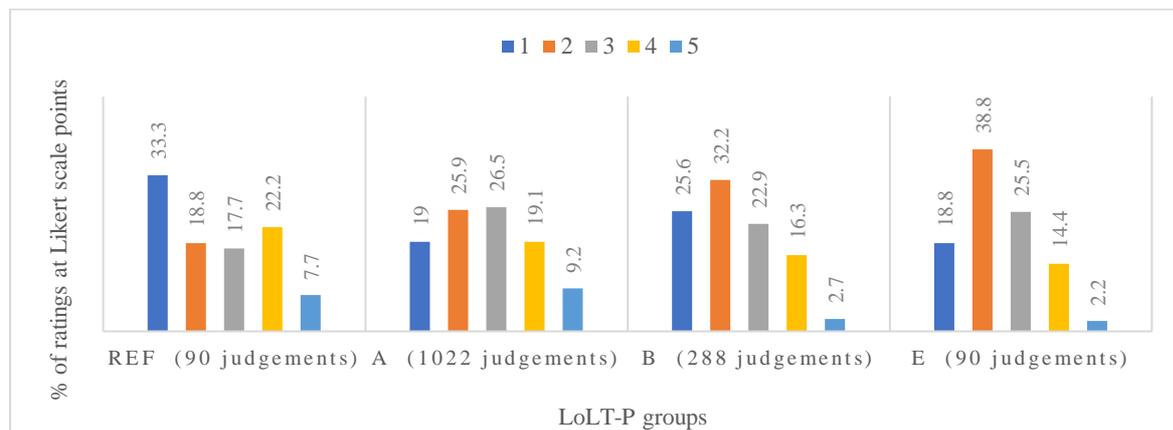
Figure 7. 5 Likert scale rating distribution for nie-drop and the variable LoLT-P

As the above distribution indicates, although there is a considerable amount of within-group variability, the B- and E-group participants' judgement patterns exhibit the least amount of variation in that they are the least likely to rate *nie*-drop "completely grammatical" (a "5" on the Likert scale) when compared to the other two groups. While the ref- and A-group

participants rate *nie*-drop a "4" or "5" on the Likert scale 29.9% (27/90 judgements) and 28.3% (291/1022 judgements) of the time respectively, the B- and E-group participants rate *nie*-drop a "4" or "5" on the Likert scale 19% (55/288 judgements) and 16.6% (15/90 judgements) of the time respectively.

Furthermore, while the B- and E-group participants' judgements pool more towards the mid to lower end of the Likert scale than the ref- and A-group participants' judgements, the biggest increase is seen at rating point "2" (*This sounds strange, and it is very unlikely that an Afrikaans speaker would say this*), and not at rating point "1" (*This sounds completely ungrammatical, and no Afrikaans speaker would say this*). While these participants seem to regard these structures as less likely to occur in the speech of Afrikaans speakers than the other groups, the majority assessment is still not one that commits to the structure as "completely ungrammatical" (unlike the ref-group participants' judgements).

Although participants' overall judgement patterns are certainly more similar than they are different, it would seem that participants whose LoLT at primary school was either both languages or only English are the least internally variable in their assessment of *nie*-drop, and less likely to rate these structures as ones which would feature in spoken Afrikaans.

7.6.1.2 The variable LoLT-S

Based on whether participants' LoLT at secondary school was Afrikaans (A), English (E), or both languages in a dual medium school (B), participants' Likert scale judgements for sentential negation are plotted in Figure 7.6 below.
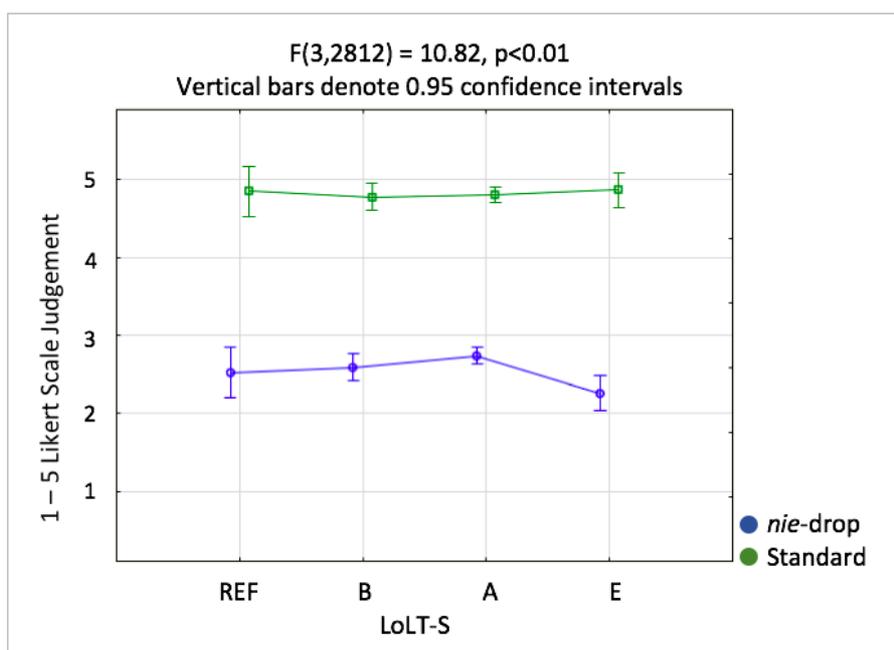
Figure 7. 6 Sentential negation judgement means for the variable LoLT-S

The overall two-way ANOVA yields a statistically significant interaction effect (F(3,2812)=10.82, p <.01). Participants' judgements of the *standard* negated structures remain unaffected by the variable LoLT-S. On the other hand, it seems that those whose LoLT was English at secondary school rate *nie*-drop the least acceptable of all the groups, i.e. they have a lower mean rating for the *nie*-drop structures. Participants' means are presented in Table 7.11 below.

	Sentential negation (F(3,2812)=10.82, p <.01			
Variable: LoLT-S	***Standard*** (*n* = 9)		***nie-drop*** (*n* = 9)	
Group	**Mean**	**SD**	**Mean**	**SD**
REF (*n* = 10)	4.85	0.57	2.52	1.35
A (*n* = 100)	4.80	0.61	2.74	1.20
B (*n* = 36)	4.78	0.67	2.59	1.23
E (*n* = 20)	4.86	0.51	2.26	1.0

Table 7. 11 Sentential negation AJT judgement means for the variable LoLT-S

The above means indicate that participants whose LoLT was English in secondary school do indeed have the lowest judgment mean of all the groups, i.e. they appear to consider *nie*-drop less likely to occur in speech of L1 speakers than the other participants. Furthermore, they also have the smallest SD, indicating less within-group variability. Interestingly, however, unlike what was revealed for the variable LoLT-P, participants who attended dual medium

secondary schools (B-group participants) perform comparably to those whose LoLT was Afrikaans. The post hoc *p* values for *nie*-drop and the variable LoLT-S are set out in the table below.

	REF	A	B	E
REF	–	.20	.71	.20
A	.20	–	.14	<.01
B	.71	.14	–	.02
E	.20	<.01	.02	–

Table 7. 12 Post hoc p values for nie-drop and the variable LoLT-S

The post hoc results indicate that the difference between the E-group participants' judgement mean and the A- and B-group participants' judgement mean is statistically significant at <.01 and .02 respectively. Although the E-group participants' mean is lower than that of the ref-group participants, the difference is not significant in the post hoc analysis.

To determine *how* these groups' judgments in fact differ from one another, a breakdown of the groups' Likert scale ratings in response to *nie*-drop is presented in 7.7 below in percentages.
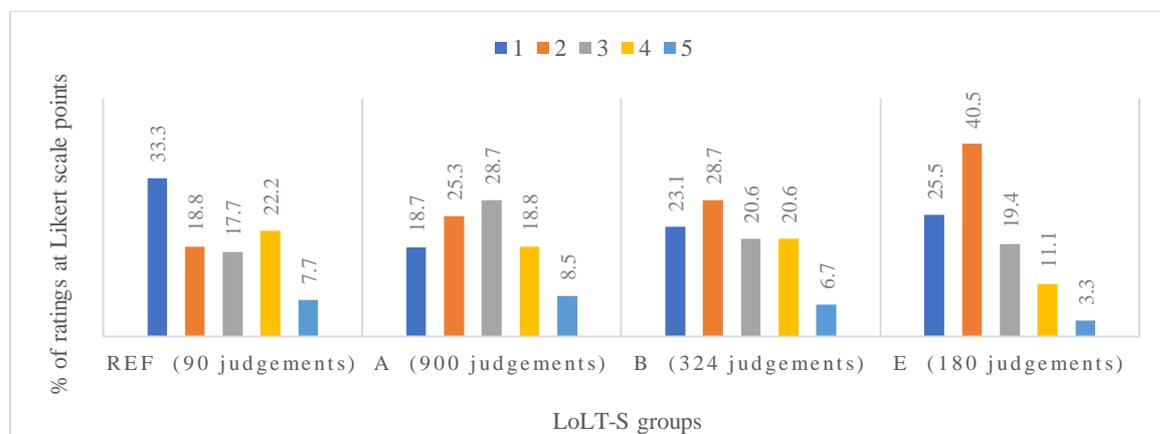
Figure 7. 7 Likert scale rating distribution for nie-drop and the variable LoLT-S

As Figure 7.7 makes apparent, participants' judgements indeed reveal between-group variation based on their LoLT at secondary school.

At the lower end of the Likert scale, the ref-, A- and B- group participants rate *nie*-drop a "1" or a "2" on the Likert scale 52.8% (47/90 judgements), 44% (393/900 judgements), and 51.8% (168/324 judgements) of the time respectively. E-group participants, on the other hand, rate 66% (119/180 judgements) of the structures a "1" or "2".

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At the top end of the Likert scale, the inverse pattern is revealed: the ref-, A-, and B-group participants rate *nie*-drop a "4" or a "5" on the Likert scale 29,9% (27/90 judgements), 27,3% (246/900 judgements), and 27,3% (89/324 judgements) of the time respectively, while the E-group participants rate only 14,5% (26/180 judgements) of the structures either a "4" or "5".

What is again striking about the E-group participants' judgements is the high percentage of structures rated a "2" (40.5%; 73/180 judgements). It again appears that while the E-group's judgements pool more towards the lower end of the Likert scale, as we saw for the variable LoLT-P, the majority of these bilinguals do still not commit to the structure being "completely ungrammatical". Rather, they seem to consider *nie*-drop less likely to occur in the speech of L1 Afrikaans speakers than the other groups.

Overall, it appears that participants whose LoLT at secondary school was English (but not both languages as was the case for the variable LoLT-P) are not only the least internally variable in their assessment of *nie*-drop, but also less likely to judge these structures as ones which would feature in Afrikaans.

7.6.2 Circumstances of a dominance shift to English

Of the variables probing the circumstances of a dominance shift to English, LTRCU and AoO-D, only AoO-D yielded statistically significant effects for *nie*-drop. These results are presented below.

7.6.2.1 The variable AoO-D

According to participants' AoO-D groupings, participants' Likert scale judgements for sentential negation are plotted in Figure 7.8 below.
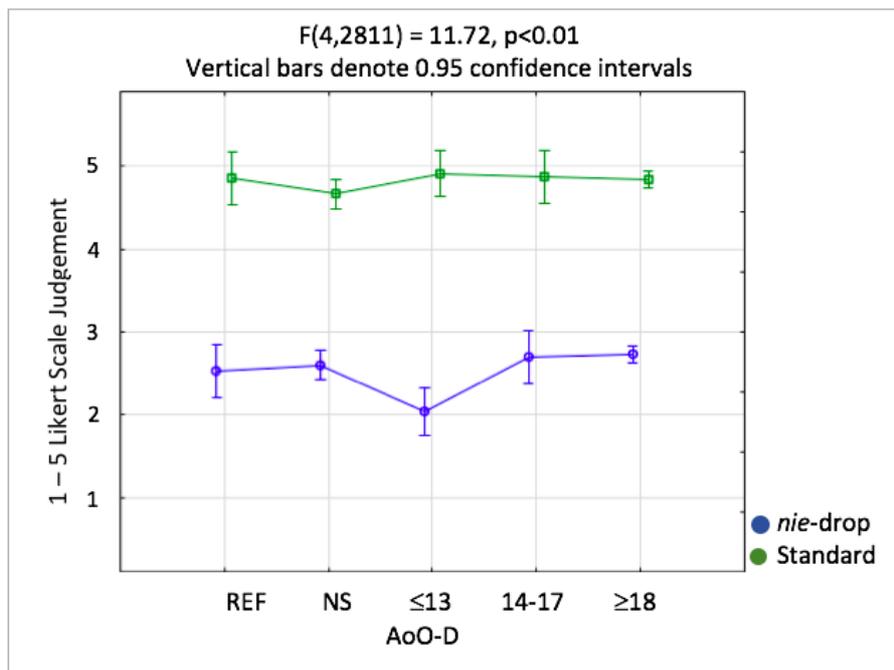
Figure 7. 8 Sentential negation judgement means for the variable AoO-D

The overall two-way ANOVA yields a statistically significant interaction effect ($F(4,2811)=11.72$, p <.01). As with the variable LoLT-S (and as the green plot in Figure 7.8 illustrates), participants' judgements of the *standard* negated structures remain consistent regardless of their AoO-D: they are almost all at ceiling level. However, the picture looks considerably different for *nie*-omission (the blue plot).

The judgement means of participants with an AoO-D of ≤13 judgement appear to be the cause of the statistically significant overall *F*. Participants' means are presented in the table below.

	Sentential negation F(4,2811)=11.72, p <.01			
Variable: AoO-D	*Standard* (*n* = 9)		*nie-drop* (*n* = 9)	
Group	**Mean**	**SD**	**Mean**	**SD**
REF (*n* = 10)	4.85	0.57	2.52	1.35
NS (*n* = 33)	4.66	0.90	2.60	1.21
≤13 (*n* = 13)	4.91	0.44	2.04	1.04
14-17 (*n* = 10)	4.86	0.40	2.70	1.01
≥18 (*n* = 100)	4.83	0.51	2.73	1.21

Table 7. 13 Sentential negation AJT judgement means for the variable AoO-D

With a mean of 2.04 for *nie*-drop, participants with an AoO-D of ≤13 have the lowest judgement means of all the groups; the other groups' judgement means are all above 2.52 for

nie-drop. They additionally have a lower SD than most of the other groups, but not, however, lower than those who shifted to English dominance between the ages of 14 and 17 years. Both these groups therefore appear to exhibit less within-group variability than the other participant groups. To determine if the judgements of those with an AoO of ≤13 are different enough to be statistically significant, participants' post hoc *p* values for *nie*-drop are presented in Table 7.14 below.

	REF	NS	≤13	14-17	≥18
REF	–	.67	.03	.44	.22
NS	.67	–	<.01	.60	.21
≤13	.03	<.01	–	<.01	<.01
14-17	.44	.60	<.01	–	.85
≥18	.22	.21	<.01	.85	–

Table 7. 14 Post hoc p values for nie-drop and the variable AoO-D

The post hoc analysis indicates that the judgements of participants with an AoO of dominance of ≤13 are indeed significantly lower than all other participant groups' judgements. A breakdown of participants' Likert scale ratings for *nie*-drop is presented in the figure below.
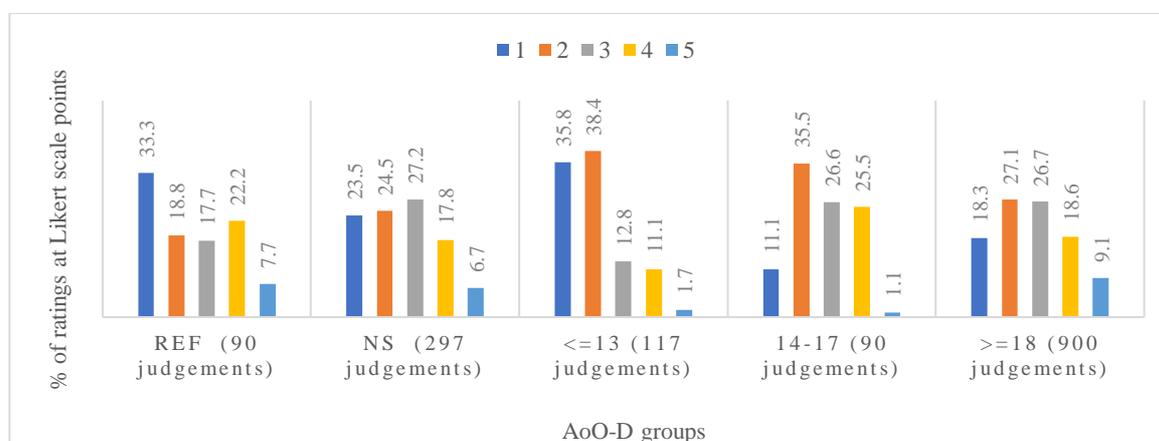
Figure 7. 9 Likert scale rating distribution for nie-drop and the variable AoO-D

As Figure 7.9 indicates, in comparison to the other groups, bilinguals with an AoO ≤13 rate the fewest structures either a "4" or "5" (12.8%; 15/117 judgements). At the bottom end of the Likert scale, these early L2 shifters rate 74,2% (87/117 judgements) of the *nie*-drop structures either a "1" or "2". In contrast to the other participant groups, then, including the ref-group participants' judgements, they are not only less likely to rate *nie*-drop acceptable in spoken Afrikaans, but their judgements of *nie*-drop are in fact more conservative overall, with

a high percentage of structures rated "completely ungrammatical". These results suggest that an AoO of English dominance at 13 years of age or under may be predictive in their assessment of *nie*-drop. These early shifters' perceptions of *nie*-drop are more conservative in comparison to those who have not shifted to English dominance, as well as to those who shifted to English dominance later in life.

In contrast to this pattern, the adolescent shifters' (AoO between 14-17 years) judgement patterns exhibit a different trend. The adolescent shifters, in comparison to the other groups, rate very few *nie*-drop structures either a "1" (11.1%; 10/90 judgements) or a "5" (1.1%; 1/90 judgements). While they are unequivocal in their assessment of the fact that *nie*-drop is not "completely grammatical", they are also the group that is least likely to rate *nie*-drop "completely ungrammatical". As these patterns (and their SDs) indicate, they are internally uniform in their assessment of *nie*-drop, but in a way that is different to the early shifters. Given how few of their judgements fall at rating point "1", the adolescent shifters, it would seem, are surprisingly the most lenient in their assessment of *nie*-drop.

7.6.3 Language exposure and use in adulthood

Of the exposure- and use-related variables probed in adulthood, only the variable SIBL yielded statistically significant effects for *nie*-drop. The *nie*-drop results for SIBL presented below.

7.6.3.1 The variable SIBL

Based on whether participants speak Afrikaans (A), English (E), or both languages (B) to their siblings, participants' Likert scale judgements for sentential negation are plotted in Figure 7.10 below.

F(3,2761) = 16.67, p<0.01
Vertical bars denote 0.95 confidence intervals
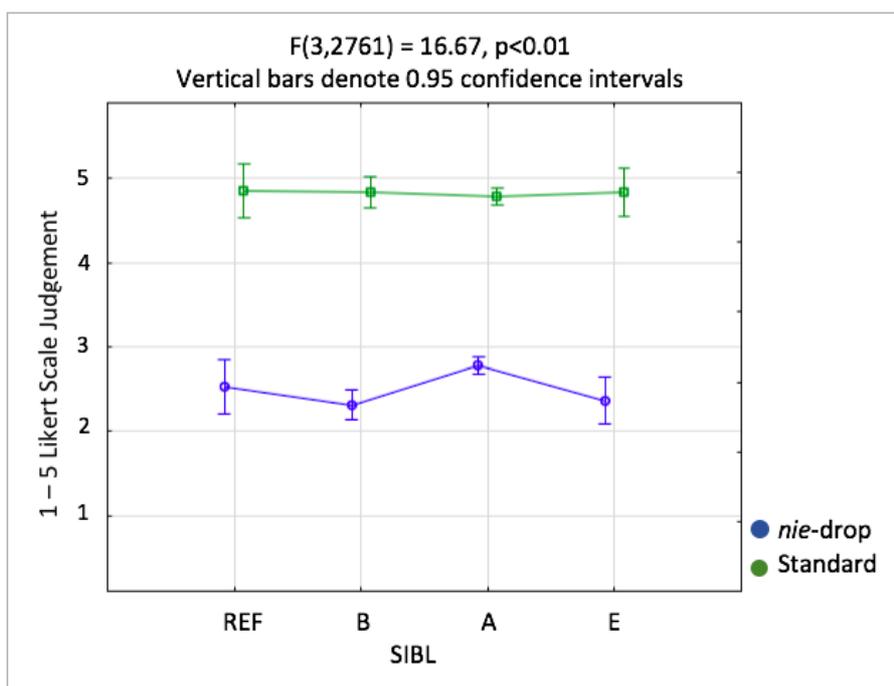
Figure 7. 10 Sentential negation judgement means for the variable SIBL

The two-way ANOVA for the variable SIBL and sentential negation is statistically significant at <.01 (F(3,2761)=16.67). It appears that participants' assessment of *nie*-drop is the source of the significant *F* (the blue plot), with the graph indicating that the B- and E-group participants' means are lower than the ref - and A-group participants' means. Participants' means are presented in Table 7.15 below.

	Sentential negation F(3,2761)=16.67, p <.01			
Variable: SIBL	**Standard (*n* = 9)**		***nie*-drop (*n* = 9)**	
Group	**Mean**	**SD**	**Mean**	**SD**
REF (*n* = 10)	4.85	0.57	2.52	1.35
A (*n* = 109)	4.79	0.65	2.78	1.23
B (*n* = 31)	4.83	0.48	2.30	1.06
E (*n* = 13)	4.83	0.57	2.36	1.09

Table 7. 15 Sentential negation AJT judgement means for the variable SIBL

Unlike what was revealed for the variable LoLT-S, the B- and E-group participants' judgment means are comparable and are indeed the lowest of the four groups. Furthermore, both groups' SDs are comparable and lower than the ref- or A-group participants' SDs, indicating less within group variability. The post hoc *p* values for *nie*-drop and the variable SIBL are set out in the table below.

	REF	A	B	E
REF	–	.13	.27	.48
A	.13	–	<.01	<.01
B	.27	<.01	–	.76
E	.48	<.01	.76	–

Table 7. 16 Post hoc p values for nie-drop and the variable SIBL

Although no difference emerges between the ref-group participants' mean and the B- or E-group participants' respective means, the difference between the A-group participants' judgment mean and the B- and E-group participants' means is statistically significant at <.01 in both instances. A breakdown of the groups' Likert scale ratings is again presented in Figure 7.11 below in percentages.
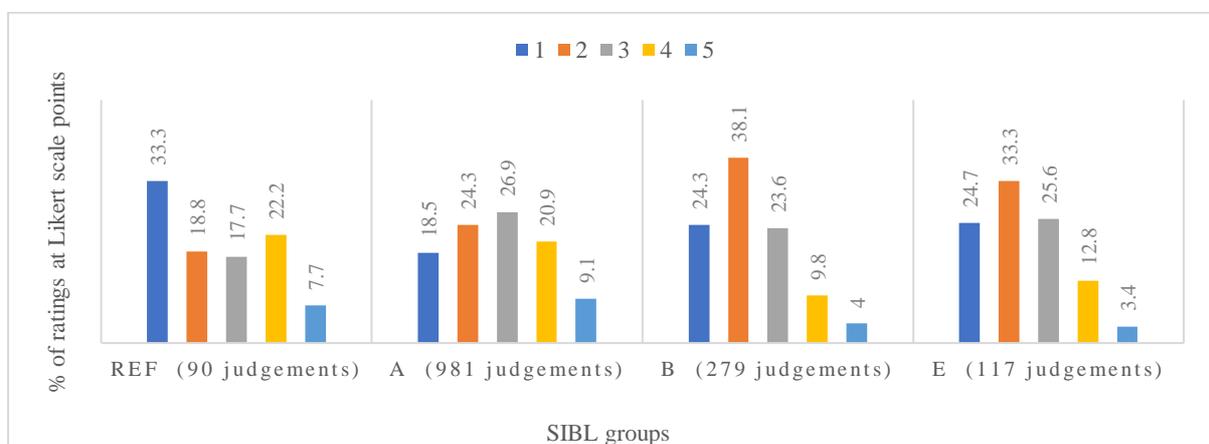
Figure 7. 11 Likert scale rating distribution for nie-drop and the variable SIBL

Figure 7.11 reveals that, as initially made apparent by participants' SDs, the ref- and A-group participants are more evenly spread across the Likert scale than the B- and E-group participants' judgements are. The majority of the B- and E- groups' judgements pool at the lower- to mid-range (i.e. rating points "1", "2" and "3"), with very few judgements at rating point "4" (B-group = 9.8%, 27/279 judgements; E-group = 12.8%, 15/117 judgements). In contrast, the ref- and A-group participants still rate a considerable percentage of the structures a "4" (ref-group = 22.2%, 20/90 judgements; A-group = 20.9%, 206/981 judgements).

For the B- and E-group participants' assessment of *nie*-drop, we again see that although they consider it less likely that *nie*-drop will feature in the speech of L1 Afrikaans speakers, the majority of their judgements fall at rating point "2" (B-group = 38.1%, 106/279 judgements; E-group = 33.3%, 39/117 judgements), and not "1" (B-group = 24.3%, 67/279 judgements; E-group = 24.7%, 29/117 judgements).

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7.6.4 Summary of sentential negation results

As with verb placement, *standard* sentential negation structures remain unaffected by participants' language usage and exposure patterns: all participants' judgements are close to ceiling. However, based on participants' differing language exposure and usage patterns, it appears that the informants' *nie*-drop judgement may differ.

Participants whose LoLT at primary school was either both languages or only English, and in particular participants whose LoLT was English at secondary school (as opposed to those whose LoLT was Afrikaans or both languages) rate *nie*-drop less likely to occur in the speech of L1 Afrikaans speakers than the ref-group participants, or those whose LoLT was Afrikaans. Language use with siblings reveals a similar trend. Bilinguals who speak either both languages or only English with their siblings rate *nie*-drop less likely to occur in the speech of L1 Afrikaans speakers than bilinguals who still speak exclusively Afrikaans with their siblings.

In all these cases, however, the post hoc *p* value is not in fact statistically significant when compared to the ref-group participants' means. Furthermore, while the judgement most applied by the ref-group participants for *nie*-drop is a "1", the shift that is evidenced in these bilinguals' assessment of *nie*-drop pools primarily at rating point "2". In other words, while they appear less certain as to whether *nie*-drop is permissible in spoken Afrikaans, they are not necessarily more *conservative* in their assessment of *nie*-drop.

The most marked effect is evidenced in the group of participants with an AoO of ≤13, who also rate *nie*-drop the least likely to occur in the speech of L1 Afrikaans speakers. As noted above, for the variables LoLT-P/S and SIBL, participants' judgements appear to be indictive of an uncertainty as to the permissibility of *nie*-drop in spoken Afrikaans. The early shifters (AoO of ≤13), however, are additionally the most conservative in their assessment of *nie*-drop, in that the majority of their ratings fall at rating point "1" (i.e. "completely ungrammatical").

Overall, it appears that the use of *less* Afrikaans in the contexts reported on above results in speakers who rate *nie*-drop less acceptable than speakers who use more or mainly Afrikaans in these same contexts. This pattern is particularly marked in the judgements of those who made an early dominance shift to English (AoO ≤13 years).

It should be emphasised, however, that for the variables LoLT-P, AoO-D and SIBL, three of the five groups where these effects are evidenced are particularly small (E-group of LoLT-P: *n* = 10; AoO-D ≤13: *n* = 13; E-group of SIBL: *n* = 13). It is acknowledged this does

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undermine the robustness of the *individual* results. However, because a similar pattern it replicated across all four variables reported on (including LoLT-S where the group in question consists of 20 participants, and for the two larger B-groups for the variables LoLT-P and SIBL) a collective weight is added to the results.

7.7 Variable-specific DN and NC results

The DN interpretation is predicted to be late acquired in Afrikaans, as it is in other languages (Chapter 3, §3.4.5). Additionally, DN is a property at the syntax-discourse interface. It was therefore proposed that it may be subject to instability under the influence of an L2. However, the DN/NC distinction exhibits a partial overlap with SA English, in that DN, but not NC features in SAE. As a consequence, an alternate possibility may be that because DN is the "standard" option in English too, this overlap may serve a protective function in the property's stability under the influence of English as an L2. Furthermore, because NC does *not* feature in English, unlike DN, it was proposed that NC may be subject to CLO.

Three variables were found to be potentially predictive in terms of how they affect participants' judgements of double negation (DN) and negative concord (NC) structures in Afrikaans. One concerns the *circumstances of a dominance shift to English*, (AoO-D; §7.7.2.1), while the other two pertain to language usage patterns in adulthood: *language use with siblings* (SIBL) and *internal language use* (INT) (§7.7.3). These results are presented below, followed by a summary in §7.7.4.

7.7.1 Circumstances of a dominance shift to English

7.7.1.1 The variable AoO-D

Based on the AoO-D groupings, participants' judgement means for DN and NC in Afrikaans are plotted in Figure 7.12 below.
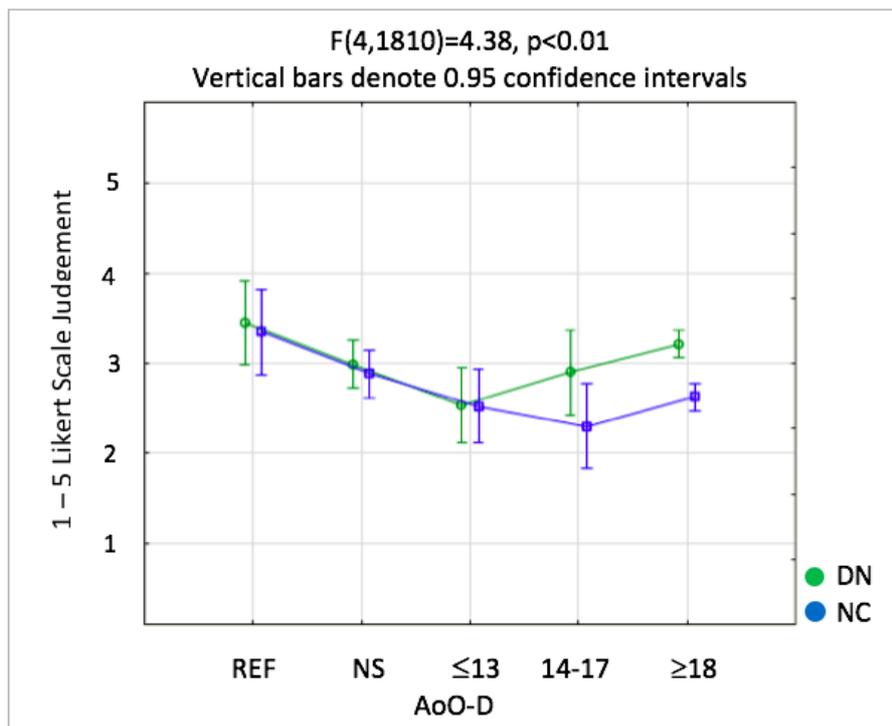
Figure 7. 12 DN/NC judgement means for the variable AoO-D

The two-way ANOVA for the variable AoO-D and participants' DN/NC judgements is significant at <.01 (F(4,1810)=4.38). The above graph suggests that both DN and NC may possibly be affected by the variable AoO-D. The most marked difference appears to correlate with the DN judgements of participants with an AoO of ≤13. In the case of the NC judgements, the difference appears to correspond with an AoO of English dominance between the ages of 14 and 17 years. Participants' means are presented in Table 7.17 below.

	DN/NC F(4,1810)=4.38, p <.01			
Variable: AoO-D	**DN (*n* =6)**		**NC (*n* =6)**	
Group	**Mean**	**SD**	**Mean**	**SD**
REF (*n* = 10)	3.45	1.41	3.35	1.28
NS (*n* = 33)	2.98	1.50	2.88	1.38
≤13 (*n* = 13)	2.53	1.50	2.52	1.38
14-17 (*n* = 10)	2.90	1.58	2.30	1.07
≥18 (*n* = 100)	3.21	1.43	2.62	1.29

Table 7. 17 DN/NC CAJT judgement means for the variable AoO-D

The above DN means confirm that participants with an AoO of ≤13 have the lowest DN mean of all the groups.

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Looking now at participants' NC judgements, the means indicate that all participants who shifted to English dominance rate NC in Afrikaans more poorly than those who have not made a dominance shift to English. Although participants who shifted to English dominance between the ages of 14 and 17 years are revealed as having the lowest mean of all the groups (at 2.30), the various shifters' means, however, do not appear to exhibit much between-group variation. The SDs, on the other hand, again suggest that participants with an AoO of between the ages of 14 and 17 years perform differently to the other groups, in that they appear to be less internally variable (with the smallest SD of 1.07).

To establish which, if any, between-group differences are statistically significant, the post hoc *p* values for DN and NC are presented in Table 7.18 and Table 7.19 below respectively.

	REF	NS	≤13	14-17	≥18
REF	–	.09	<.01	.11	.35
NS	.09	–	.07	.75	.15
≤13	<.01	.07	–	.26	<.01
14-17	.11	.75	.26	–	.21
≥18	.35	.15	<.01	.21	–

Table 7. 18 Post hoc p values for DN and the variable AoO-D

	REF	NS	≤13	14-17	≥18
REF	–	.09	<.01	<.01	<.01
NS	.09	–	.15	.03	.09
≤13	<.01	.15	–	.48	.65
14-17	<.01	.03	.48	–	.20
≥18	<.01	.09	.65	.20	–

Table 7. 19 Post hoc p values for NC and the variable AoO-D

Looking at the post hoc results for the DN means, first, the difference between the mean of participants with an AoO of ≤13 is statistically significant at <.01 for the difference from the ref-group participants' mean. Additionally, it is approaching significance at .07 when compared to the NS-group participants' mean, and statistically significant at <.01 for those with an AoO of ≥18.

Turning to NC, only the NS-group participants' mean is *not* different enough to result in a difference of statistical significance (non-significant at 0.9) when compared to the ref-group participants' mean. However, it is worth noting that, when compared to the NS-group participants, the only statistically significant effect relates to those participants who shifted to English dominance between the age of 14 and 17 years. In a comparison of the relative effect

size for the difference between the various English-dominant groups' means in comparison to the ref-group participants' NC mean, it is worth noting that the effect is the strongest for the adolescent shifters, albeit only marginally so. Consider the exact *p* values when the means are compared to the ref-group participants' mean: AoO of ≤13 (*p* = .009); AoO between the age of 14 and 17 years (*p* = .002); AoO of ≥18 (*p* = .004). In other words, it appears that although all the more English-dominant bilinguals' judgements diverge from the ref- and NS-group participants' means, the adolescent shifters' judgements are the most divergent.

The rating distribution of participants' DN and NC judgements is presented in Figure 7.13 and Figure 7.14 respectively. The distribution patterns will be discussed in turn after each figure.
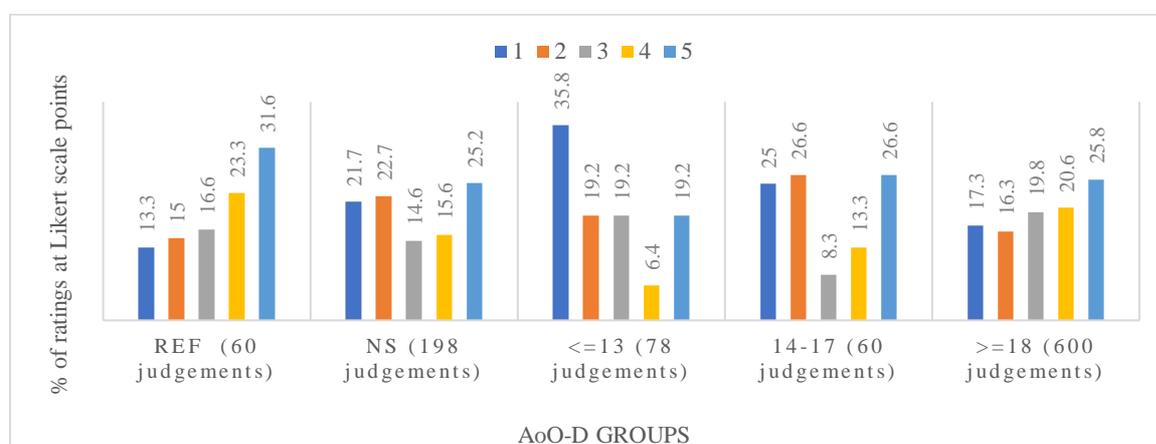
Figure 7. 13 Likert scale rating distribution for DN and the variable AoO-D

As Figure 7.13 illustrates, unlike what was revealed for bilinguals' judgements of prescriptively sanctioned sentential negation, none of the groups' DN judgements are at ceiling. Recall that, although DN is the prescriptively sanction option, it is always contextually marked. This more than likely contributes to the fact that bilinguals' ratings of DN are not higher on the Likert scale.

What does emerge, however, is that at the top end of the Likert scale, participants with an AoO of ≤13 rate only 25.6% (20/78 judgements) of the structures either a "4" or "5". On the other hand, the percentage of "4s" and "5s" the other groups award the DN structures are as follows:

(7.5)

(i)	Ref-group participants: 54.9%		(33/60 judgements)
(ii)	NS-group participants: 40.8%		(81/198 judgements)
(iii)	AoO of 14-17 years: 39.9%		(24/60 judgements)
(iv)	AoO of ≥18: 45.9%		(279/600 judgements)

It appears that participants who shifted to English dominance at the age of 13 or younger rate DN far less likely to occur in the speech of L1 Afrikaans speakers than any of the other groups.

Looking at the bottom end of the Likert scale, it becomes apparent that both those with an AoO of ≤13 and an AoO of between 14-17 years rate the most DN structures either a "1" or "2". The most marked difference, however, relates to the percentage of structures each group rates a "1" (i.e. "completely ungrammatical"). There is a considerable amount of between-group variation in the percentage of structures rated a "1". However, at 35.8% (28/78 judgements), those with an AoO of ≤13 rate far more DN structures "completely ungrammatical" than any of the other participant groups, who rate between 13,3% and 25% of the structures a "1" on the Likert scale. While all groups are more variable in their assessment of DN (the "standard" option in StdA) than they were for the *standard* sentential negation structures (*nie…nie*), the early shifters' judgements are the most divergent, with the most degraded DN ratings.

Let us now turn our attention to participants' NC Likert scale ratings below.
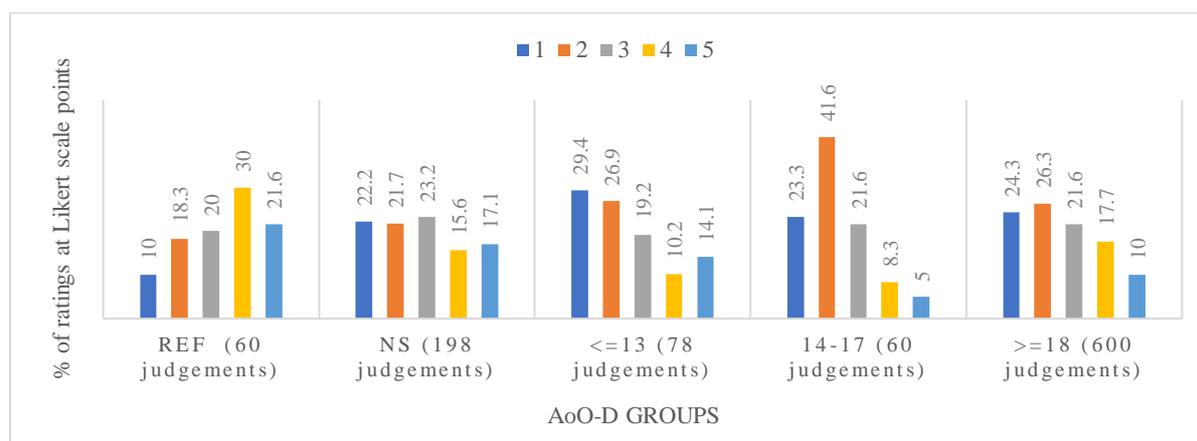
Figure 7. 14 Likert scale rating distribution for NC and the variable AoO-D

All participant groups' mid-level ratings (i.e. a "3") fall between 19.2% and 23.2% and are therefore relatively comparable. However, at the top end of the Likert scale (rating points "4"

and "5"), although there is a considerable amount of between-group variation, participants with an AoO between the ages of 14 and 17 rate far fewer structures a "4" or a "5" than the other participant groups. Additionally, at the lower end of the Likert scale, participants with an AoO between the ages of 14 and 17 rate the most structures a "1" or "2". Consider the percentage of NC structures that the various participant groups rate as being either a "1" or "2" (7.6), or a "4" or "5" (7.7), on the Likert scale respectively:

(7.6)   Percentage of *NC* structures rated either a "1" and "2"
    (i)   Ref-group participants: 28.2%   (17/60 judgements)
    (ii)   NS-group participants: 43.9%   (87/198 judgements)
    (iii)   AoO ≤13: 56.3%   (44/78 judgements)
    (iv)   AoO 14-17 years: 64.9%   (39/60 judgements)
    (v)   AoO ≥18 years: 50.9% (304/600 judgements)

(7.7)   Percentage of *NC* structures rated either a "4" or "5"
    (i)   Ref-group participants: 51.6%   (31/60 judgements)
    (ii)   NS-group participants: 32.7%   (60/198 judgements)
    (iii)   AoO ≤13 years: 24.3%   (19/78 judgements)
    (iv)   AoO 14-17 years: 13.3%   (8/60 judgements)
    (v)   AoO ≥18 years: 27.7%   (150/600 judgements)

There is still a considerable amount of between-group variation across all the groups. However, participants who shifted to English dominance in late adolescence are the least inclined to rate NC very likely to feature in the speech of L1 Afrikaans speakers, and are the most conservative in their judgements, rating as many as 64.9% of the structures either a "1" or "2". Additionally, participants with an AoO of ≤13 years also rate more NC structures either a "1" or "2" than the other participant groups. It would therefore seem that, overall, neither the childhood nor the adolescent shifters rate NC very favourably.

7.7.2 Language exposure and use in adulthood

The statistical analysis for DN/NC and the language exposure- and use-related variables in adulthood yielded statistically significant results for the variables SIBL and INT. The following two sub-sections present these outcomes in detail.

7.7.2.1 The variable SIBL

Based on whether participants speak only Afrikaans (A), both languages (B), or only English (E) to their siblings, participants' judgement means in response to DN and NC structures are plotted in Figure 7.15 below.
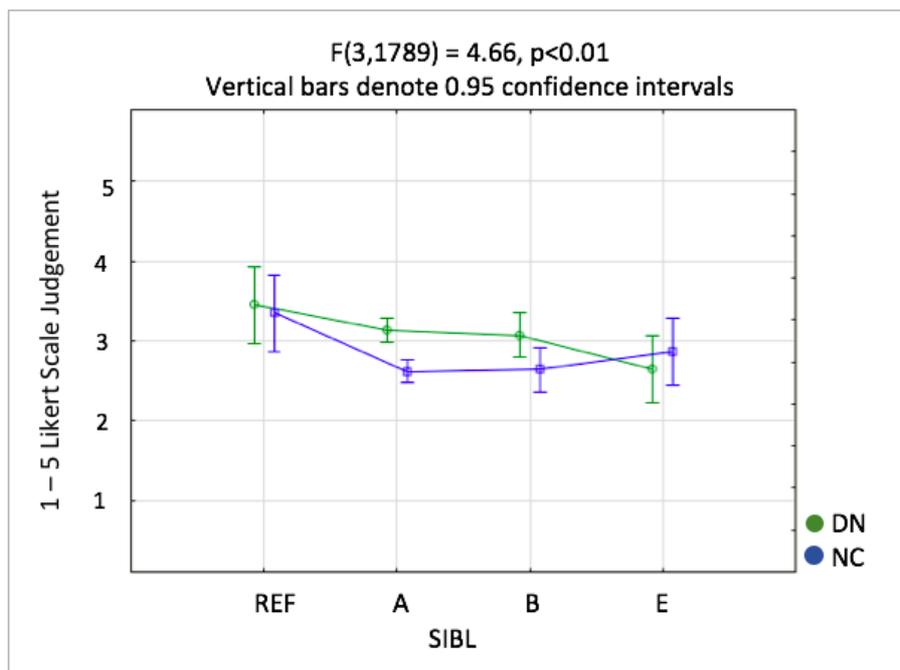
Figure 7. 15 DN/NC judgement means for the variable SIBL

The overall effect for the interaction between the variable SIBL and participants' DN and NC judgements is significant at <.01 (F(3,1789)=4.66). The ref-group participants' NC judgements are markedly higher than the other three groups' judgements (see §7.8.3.2 for a brief discussion as to why this may be the case). However, the A-, B-, and E-group participants' NC judgements appear relatively similar. Therefore, the variable SIBL appears to play no role in their judgements of NC in Afrikaans.

Turning to participants' DN judgements, the E-group participants' judgement mean appears to be substantially lower than all the other groups' means. It would therefore appear that for the variable SIBL, participants' DN judgements, but potentially not their NC judgements, are affected. To establish what the mean judgement differences in fact are, participants' means are presented in Table 7.20 below.

	DN/NC F(3,1789)=4.66, p <.01			
Variable: SIBL	**DN (*n* = 6)**		**NC (*n* = 6)**	
Group	**Mean**	**SD**	**Mean**	**SD**
REF (*n* = 10)	3.45	1.41	3.35	1.28
A (*n* = 109)	3.13	1.46	2.61	1.32
B (*n* = 31)	3.07	1.47	2.63	1.22
E (*n* = 13)	2.64	1.61	2.87	1.47

Table 7. 20 DN/NC CAJT judgement means for the variable SIBL

Based on whether participants speak Afrikaans, English, or both languages with their siblings, their NC judgement means remain comparable, with the E-group participants' mean only marginally higher than the A- and B-group participants' mean.

The DN judgement means confirm that participants who speak only English with their siblings appear to rate DN structures substantially lower on the Likert scale than participants who speak only Afrikaans or both languages with their siblings.

The post hoc *p* values for participants' DN and NC judgements are presented in Table 7.21 and Table 7.22 below respectively.

	REF	**A**	**B**	**E**
REF	–	.22	.18	.01
A	.22	–	.70	.03
B	.18	.70	–	.09
E	.01	.03	.09	–

Table 7. 21 Post hoc p values for DN and the variable SIBL

	REF	**A**	**B**	**E**
REF	–	<.01	.01	.14
A	<.01	–	.88	.26
B	.01	.88	–	36
E	.14	.26	.36	–

Table 7. 22 Post hoc p values for NC and the variable SIBL

The post hoc *p* values for NC confirm that the E-group participants' marginally higher NC mean, in comparison to the A- and B-group participants' respective means, is indeed not different enough to be statistically significant. Thus, a breakdown of participants' Likert scale judgements for NC is not presented below.

As the *p* value for the difference between the ref- and A-group participants' judgements of NC illustrates (also consider the means in Table 7.20), this is in fact statistically significant. However, as already discussed for the variable SA-EX (§7.5.2), as all the ref-group participants speak exclusively Afrikaans with their siblings, the difference cannot plausibly be related to the variable SIBL. It is, however, striking that the ref-group participants' judgements of NC are consistently so much higher than the other bilinguals' judgements thereof. As noted above, this point will be discussed in more detail in §7.8.3.2 below.

The post hoc *p* values for DN reveal that the difference between the E-group participants' mean is only statistically significant for the difference between the ref- and A-group participants' means, at .01 and .03 respectively. The difference between the E- and B-group participants' judgement means is approaching significance at .09. As the B-group's mean is still considerably higher, this non-significant *p* value may, however, yet again be the result of a lower statistical power (and not a true reflection of a lack of difference).

To determine how the E-group participants' judgements in fact differ from the other groups' judgements, the breakdown of participants' Likert scale ratings is presented below.
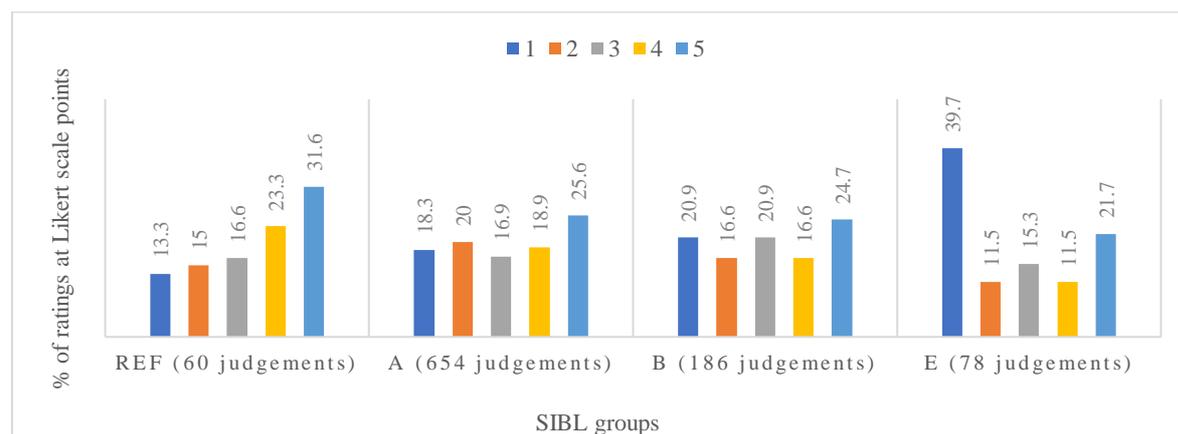
Figure 7. 16 Likert scale rating distribution for DN and the variable SIBL

As Figure 7.16 illustrates, none of the participants' judgements are at ceiling, with a considerable amount of within-group variation evidenced for DN. However, the rating most readily opted for by the ref-, A- and B-group participants is still a "5" on the Likert scale.

In contrast to this pattern, E-group participants rate almost 40% (31/78 judgements) of the DN structures "completely ungrammatical". In comparison to the percentage of structures the ref- (13.3%, 19/60 judgements), A- (18.3%, 120/654 judgements), and B-group (20.9%, 39/186 judgements) participants rate a "1" on the Likert scale, this is a marked increase. Thus, although there is again a large amount of variability in participants' judgements of DN in Afrikaans, the E-group participants' DN ratings are the most degraded.

7.7.2.2 The variable INT

According to whether participants think or dream in only Afrikaans (A), both languages (B), or only English (E), their mean judgements in response to the DN and NC structures are plotted in Figure 7.17 below.
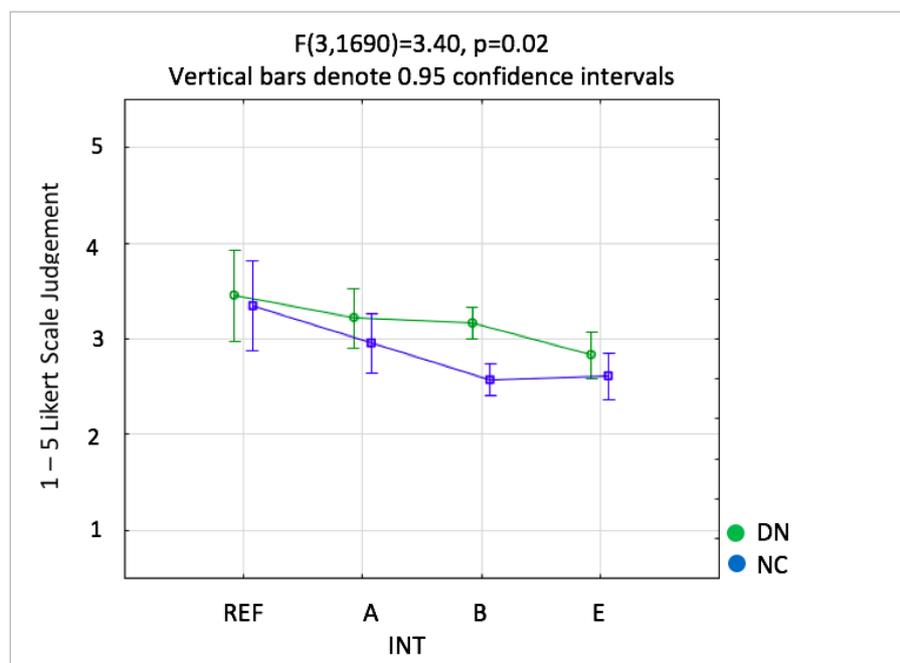
Figure 7. 17 DN/NC judgement means for the variable INT

The two-way ANOVA is significant at .02 ($F_{(3,1690)}=3.40$). The plots suggest that the statistically significant differences may relate to participants' judgements of *both* DN and NC structures. Participants' means are presented in Table 7.23 below.

| Variable: INT | DN/NC
F(3,1690)=3.40, p=0.02 | | | |
| | DN (*n* = 6) | | NC (*n* =6) | |
Group	Mean	SD	Mean	SD
REF (*n* = 10)	3.45	1.41	3.35	1.28
A (*n* = 23)	3.21	1.44	2.95	1.44
B (*n* = 83)	3.16	1.40	2.57	1.24
E (*n* = 38)	2.83	1.60	2.60	1.37

Table 7. 23 DN/NC CAJT judgement means for the variable INT

The above means suggest that indeed, participants' judgements of both DN and NC in Afrikaans may be affected by their internal language usage patterns. However, two different patterns emerge.

In response to the DN structures, as with the variable SIBL, only the E-group participants' judgement mean is markedly lower than the other participant groups' means (whose means are more comparable). Furthermore, the E-group's SD is larger than the other groups' SDs, suggesting that they are more internally variable. On the other hand, in response to the NC structures, all the groups' means are again lower than the ref-group participants' mean, but the B- and E-group participants' means are considerably lower than both the ref- and A-group participants' means.

The post hoc *p* values for the difference between participants' DN and NC judgements are presented in Table 7.24 and Table 7.25 respectively.

	REF	A	B	E
REF	–	.42	.27	.02
A	.42	–	.78	.06
B	.27	.78	–	.03
E	.02	.06	.03	–

Table 7. 24 Post hoc p values for DN and the variable INT

	REF	A	B	E
REF	–	.17	<.01	<.01
A	.17	–	.03	.09
B	<.01	.03	–	.81
E	<.01	.09	.81	–

Table 7. 25 Post hoc p values for NC and the variable INT

Only the E-group participants' judgements of DN in Afrikaans are different enough from the other groups' judgements to result in differences of statistical significance. The difference between the E-group participants' judgements and the ref- and B-group participants'

judgements is significant at .02 and .03 respectively, with the difference between the E- and A-group participants' judgements approaching significance at .06.

With regard to participants' NC judgements, the *p* values again confirm that the B- and E-group participants' means are comparable, both lower than the ref- and A-group participants' judgements of NC in Afrikaans. Note that the difference is only approaching statistical significance at .09 for the difference between E- and A-group participants' judgements. It is important to note that the E-group participants' mean is only fractionally *higher* than the B-group participants' mean (with an SD that is only 0.13 smaller). However, the difference between the B-, but not the E-group, is *statistically* significant when compared to the judgement mean of the A-group participants. Thus, the non-significant effect is likely to be the result of the different group sizes (and therefore, lower statistical power). It is, however, noted that none of these groups are in fact particularly small (A: $n = 23$; B: $n = 83$; E: $n = 38$). As a consequence, it has to be conceded that these differences are marginal at best.

To once again determine *how* the groups' judgement patterns differ from one another, a breakdown of the participants' Likert scale ratings for DN and NC is presented in Figure 7.18 and Figure 7.19 below respectively. The distribution patterns will be discussed in turn after each figure.
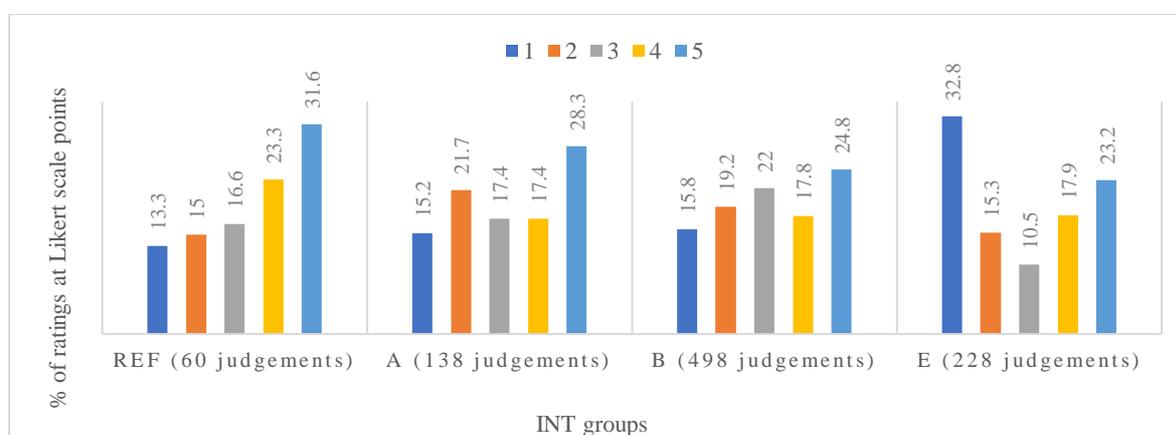
Figure 7. 18 Likert scale rating distribution for DN and the variable INT

The DN judgement distribution above confirms that, for the percentage of structures rated "completely ungrammatical" (a "1"), the E-group participants' judgements diverge markedly from the other participant groups' judgements. At 32.8% (75/228 judgements), a rating of "1" is the most frequent judgement assigned by the E-group participants.

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The B-group participants' judgements are the most evenly spread across the entire Likert scale. In contrast, the largest proportion of the ref- and A-group participants' judgements falls at the top end of the Likert scale, with a rating of "5" being the most frequent judgement assigned by the ref- and A-group participants (ref-group = 31.6%, 19/60 judgements; A-group = 28.3%, 39/138 judgements). Let us now consider participants' NC Likert scale ratings below.
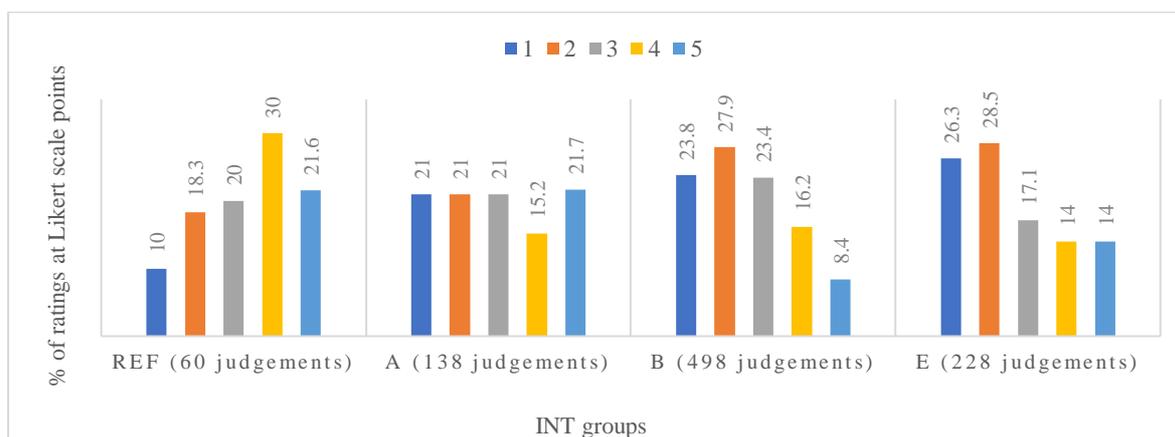
Figure 7. 19 Likert scale rating distribution for NC and the variable INT

The NC judgement distribution indicates that while the ref-group participants rate very few structures "completely ungrammatical", with the exception of the slight spike in judgements at rating point "4", their judgements exhibit a fairly even spread across the rest of the Likert Scale. The A-group participants' NC judgements are relatively evenly spread across the entire 1-5 Likert scale spectrum.

The judgements of the B- and E-group participants, on the other hand, pool more towards the lower end of the Likert scale. Both groups rate fewer NC structures "completely grammatical", with the B- and E-group participants rating 8,4% (42/498 judgements) and 14% (32/228 judgements) of the structures a "5" respectively. Overall, however, the differences between the A-, B- and E-group participants' judgement distribution patterns, as with their means, appear to be quite minimal and will therefore not be discussed in detail in §7.8.3.2 when the NC results are discussed.

It appears, then, that only the E-group participants' ratings of DN are markedly different when compared to the other groups' DN ratings, with a "1" on the Likert scale being the rating most readily awarded by those individuals whose internal language use is English.

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7.7.3 Summary of DN and NC results

In sum, *all* bilinguals' assessment of DN, the standard option in StdA, exhibits a great deal of variation. In contrast to what is prescriptively sanctioned in sentential negation (*nie…nie*), none of the groups' judgments of DN were at ceiling on the Likert scale. As noted above, DN is contextually marked and linguistically complex, and therefore thought to be harder to process. Thus, the rise in complexity may well underlie this pattern.

It was, however, revealed that internal language use, an early dominance shift to English (AoO of ≤13) (and to a lesser degree an L2-dominance shift in adolescence), and language use with siblings, were all found to affect participants' judgements of DN in the same way. That is, an early dominance shift to English, or the use of more English in these contexts, resulted in assessments of DN that we even less favourable, with these participants rating DN very unlikely to feature in Afrikaans.

Note that in the case of the variables AoO-D and SIBL, the effects are evidenced in two small groups ($n = 13$ in both bases), again diminishing the robustness of the individual effects. However, as noted in §7.6.4 with respect to sentential negation, because the pattern is replicated across three variables, including INT – where the effect is evidenced in a larger group ($n = 38$) – collectively, the result is more robust.

Turning to NC, the above results suggest that a dominance shift to English in childhood and adolescence may affect speakers' judgements of NC, with both these groups rating NC quite poorly. The effect is, however, most marked in the judgements of those with an AoO of 14-17 years. Both groups are, however, again small (AoO ≤ 13: $n = 13$; AoO 14-17: $n = 10$), diminishing the robustness of this effect. Further research would certainly be required to confirm the pattern that emerges here. Internal language use also appeared to potentially affect participants' NC judgements. In this regard, individuals who maintain that they think and dream exclusively in Afrikaans were slightly more likely to accept NC in Afrikaans. However, close consideration of these judgements patterns suggests that the effects were marginal at best and will therefore not be discussed in more detail.

Lastly, for NC, it is also worth noting that the ref-group participants appear to rate the condition considerably more acceptable than all the other bilinguals, including those who maintain that they have either remained largely Afrikaans-dominant, or are equally proficient in both languages. As noted above, this point will be discussed in §7.8.3.2.

7.8   Discussion of the negation results

This section interprets and discusses the sentential negation and DN/NC results presented above, addressing the three primary research questions, and their associated sub-questions. Recall that sub-questions (ii-c) and (iii-b) (*concerned with the overall predictive power of the extralinguistic variables under investigation*) will be discussed in detail in Chapter 9 after the various property-specific results have been presented and discussed.

7.8.1   *Do bilinguals' acceptability judgements of their L1 Afrikaans differ according to whether they are in South Africa or the diaspora?*

For both sentential negation and DN/NC, there were no differences of statistical significance that were both statistically and empirically meaningful for the variable SA-EX. Based on whether bilinguals are in South Africa or the diaspora, bilinguals' judgements of prescriptively sanctioned sentential negation (*nie…nie*), *nie*-drop, double negation (DN) and negative concord (NC) remain comparable. As with verb placement, and as far as negation is concerned, the answer to research question (i), which asks whether bilinguals' acceptability judgements of their L1 Afrikaans differ according to whether they are in South Africa or the diaspora, is therefore *no*. Consequently, sub-question (i-a), concerned with how the potential differences are evidenced, and sub-question (i-b), concerned with sensitive period considerations and interface status, fall away.

7.8.2   *Do bilinguals' acceptability judgements of what is prescriptively sanctioned and/or ungrammatical in their L1 Afrikaans exhibit evidence of EotSLotF as a result of differential language exposure and use in childhood and adulthood?*

This sub-section addresses the second primary research question and its associated sub-questions. This question will be addressed in relation to participants' judgements of what is prescriptively sanctioned in negation in Afrikaans: the sentential double-*nie* requirement (*nie…nie*) and DN interpretations. Sub-question (ii-a) was concerned with *how* variation, indicative of EotSLotF, is evidenced, and will be addressed separately for sentential negation and DN in §7.8.2.1 and §7.8.2.2 respectively. If variation is evidenced in bilinguals' judgements of negation in Afrikaans, sub-question (ii-b) asks whether the effects are limited to properties at the syntax-discourse interface, which are thought to be later acquired (DN), or if

properties which do not interface with discourse considerations, and are earlier acquired, are also subject to this variation (sentential negation). Given that a global perspective is required to answer this question for negation, this sub-question will be addressed separately in §7.8.2.3.

7.8.2.1 Prescriptively sanctioned sentential negation

No interaction effects of statistical significance were evidenced for the *standard* sentential negation condition (i.e. *nie…nie*) for any of the variables investigated. Irrespective of participants' exposure to or use of Afrikaans, the experimental groups' acceptability judgements for these structures remain comparable to the ref-groups' judgements (which, recall, resulted in a mean of 4.85 and an SD of 0.57). Therefore, the results suggest that Afrikaans-English bilinguals' acceptability judgements of what is prescriptively sanctioned in sentential negation are not subject to variation under the influence of English as an L2. Thus, for the *standard* sentential negation condition, sub-question (i-a) falls away.

In terms of the stability evidenced, recall, firstly, that the sentential double-*nie* requirement does not interface with discourse considerations. Secondly, recall that the two *nies* are acquired early (see Chapter 3, §3.4.5). The fact that the sentential double-*nie* requirement in Afrikaans remains stable under the influence of English is precisely what one would expect of an early acquired property that does not interface with discourse-related considerations (see Tsimpli, 2014).

In sum, bilinguals' judgements of these prescriptively sanctioned double-*nie* structures appear to remain unaffected under the influence of English as an L2. This result, as with the stability evidenced for bilinguals' judgements of V2/SOV in Afrikaans, can be interpreted as lending support to the IH, which predicts stability of properties that do not interface with discourse considerations.

7.8.2.2 Double Negation

Participants' judgement of DN reveal a very different pattern to that which emerged for prescriptively sanctioned sentential negation. Unlike bilinguals' judgements of the sentential double-*nie* requirement, which sees all participants' judgements close to ceiling on the Likert scale, *all* bilinguals' judgements of DN exhibit a great deal of variability, with judgements that spread across the entire Likert scale. This is proposed to be due to DN's linguistically complex nature, which makes it difficult to process.

However, it seems that under certain circumstances, bilinguals' DN judgements are even more degraded, reflecting a rating in terms of which DN is very unlikely to occur in the speech of L1 Afrikaans speakers. Variation in bilinguals' DN judgements was evidenced across the following extralinguistic variables:

(i)   *Age of onset of English dominance* (AoO-D);

(ii)   *language use with siblings* (SIBL); and

(iii)   *internal language use* (INT).

The predictive power of each specific variable will once again be discussed in detail in Chapter 9, where we will adopt a global perspective on all the property-specific results. However, in order to gain insight into the role played by each respective variable, the relative size of the various effects evidenced are again presented here. The post hoc analysis reveals that where variation was evidenced, the variable AoO-D resulted in the most marked between-group difference ($p = .004$) when compared to the ref-group participants' judgements of DN. The effects evidenced for the variables SIBL ($p =. 01$) and INT ($p = .02$) were less robust. Note that, in the case of the variables SIBL and AoO-D, the group sizes in question are small ($n = 13$ and $n = 10$ respectively). These small group sizes undermine the robustness of the result, and should therefore be kept in mind in the discussion that follows.

Sub-question (ii-a) was concerned with determining *how* variation indicative of EotSLotF is evidenced in the acceptability judgements of bilinguals. In addressing this question, let us first consider the ref-group participants' judgements of DN.

The ref-group participants' DN judgements resulted in a mean of 3.45 and an SD of 1.41. As noted above, when compared to the ref-group participants' judgements of what is prescriptively sanctioned for sentential negation in Afrikaans (mean = 4.85; SD = 0.57), it becomes apparent that there is considerably less agreement with respect to the likelihood of DN featuring in the speech of L1 speakers.

In spite of this variability, the ref-group participants' judgement patterns still see the most judgements at the top end of the Likert scale (31.6%; 19/60 judgements), and the fewest at the bottom end, with 13.3% at rating point "1" (8/60 judgements) and 15% at rating point "2" (9/ 60 judgements). It should be noted that, for the DN judgements, the ref-group participants' judgements are considerably higher than *all* the other groups' judgements, including the 33 NS-group participants' judgements (mean = 2.98; SD = 1.50). Note, however, that for the difference between the ref- and NS-group participants' DN judgements, the

difference is not statistically significant (p = .09). A possible reason for the ref-group participants' higher DN judgements will be discussed at the end of this section (see p.330).

Turning now to the experimental group, let us consider the pattern that emerges where variation was evidenced. Bilinguals who shifted to English dominance at age 13 or younger, those who speak exclusively English with their siblings, and those whose internal language is English, rate DN the lowest on the Likert scale.

To understand how these participants' judgement patterns differ, recall that the ref-group participants only rate 13% (8/60 judgements) of the DN structures a "1" (i.e. "completely ungrammatical"). For the ref-group participants, then, the least commonly selected rating point is rating point "1". The NS-group participants' judgements, and those who speak or use either both languages or only Afrikaans in these contexts, opt for a "1" between 15.2% and 21.7% of the time. In contrast, bilinguals whose:

(i)   AoO of English dominance is 13 years or younger;

(ii)   bilinguals whose internal language is English; and

(iii) those who speak exclusively English with their siblings,

rate 35.8% (28/78 judgements), 32.8% (75/228 judgements) and 39.7% (31/78 judgements) of the DN structures a "1" on the Likert scale respectively.

For each of these three groups, this is the highest percentage of judgements at a single rating point. Overall, these bilinguals are far more likely to rate DN "completely ungrammatical" in Afrikaans than bilinguals who use or are exposed to more Afrikaans in these same contexts.

Let us now turn our attention to what may be at the root of these degraded DN assessments. It should firstly be noted that, as pointed out in Chapter 3 (§3.4.4; see also the example in §7.3 above), although DN is perfectly grammatical, it is a marked and linguistically complex structure which can only be uttered in certain felicitous (denial) contexts (Horn, 1989). These observations are crucial to understanding the informants' judgements. Firstly, this is because Leivada & Westergaard (2020) find that structures which are linguistically complex are harder to process (see Chapter 4, §4.5.4). Secondly, Larrivée (2016: p.178) notes that marked structures occur with lower frequency, which in turn results in more degraded ratings (Gerasimova & Lyutikova, 2020).

As was found in Chapter 6 (see §6.7.3.2), English dominance again appears to be a key consideration: this is clearly suggested by considering the participant groups where these effects are evidenced, their language exposure and usage patterns. Recall that, as discussed in Chapter 2 (§2.5.2.2), it is proposed that language use with siblings potentially correlates with

language dominance (see Dunn, 2002 for the affective nature of language use with siblings), as do internal language usage patterns (Pavlenko, 2004, 2005). Recall also that, as noted in the discussion of the verb placement results, one of the ways EotSLotF are thought to manifest is in the form of sub-optimal L1 syntactic processing (Sorace, 2011, 2019; Schmid & Köpke, 2017a). This is suggested to be the result of a lack of L1 activation (Paradis, 1993, 2007) (Chapter 2, §2.4.1). Accordingly, these more English-dominant bilinguals' L1 is very likely to suffer from a lack of activation. Let us now consider how this relates to the property in question.

DN is linguistically complex and, as noted above, is therefore thought to be difficult to process (see Leivada & Westergaard, 2020). It may therefore be that under circumstances of L2 dominance and lack of L1 activation, these linguistically complex structures become even harder to process as a result of these bilinguals' (potentially) sub-optimal L1 syntactic processing. The result is that DN structures are perceived as ungrammatical due to the processing issues that these bilinguals may face.

This result aligns with the findings of de-Dios-Flores (2019). Recall that de-Dios-Flores (2019) investigated English speakers' judgements of single, multiple (two negations in two clauses), and double negation structures (two negations in one clause) in three tasks: a speeded acceptability task, a self-paced reading task, and an off-line acceptability rating task. The results were consistent across all three measures. Sentences containing multiple negations were processed slower and rated less acceptable than single negation structures. Of the three structures, double negation structures received the most degraded ratings, and appeared to incur the most processing issues. (see Chapter 3, §3.4.6).

With respect to the Afrikaans-English combination, it is important to note again that DN is prescriptively sanctioned in English too (see Chapter 3, §3.4.4.3). In spite of this complete structural overlap, it is the more English-dominant bilinguals who rate the DN structures the poorest. This suggests that when structures are marked, linguistically complex and rely on discourse-related considerations, the dominant language does not play a facilitative role in mitigating the effects caused by potential sub-optimal L1 syntactic processing issues. Recall that a similar conclusion was reached by Sorace & Serratrice (2009) (Chapter 2, §2.4.2.2), who found that the instability evidenced in properties at the syntax-discourse interface is not affected by structural similarity or difference. Rather, it seems that such structures exhibit greater vulnerability under the influence of L2 dominance, even though they feature in both languages (see Sorace & Serratrice, 2009 and the discussion in Chapter 9, §9.3.2).

Let us now return to the ref-group participants' DN judgements, which, recall, resulted in a higher DN mean than *all* the other participant groups. As the ref-group participants use primarily Afrikaans in all the domains considered, it may again be that it is not only English *dominance* that predicts higher degrees of processing interference, but rather more use and exposure to English overall – regardless of dominance (see also the discussion related to verb placement in MsA in Chapter 6, §6.7.4). It may therefore be that only those whose use of/exposure to Afrikaans quite significantly quantitatively outweighs their use of/exposure to English are less affected by the processing difficulties such structures incur. This observation is, of course, undermined because the variable FREQ did not result in an overall F of statistical significance (approaching significance at .08). However, as the effect is approaching statistical significance, further research into this possible correlation might be warranted in a larger scale study with a stronger statistical power.

Lastly, let us now specifically address the childhood shifters' judgements of DN, which, recall, resulted in the lowest mean ($p = .004$). As already noted, DN is late acquired (Chapter 3, §3.4.5). Studies have shown that when presented with DN structures, children between the ages of five and seven do not assign a DN interpretation, but rather an NC interpretation (Jou, 1988; Thornton, et al., 2016). Furthermore, recall that metalinguistic awareness is thought to develop gradually with a refinement in language users' metalinguistic skills throughout the childhood and adolescent years (Cekaite, 2013; see Chapter 2, §2.3.4). As also noted in Chapter 6 (§.6.7.3.2), recall that in tasks requiring metalinguistic judgements, a reduction in input (in the language under consideration) during the sensitive period for the development of metalinguistic skills results in an underperformance in these tasks (Serratrice et al., 2009). The fact that we are dealing with a low-frequency structure may mean that, under circumstances of reduced L1 input during these years, bilinguals are afforded even less of an opportunity to hone their metalinguistic skills for DN interpretations in their L1. The outcome may therefore be that their ability to assess the status of these linguistically complex structures is compromised.

As DN exhibits a structural overlap in Afrikaans and English, acquirers will of course receive confirmatory DN input in the L2. The counter argument would therefore be that bilinguals' judgements of DN in Afrikaans may not be expected to be subject to these kinds of problems as a result of reduced L1 input. However, this would assume that L2 input is supportive in the development of their metalinguistic awareness of their L1. In terms of metalinguistic awareness and multilingualism, the primary focus has been on the impact of the L1 on the L2 (or the L1/L2 on the L3), and not on the impact of the various languages on each other (Jung, 2013). As a consequence, whether L2 metalinguistic awareness of a property that

exhibits a structural overlap in the L1 and L2 would be facilitative in circumstances of reduced L1 input is open to question. It is, however, acknowledged that because DN is a property at the syntax-discourse interface – where structural overlap appears to not play a protective role in L2-induced variation (see Sorace & Serratrice, 2009) – it may simply be that there are too many factors to take into consideration to assess the role of L1-L2 structural overlap and metalinguistic awareness.

In sum, we may be dealing with two contributory factors: sub-optimal L1 syntactic processing *and* underperformance as a result of reduced L1 input during the period when metalinguistic skills are developing. Whether it is one factor, or both, DN interpretations appear to be particularly difficult to assess for bilinguals who shifted to English dominance in childhood, and, to a lesser degree, in adolescence. These AoO effects correlate with the findings of previous studies concerned with EotSLotF. Recall that studies concerned with L1 attrition have concluded that an earlier AoO of L2 dominance correlates with more severe L1 attrition effects (see i.a. Bylund, 2009; Pallier, 2007; Schmid, 2013; Chapter 2, §2.5.1.1). Thus, in the present study, the fact that bilinguals with an earlier AoO are the most divergent in their assessment of DN is perhaps to be expected. As noted at the outset of this section, due to the small group sizes in question ($n = 13$; $n = 10$), the generalisability of this result is limited.

7.8.2.3 *Are EotSLotF limited to the later acquired and more external interface-oriented properties, or are earlier acquired properties associated with narrow syntax/internal interfaces also vulnerable to EotSLotF?*

With respect to what is prescriptively sanctioned in Afrikaans negation, the answer to this sub-question is that *variation, indictive of EotSLotF, is limited to later acquired properties at the syntax-discourse interface*. All participants' judgements of prescriptively sanctioned sentential negation in Afrikaans, regardless of their language exposure and usage patterns, remain comparable to the ref-group participants' judgements, which are at ceiling on the Likert scale.

In contrast to these judgement patterns, even the judgements of the most Afrikaans-dominant bilinguals (i.e. ref-group participants) exhibit a great deal of variability for DN in Afrikaans. In this respect, all participant groups' judgements are spread across the entire Likert scale spectrum. However, unlike the ref-group participants' judgements, which see the most judgements at rating point "5" on the Likert scale (i.e. *This sounds completely grammatical, and an Afrikaans speaker could definitely say this*), the rating most readily opted for by the

more English-dominant bilinguals is a "1" (i.e. *This sounds completely ungrammatical, and no Afrikaans speaker would say this*).

To understand these asymmetrical patterns, let us consider again why the IH predicts more stability in properties that do not interact with discourse-related considerations than it does in properties at the syntax-discourse interface (Chapter 2, §2.4.2.1). Recall that the IH's prediction is based on the following proposal for L2 acquisition: "If the efficiency of L2 syntactic processing is sub-optimal, L2 speakers' ability to integrate syntactic knowledge with information from different domains is likely to be sub-optimal too and may fail with significantly more frequency than in L1 speakers" (Sorace, 2005: p.29).

The same is proposed for the L1 of L2-dominant bilinguals. Given the complexity of DN, and as a result of the L1 processing issues L2-dominant bilinguals are thought to face (Kasparian & Steinhauer, 2017b), the integration between syntax and pragmatics that is required for DN interpretations is more likely to be compromised. However, because the sentential double-*nie* requirement does not interface with discourse-related considerations, bilinguals are not faced with the same integration challenge.

As already noted above, because two of the groups where these effects are evidenced are small (AoO-D and SIBL; $n = 13$ for both groups), the robustness of these individual results are diminished. However, as already noted, because the same effect is evidenced across three groups, one of which is larger (INT; $n = 38$), the result is collectively more robust.

7.8.3 *Do the acceptability judgements of bilinguals show evidence of a specific L1 language- internal multi-competence that is indicative of their ability to distinguish between what is prescriptively sanctioned in StdA, in comparison to what is permissible in MsA?*

7.8.3.1 Sentential negation: *nie*-drop in MsA

To address this research question, let us consider again the ref-group participants' descriptive statistics in response to the prescriptively sanctioned sentential negation structures, in comparison to the *nie*-drop structures (Table 7.26). For consistency, as with the verb placement MsA results, the 33 NS[66]-group participants' results are also presented to establish whether the pattern is replicated in a more heterogenous group of bilinguals who are still either Afrikaans-

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[66] The "no shift" group.

dominant, or who feel equally proficient in both languages. These groups' results are again presented first in order to establish a baseline against which the results that are suggestive of variation in bilinguals' judgement patterns can be discussed. The statistical significance of the difference between the ref- and NS-group participants' respective means in response to the two conditions is presented in the far-right column of Table 7.26.

Group	Standard (*n* = 9)		*nie*-drop (*n* = 9)		Significance
	Mean	SD	Mean	SD	*p*
REF (*n* = 10)	4.85	0.57	2.52	1.35	<.01
NS (*n* = 33)	4.66	0.90	2.60	1.21	<.01

Table 7. 26 The ref- and NS-group AJT judgement means for standard sentential negation and nie-drop in MsA

The difference between the ref- and NS-group participants' judgement means of what is prescriptively sanctioned in sentential negation in Afrikaans in comparison to the *nie*-drop structures is statistically significant at <.01 in both cases. The means indicate that, as expected, when compared to the *nie*-drop structures, there is absolutely no doubt that the sentential double-*nie* requirement is the prescriptively sanctioned option.

Recall also that, while the ref-group participants rate 92% (83/90 judgements) of the standard structures a "5" (i.e. "completely grammatical"), they rate only 7.7% (7/90 judgements) of the *nie*-drop structures a "5". The same is true of the NS-group participants, who rate 82.8% (246/297 judgements) and 6.7% (20/297) of the *standard* and *nie*-drop structures a "5" on the Likert scale respectively.

Therefore, for sentential negation, the answer to the third primary research question, concerned with whether bilinguals' acceptability judgements show evidence of the ability to distinguish between what is prescriptively sanctioned in StdA in comparison to what is permissible in MsA, is *yes*.

Let us now address sub-question (iii-a), which asks whether the distinctions bilinguals make between StdA and MsA are subject to change under the influence of English as an L2. Recall that for *nie*-drop, the following variables were predictive:

(i)   *LoLT at primary and secondary school* (LoLT-P, LoLT-S);

(ii)   *Age of onset of L2 dominance* (AoO-D); and

(iii)   *Language use with siblings* (SIBL).

The most marked differences occur for the variable AoO-D, which was the only variable where the specific group's mean (i.e. those with an AoO ≤13 years) was in fact different enough to be statistically significant when compared to the ref-group participants' mean (significant at .03). Where variation was evidenced in the other groups' judgements, the differences were only statistically significant in a comparison of the E-/B-group participants' mean on the one hand, and the respective A-group participants' mean on the other. As such, the variables LoLT-P, LoLT-S and SIBL appear to be only marginally predictive. All the results will, however, be discussed to provide an overview of the emerging pattern.

Two related, but slightly different patterns emerged. The first is that bilinguals whose LoLT at primary school was either both languages or only English, and, in particular, participants whose LoLT was English at secondary school rate *nie*-drop less likely to occur in the speech of L1 Afrikaans speakers than the ref-group participants, or those whose LoLT was Afrikaans. The same was revealed for language use with siblings: bilinguals who speak either both languages or only English with their siblings rate *nie*-drop less likely to occur in Afrikaans than bilinguals who speak only Afrikaans with their siblings. Importantly, however, it was noted that although these bilinguals rate *nie*-drop less likely to occur in Afrikaans, their judgements shift primarily to rating point "2", and not "1" (i.e. "completely ungrammatical"). They are therefore not necessarily more *conservative* in their assessment of *nie*-drop than the ref-group participants, who, recall, still rated the majority of the *nie*-drop structures "completely ungrammatical" (with 33.3% of their judgements at rating point "1"). They are, however, less lenient in their assessment of its likelihood to feature in spoken Afrikaans than the ref-group participants are, with fewer judgements at rating point "4" (i.e. *This may not be standard Afrikaans, but an Afrikaans speaker could say this*).

Participants with an AoO of ≤13 also rated *nie*-drop the least likely to occur in the speech of L1 Afrikaans speakers. However, here we see that there is not only a shift away from the top end of the Likert scale to the lower end, but also to the *lowest* end (i.e. rating point "1"). These bilinguals rate 74.2% (87/117 judgements) of the structures a "1" (35.8%) or "2" (38.4%) on the Likert scale. It therefore seems that they are not only less inclined to rate it permissible in spoken Afrikaans, but of all the groups, they are the most conservative in their assessment of *nie*-drop.

With respect to *nie*-drop, the answer to sub-question (iii-a) is therefore *no, the distinction bilinguals make between StdA and MsA is not vulnerable under the influence of English as an L2*. All bilinguals still very clearly distinguish between the two conditions

(*nie…nie* vs. *nie*-drop), and in fact, where variation is evidenced, the judgement means indicate that the difference between the two types of structures in fact becomes more marked. As a consequence, sub-question (iii-b) falls away.

While the StdA-MsA *distinction* is not diminished, these bilinguals' judgement patterns are still divergent when compared to those who use or are exposed to more Afrikaans, albeit minimally in some cases. Let us consider the descriptive statistics of the groups where this variation was evidenced in Table 7.27 below.

Group	Standard (*n* = 9)		*nie*-drop (*n* = 9)	
	Mean	SD	Mean	SD
AoO: ≤13 (*n* = 13)	4.91	0.44	2.04	1.04
LoLT-P: English (*n* = 10)	4.84	0.47	2.42	1.02
LoLT-S: English (*n* = 20)	4.86	0.51	2.26	1.06
SIBL: English (*n* = 13)	4.83	0.57	2.36	1.09
SIBL: Both (*n* = 31)	4.83	0.48	2.30	1.06

Table 7. 27 The AJT judgement means for standard sentential negation/nie-drop and the groups where variation was evidenced for the variables AoO-D, LoLT-P/S & SIBL

What is most striking about the descriptive statistics in Table 7.27 above is not in fact the lower judgement means, which are in some cases not that different to the ref-group participants' judgement mean for *nie*-drop (mean = 2.52; SD = 1.3). Rather, when compared to the ref-, NS- and A-group participants of the same extralinguistic variables (Table 7.28 below), all the above groups' *nie*-drop SDs are consistently smaller. To illustrate, let us contrast the descriptive statistics in Table 7.27 above, with those in Table 7.28 below.

Group	Standard (*n* = 9)		*nie*-drop (*n* = 9)	
	Mean	SD	Mean	SD
REF (*n* = 10)	4.85	0.57	2.52	1.35
NS (*n* = 33)	4.66	0.90	2.60	1.21
LoLT-P: Afrikaans (*n* = 114)	4.80	0.62	2.73	1.23
LoLT-S: Afrikaans (*n* = 100)	4.80	0.61	2.74	1.20
SIBL: Afrikaans (*n* =109)	4.79	0.65	2.78	1.23

Table 7. 28 The AJT judgement means for standard sentential negation and nie-drop: NS- and A-groups for the variables AoO-D, LoLT-P/S & SIBL

As a comparison of the SDs in the above tables illustrates, the early shifters' judgements and those who use more English in these contexts are less internally variable than the ref- and NS-group participants, or those who use more Afrikaans in these contexts. It therefore appears that the more English-dominant bilinguals, or those whose LoLT at primary and secondary

school was English, are more uniform in their assessment of *nie*-drop, with a tendency to more closely represent what is prescriptively correct in written Afrikaans (although not always rating it "completely ungrammatical"). These bilinguals are therefore less lenient in their assessment of *nie*-drop's permissibility in Afrikaans. In the most marked case, i.e. those with an AoO of ≤13 years, bilinguals are in fact more conservative in their assessment of *nie*-drop altogether (with 35.8% of their judgements at rating point "1"). Looking at the variables that were predictive in determining these judgement patterns, it is interesting that language use with siblings was again (albeit marginally) predictive, adding further support to the hypothesis that language use with siblings is likely to correlate with language dominance (see Chapter 2, §2.5.2.2 and the discussion in §6.7.3.2 above).

In understanding these judgement patterns, recall, firstly, that the effects evidenced here cannot be CLO, as CLO is only predicted under circumstances of an L1-L2 partial structural overlap (Kupisch, 2014). Let us consider then why, under circumstances of L2-dominance, bilinguals' judgements of *nie*-drop appear to become more conservative.

The effects evidenced for the variables LoLT-P and LoLT-S provide us with the first clue in understanding this pattern. The reason is that the prescriptive input in the L2 Afrikaans language classroom may contribute to these more conservative judgement patterns of *nie*-drop. Language lessons at secondary-school, particularly for an L2 (if these bilinguals were taking the subject as a "first additional language" and not "home language" subject; see Chapter 1, § 1.3.3) are quite strongly prescriptive-grammar focussed. In particular, the "unacceptability" of *nie*-drop is an aspect of the grammar that receives a great deal of attention when teaching Afrikaans grammar. *Nie*-drop is also something that is stringently corrected during class presentations or conversational classes.

I wish also to anecdotally add that, as an Afrikaans-English bilingual who became English-dominant in childhood, *nie*-drop was (and still is) always very quickly corrected in my speech by L1 Afrikaans speakers. Additionally, my English-speaking husband, who attended an (at the time) Afrikaans university, recollects that his attempts at Afrikaans conversations were riddled with interruptions reminding him of *die tweede nie* ("the second *nie*"). There is therefore a level of consciousness involved for the sentential double-*nie* requirement that is not necessarily present in relation to word order patterns in Afrikaans (e.g. V2/SOV or scrambling; see the discussion to follow in Chapter 9, §9.4.2). These observations are included simply to illustrate that negative doubling is an aspect of Afrikaans grammar that English speakers and English-dominant bilinguals are made hyper-aware of. With this in mind, it is perhaps

unsurprising that bilinguals whose LoLT at primary and secondary school was English, as well as bilinguals who are more English-dominant, are less lenient and more conservative in their assessment of *nie*-drop.

A further factor that may account for these patterns, and one that is related to input at school, is the role of peer interaction. Recall the observation made in Chapter 2 (§2.5.1.2) that peer interaction at school acts as a valuable source of societal input (Jia & Fuse, 2007). This, in turn, allows children and adolescents, who are still within the sensitive period for the acquisition and mastery of L1 morphosyntax (Hartshorne et al., 2018), to engage with different types of discourse. Recall also that although exposure to Afrikaans does not disappear at school when the LoLT is English, such schools generally attract more L1 English-speaking learners, or L2/L3 English speakers whose L1 is not Afrikaans (see Chapter 1, §1.3.3). In other words, the lingua franca of the school is generally English. This is therefore very likely to result in a reduction of the Afrikaans peer interaction that is identified as being important in signalling *how* L1 speakers in fact use their L1, and not just what is prescriptively sanctioned.

This may also account for why bilinguals who made a dominance shift to English prior to adolescence (AoO ≤13 years), which, recall, is thought to be a key period in the acquisition of sociolinguistic variation, exhibit more divergent judgement patterns when compared to those who are more Afrikaans-dominant (see Chapter 2, §2.4.5). The sensitivity to the possible variation that exists in their L1 appears diminished, with an overcorrection of what, although not prescriptively sanctioned, occurs in MsA. It is again acknowledged that the small group size of the early shifters ($n = 13$) diminishes the robustness of these individual results. However, as noted in §7.6.4 above, because the pattern is evidenced across multiple variables (and particularly predictive variables in childhood and adolescence), there is a collective weight added to the result.

While these more conservative judgement patterns do not equate to property instability, it does appear that more exposure to or use of English results in judgement patterns that are divergent from those of bilinguals who use Afrikaans with more frequency. This is important as it illustrates that, as we know, "native speaker" judgements of what is acceptable in the L1 do not necessarily always correspond with what is prescriptively sanctioned in a language (see the discussion in Chapter 2, §2.2.1). This result highlights the fact that L1-dominant bilinguals appear to be more in tune with *how* their L1 is in fact often used in speech than with how is "should" be used. Their judgements exhibit a kind of grey-scale sensitivity that differs qualitatively to those who use their L1 less. Conversely, it appears that infrequent use of the

L1 in these contexts results in bilinguals who seem to rely more on their knowledge of the prescriptive rules that underlie the grammar of Afrikaans.

7.8.3.2 Double Negation & Negative Concord

As with sentential negation, to address whether the acceptability judgements of bilinguals show evidence of their ability to distinguish between what is prescriptively sanctioned in StdA in comparison to what is permissible in MsA, the ref- and 33 NS-group participants' judgements of DN and NC will be compared. These results are again presented first to establish a baseline against which the results that are suggestive of variation in bilinguals' judgement patterns can be discussed. The statistical significance of the difference between the ref- and NS-group participants' respective means in response to the two conditions are again presented in the far-right column of Table 7.29.

	DN $(n = 6)$		NC $(n = 6)$		Significance
Group	Mean	SD	Mean	SD	*p*
REF ($n = 10$)	3.45	1.41	3.35	1.28	.67
NS ($n = 33$)	2.98	1.50	2.88	1.38	.42

Table 7. 29 The ref- and NS-group CAJT judgement means for DN and NC

Unlike what was revealed for the distinctions that the ref- and NS-group participants make between what is prescriptively sanctioned in StdA in comparison to permissible in MsA for both verb placement and sentential negation, the above means and non-significant post hoc *p* values indicate that a first-pass answer to sub-question (iii-b) is *no*. Afrikaans-English bilinguals' DN/NC acceptability judgements do not at first sight show evidence of a distinction between what is prescriptively sanctioned in StdA (DN) in comparison to what is permissible in MsA (NC). As discussed in §7.8.2.2 above, DN is a low-frequency structure which is contextually marked and difficult to process. These factors very likely explain why, when compared to other structures which are prescriptively sanctioned in StdA, the DN ratings are so degraded. For this reason, it is important to note that, although no obvious differences can be detected between these bilinguals' DN and NC judgements, it does not necessarily mean that they do *not* distinguish between the two interpretations. Rather, it is more likely the case that this particular task is not well suited to probe the StdA-MsA distinction with respect to DN and NC in Afrikaans. As such, this question cannot in fact be addressed in the present investigation, and sub-questions (iii-a) and (iii-b) therefore fall away. I do, however, wish to

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consider the variation that is evidenced in participants' NC judgements, as well as the extralinguistic variables that appear to be predictive in this regard.

It should first be noted that for the NC judgements, as with the DN judgements, the ref-group participants' means are always considerably higher than all the other groups' means, including the NS-group participants' NC mean (although the difference between the ref- and NS-groups' means is again non-significant at .09). Recall that for the DN interpretations, it was suggested that because DN is difficult to process, this factor may account for these higher overall DN judgements – with only the most Afrikaans-dominant bilinguals' (i.e. ref-group) less susceptible to the potential processing issues.

However, for the NC structures, which only feature in colloquial Afrikaans, a different possibility is proposed. The ref-group participants' higher NC judgements may be indicative of the fact the ref-group participants, whose LBQ responses indicate the highest quantitative use of Afrikaans are the most attuned to the possible variation that exists in Afrikaans. In other words, they rate NC more acceptable as they are more familiar with the fact that, although not prescriptively sanctioned, it is permissible in MsA. As noted for the DN structures, because the variable FREQ did not result in an overall F of statistical significance (approaching significance at .08), this observation, however, appears to be undermined. In spite of this, against the backdrop of this tentative proposal, let us consider the variation in bilinguals' NC judgements.

Recall that differences of statistical significance emerged for two variables: AoO-D and INT. However, for the variable INT, both a statistical comparison of the judgement means that reflected possible differences and the judgement distribution patterns revealed that the variation evidenced was in fact so minimal that the effects do not warrant further discussion (see §7.7.2.2 above). Let us turn to the pattern that emerged for the variable AoO-D.

The adolescent shifters' (AoO between 14-17 years) judgements indicate that they are less likely to rate NC "completely grammatical" (i.e. a "5" on the Likert scale), than the ref-group participants ($p = .002$) or the bilinguals who have remained largely Afrikaans-dominant ($p = .03$; see Figure 7.17 above for their Likert scale judgement distributions). It should again be noted that there are only 10 adolescent switchers, a factor which undermines the robustness of the result, and should therefore be kept in mind in the discussion that follows. The descriptive statistics are presented again in Table 7.30 below (and compared with those of the ref- and NS-group participants):

Group	DN (n = 6)		NC (n = 6)	
	Mean	SD	Mean	SD
REF (*n* = 10)	3.45	1.41	3.35	1.28
NS (*n* = 33)	2.98	1.50	2.88	1.38
AoO-D: 14-17 (*n* = 10)	2.90	1.58	2.30	1.07

Table 7. 30 The adolescent shifters CAJT judgement means for DN and NC

Apart from the low mean of 2.30, with an SD of 1.07, they are also more internally uniform in their assessment of NC than the other participant groups, rating 64.9% (39/60 judgements) of the NC structures a "1" or "2" on the Likert scale. In contrast, the ref- and NS-group participants rate 28.3% (12/60) and 43.9% (87/198 judgements) of the structures either a "1" or "2" respectively.

What is interesting about this group's NC results is that, as with what was revealed for verb placement in MsA, they are more internally uniform in their assessment of NC in Afrikaans than the other groups. Here, however, instead of being *less* sensitive to the DN/NC distinction (as they were for the StdA-MsA verb placement distinction), they are *more* conservative in their assessment of NC, with what appears to be a lack of awareness that NC is in fact permissible in MsA. As the DN/NC distinction exhibits a partial overlap in Afrikaans and English, unlike *nie*-drop, this pattern could feasibly be proposed to be CLO (Kupisch, 2014). Recall that the DN interpretation, but not the NC interpretation is licensed in SAE. As such, there exists an L1-L2 partial syntactic overlap. As only the NC interpretation is permissible in MsA, we are dealing with a specific instance of *interpretive difference*.

To illustrate again how CLO can play out in an interpretation that is possible in one language but not the other, consider again Kupisch & Barton's (2013) study of German-French and German-Italian bilinguals' interpretations of subject nominals in German (Chapter 2, §2.2.6.2). Recall that definite nominals have a specific interpretation in written German, but are ambiguous (specific and generic interpretations are possible) in both Italian and French. When tested in a truth value judgement task and an AJT, the bilinguals were found to be less likely to accept generic DPs than the monolingual German speakers. In describing this pattern, recall that Kupisch & Barton (2013: p.23) observe that "the 2L1 speakers do not *exactly* mirror the variation found in monolingual German speakers. However, in *not* doing so, they tend to be more conservative than monolinguals, i.e. closer to the written standard, allowing for *less* variation".

This is precisely the pattern that is evidenced in the present study, where the adolescent shifters are less internally variable in their assessment in NC, with judgements that are more

conservative than the judgements of bilinguals who are more Afrikaans-dominant. Recall also, that although the effect was not as marked, bilinguals with an AoO of ≤13 years also rate the NC structures less favourably than the other groups. As such, bilinguals who made a dominance shift to English prior to the age of 17 – which, recall, potentially marks the start of the gradual offset of the sensitive period for morphosyntax (Hartshorne et al., 2018) – are less inclined to rate the structures acceptable in Afrikaans than the ref- and NS-group participants or those who shifted to English dominance later in life.

Once again, it is important to reiterate that we are dealing with a structure that only occurs in MsA. Additionally, the group with the most divergent judgement patterns are the adolescent shifters. Thus, there again appears to be an interesting correlation with respect to the adolescent years and sensitivity to the sociolinguistic variation that is permissible in Afrikaans (see the discussion in Chapter 2, §2.3.3).

Lastly, it is important to note again that, as discussed in Chapter 3 (§3.4.4.3), there is a heavy social stigma attached to NC in English-speaking societies (see i.a. Nevalainen, 1998; Horn, 2010; Blanchette, 2013, 2015; Blanchette, Nadeu, Yeaton & Déprez, 2018; Blanchette & Lukyanenko, 2019). This also applies to South Africa, which, recall, has generally followed a conservative version of British English in teaching English grammar (see Chapter 1, §1.3.2). It may therefore be that this NC stigma in English is extended to these bilinguals' judgements of NC in Afrikaans.

As already noted, because the group sizes of the childhood ($n = 13$) and adolescent shifters ($n = 10$) are small, the generalisability of these results is extremely limited. These patterns do, however, suggest that further fine-grained research into these later acquired properties and distinctions are required, in particular with respect to the later years of the sensitive period for the L1 acquisition of morphosyntax.

7.9 Chapter summary

This chapter has set out and discussed the negation results. As with what was revealed for verb placement, the variable SA-EX did not result in any statistically significant effects that were both statistically and empirically meaningful. Exposure *alone* was therefore not found to be predictive in determining EotSLotF in bilinguals' acceptability judgements of sentential negation or DN/NC in Afrikaans.

Bilinguals' judgements of prescriptively sanctioned sentential negation (i.e. *nie…nie*), a property which does not interface with discourse-related considerations, and which is early acquired, were not revealed to be subject to EotSLotF. All bilinguals' judgements remained comparable and at ceiling on the Likert scale.

In contrast, bilinguals' judgements of DN, a late acquired property at the syntax-discourse interface, was found to be vulnerable under circumstances of L2 dominance. Bilinguals with an AoO of English dominance of ≤13 years (and to a lesser degree those with an AoO between 14-17 years) and those who use exclusively English with their siblings or whose internal language is English rate DN more poorly on the Likert scale. It was proposed that because DN structures are marked, linguistically complex, and therefore potentially difficult to process, the integration between syntax and pragmatics that is required for DN interpretations may, under circumstances of L2 dominance, be even more compromised than it would otherwise be.

With respect to the early shifters' (AoO ≤13 years) judgements of DN, it was suggested that, apart from the increased processing burden that these more L2-dominant bilinguals may face, a reduction in L1 input during the sensitive period for the development of metalinguistic awareness may also play a role in these divergent judgement patterns. It was noted, however, that because DN is the standard option in English, it is certainly open to question whether this is actually the case, with an alternative hypothesis being that their knowledge of DN in English may play a facilitative role in their assessment of these structures in Afrikaans (although this does not seem to be the case here).

Based on the negation results, the present study therefore lends support to the IH in its prediction that properties that do not interface with discourse-related considerations exhibit more stability than properties at the syntax-discourse interface.

The final research question asks whether bilinguals distinguish between what is prescriptively sanctioned in StdA on the one hand and permissible in MsA on the other. For sentential negation, it was found that they do. The results also revealed that this distinction is not diminished under the influence of English as an L2. It was, however, found that under circumstances of increased exposure to English (predictive variables included AoO-D, LoLT-P, LoLT-S & SIBL), bilinguals' judgements of *nie*-drop in fact become more conservative. These bilinguals' judgement patterns indicate that they consider *nie*-drop *less* likely to occur in the speech of L1 Afrikaans speakers than those who use(d), or are/were exposed to, Afrikaans in the same contexts. The effect was most marked in judgements of those with an

AoO of ≤13, who were the most conservative in their assessment of *nie*-drop. To account for these judgement patterns, it was noted that clause-final *nie* is reinforced in language classrooms and corrected in the speech of L1 English speakers or English-dominant bilinguals in a way that makes *nie*-drop particularly salient.

With respect to the occurrence of two negative indefinites in one structure, it was also considered whether bilinguals' judgements indicate that they distinguish between what is prescriptively sanctioned in StdA (DN), or permissible in MsA (NC). On the basis of the means alone, this distinction is not discernible. It was, however, pointed out that due to the fact that DN is marked and therefore more difficult to process, it is very likely that this distinction cannot be probed in an AJT. Therefore, for DN and NC, this question cannot be addressed in the present study.

The variation evidenced in bilinguals' NC judgement patterns appears to be indicative of CLO. The most marked effect is evidenced in the judgements of bilinguals who shifted to English dominance in adolescence (and to a lesser degree also bilinguals with an AoO of ≤13 years).

Finally, as the adolescent shifters' judgments of verb placement in MsA were also subject to variation, it was noted that future studies should certainly consider the role of the later years in the sensitive period for the L1 acquisition of morphosyntax, particularly with regard to bilinguals' sensitivity to the variation that exits in their L1 (see the in-depth discussion to follow in Chapter 9, §9.5.1).

Chapter 8
Scrambling results and discussion

8.1   Introduction

This chapter presents and discusses the scrambling results. Section 8.2 sets out the variables which appear to be predictive in determining the bilinguals' acceptability judgements of pronominal and full DP scrambling. Section 8.3 serves as a reminder of the scrambling structures of interest. The ref-groups' scrambling results are presented in §8.4. Section 8.5 sets out the results for the variable SA-EX, which inform the first primary research question concerned with the role of linguistic environment in determining variation under the influence of an L2. The pronominal scrambling results are presented in §8.6, followed by the full DP scrambling results in §8.7. A discussion of the results ensues in §8.8 to address research question (ii) and associated sub-question (ii-a), concerned with whether bilinguals' acceptability judgements of their L1 Afrikaans exhibit evidence of variation as a result of differing language exposure and use in childhood and adulthood, and if so, how this variation is evidenced. Section 8.8 also discusses the results which inform research question (iii) and its associated sub-question, which probe whether the acceptability judgements of bilinguals show evidence of a specific L1 language-internal multi-competence that is indicative of their ability to distinguish between what is prescriptively sanctioned in StdA in comparison to what is permissible in MsA. A chapter summary is provided in §8.9.

8.2   Predictive variables

This section sets out which of the 12 variables were found to be potentially predictive in determining how bilinguals assess pronominal scrambling and contextualised full DP scrambling in Afrikaans.

8.2.1   Language exposure and use in childhood and adolescence

Recall again that the childhood and adolescence exposure- and use-related variables investigated were:

(i)   *Age of onset of bilingualism* (AoO-B);

(ii)   *Languages of learning and teaching at nursery school* (LoLT-N);

(iii)   *Languages of learning and teaching at primary school* (LoLT-P); and

(iv)   *Languages of learning and teaching at secondary school* (LoLT-S).

Of these variables, only LoLT-P was revealed to be potentially predictive with respect to participants' pronominal scrambling judgements. No differences of statistical significance were evidenced for full DP scrambling. See Table 8.1 below.

Variable	Significance for pronominal scrambling	Significance for full DP scrambling
AoO-B	ns.	ns.
LoLT-N	ns.	ns.
LoLT-P	.03	ns.
LoLT-S	ns.	ns.

Table 8. 1 Significance of two-way ANOVAs for pronominal scrambling and full DP scrambling: language exposure and use in childhood and adolescence

8.2.2   Circumstances of a dominance shift to English

Of the two variables probing the circumstances of a dominance shift to English, *age of onset of English dominance* (AoO-D), and *length of time since reduced contact or use* (LTRCU), only the latter resulted in differences of statistical significance for pronominal scrambling. No effects of statistical significance were revealed for full DP scrambling. The (non-)significant effects are set out in Table 8.2.

Variable	Significance for pronominal scrambling	Significance for full DP scrambling
AoO-D	ns.	ns.
LTRCU	<.01	ns.

Table 8. 2 Significance of two-way ANOVAs for pronominal scrambling and full DP scrambling: circumstances of a dominance shift

8.2.3 Language exposure and use in adulthood

Recall that the variables probing language exposure and use in adulthood are as follows:

    (i)   *The role of linguistic environment* (SA-EX);

    (ii)   *Frequency of Afrikaans use* (FREQ);

    (iii)   *Language use with siblings* (SIBL);

    (iv)   *Internal language use* (INT); and

    (v)   *Receptive language exposure* (WRIT and TV-RAD).

Across all six variables, no differences of statistical significance were revealed for pronominal scrambling or full DP scrambling. For uniformity, these non-significant effects are presented in Table 8.3 below.

Variable	Significance for pronominal scrambling	Significance for full DP scrambling
SA-EX	ns.	ns.
FREQ	ns.	ns.
SIBL	ns.	ns.
INT	ns.	ns.
WRIT	ns.	ns.
TV-RAD	ns.	ns.

Table 8. 3 Significance of two-way ANOVAs for pronominal scrambling and full DP scrambling: Language exposure and use in adulthood

8.2.4 Summary of the predictive variables for scrambling

The predictive variables for scrambling are summarised in Table 8.4 below.

Variable	Significance for pronominal scrambling	Significance for full DP scrambling
AoO-B	ns.	ns.
LoLT-P	.03	ns.
LoLT-S	ns.	ns.
AoO-D	ns.	ns.
LTRCU	<.01	ns.
SA-EX	ns.	ns.
FREQ	ns.	ns.
SIBL	ns.	ns.
INT	ns.	ns.
WRIT	ns.	ns.

Table 8. 4 Significance of two-way ANOVAs: summary of significant interaction effects across the lifespan

As presented in Table 8.4 above, of the 12 extralinguistic variables under investigation, only LoLT-P and LTRCU resulted in statistically significant interaction effects for pronominal scrambling. Somewhat surprisingly, full DP scrambling exhibits what appears to be remarkable stability under the influence of an L2 (although see §8.7 to follow, which indicates an across-the-board instability for full DP scrambling).

This preliminary exposition has identified which variables are potentially predictive in determining variation in bilinguals' judgements of scrambling in Afrikaans. The results are presented in sections 8.4 through §8.7, whereby the loci of these statistical differences are presented in detail.

Prior to the presentation of the scrambling results, the following section serves as a brief reminder of the scrambling structures probed in the present study.

8.3   The relevant scrambling structures

8.3.1   Pronominal scrambling

To recapitulate, standardly, bare pronouns scramble in Afrikaans. This is illustrated in (8.1) below (pronoun in bold).

(8.1)   (a)   *Ons moet **hom** <u>eers</u> voer.*   [O-AVD-V]
                 we   must him   first   feed
                 "We must first feed him."

        (b)   **Ons moet <u>eers</u> **hom** voer.*   [ADV-O-V]
                  we   must first him   feed

The exception to this is when pronouns are marked with stress intonation (see Chapter 3, §3.5.2.1). When spoken with neutral intonation, the unscrambled structure in (7.1-b) above is ungrammatical. Importantly, the ADV-$_{BP}$O-V structures in the present study were uttered with neutral intonation in the AJT, as such they are treated as ill-formed (ungrammatical).

Turning now to *vir*-marked pronouns. Recall that in spoken Afrikaans, a subset of direct objects can be optionally marked with the preposition *vir* ('for') (Chapter 3, §3.5.3). The importance of this is that a *vir*-marked pronoun that would otherwise typically scramble may remain unscrambled (8.2-a). Note that, although *vir*-marking allows for the pronoun to remain

unscrambled, it may still scramble, i.e. the presence of *vir* does not preclude it from scrambling (8.2-b).

(8.2)   (a)   *Ons moet <u>eers</u> vir **hom** voer.*   [ADV-O-V]

we   must first OM him   feed

"We must first feed him."

(b)   *Ons moet (vir) **hom** <u>eers</u>   voer.*   [O-AVD-V]

We   must OM him   first   feed

"We must first feed him."

The scrambled *vir*-marked structures (OMO-AVD-V) were specifically included to determine how participants judged structures in which a *vir*-marked pronoun, which could remain unscrambled, had still in fact scrambled.

In sum, the pronominal scrambling classes are set out below:

(i)   Prescriptively sanctioned StdA structures: BPO-AVD-V

(ii)   Ungrammatical structures: ADV-BPO-V

(iii)   The MsA *vir*-marked innovation: ADV-OMO-V

(iv)   Scrambling of a *vir*-marked pronoun: OMO-AVD-V

8.3.2   Full DP scrambling

In adverb-containing scrambling structures of the type investigated in the present investigation, recall that definite DPs in Afrikaans conform to the typical West Germanic pattern (Chapter 3, §3.5.1.3). That is, anaphoric/old information DPs typically scramble, whereas non-anaphoric/new information DPs typically remain unscrambled. The contextualised example from Chapter 3 (§3.6.2.3) is presented again in (8.3) below.

(8.3)

Speaker 1:

Wow, look at the shade you already have! (Said whilst pointing to a tree in the garden)

Speaker 2:

Ek weet! En ek het [*die boom"OLD"*] *gister geplant! Ek gaan môre* [*die blomme"NEW"*]

I know and I have the tree yesterday planted.PART I go tomorrow the flowers

plant.

plant

"I know! And I planted the tree yesterday! I am going to plant the flowers tomorrow."

As (7.3-a) illustrates, because the definite DP, *die boom*, is familiar to both interlocutors, it qualifies as "old information", and thus scrambles (O-ADV-V). On the other hand, *die blomme,* is novel content, and is therefore considered "new information". It therefore remains unscrambled (ADV-O-V) and conforms to the typical West Germanic scrambling pattern in adverb-containing structures.

With the relevant scrambling details recapitulated, let us consider the ref-group participants' scrambling results.

8.4   Reference group participants' scrambling results

The ref-group participants' acceptability judgements of pronominal scrambling in Afrikaans are presented in §8.4.1, followed by their full DP scrambling results in §8.4.2.

8.4.1   Reference group participants' pronominal scrambling judgements

The ref-group participants' means are presented in Table 8.5 below. Note that each class of structures centres on three structures (this is also true of the full DP scrambling structures). It is acknowledged that given this small number of structures per class, further research is certainly required to confirm the results discussed below. However, as the study is exploratory

in nature, the results presented here aim to offer some preliminary insights into the (in)stability this property might exhibit under the influence of L2 English.

Pronominal scrambling								
Group	*BP scrambled* *(n =3)*		*BP unscrambled* *(n =3)*		*OM scrambled* *(n =3)*		*OM unscrambled* *(n =3)*	
REF	Mean	SD	Mean	SD	Mean	SD	Mean	SD
(*n* = 10)	4.90	0.40	3.23	1.19	3.30	1.20	3.86	1.25

Table 8. 5 The ref-group participants' pronominal scrambling AJT judgement means

With a mean of 4.90, the ref-group participants' mean for structures in which the bare pronoun has obligatorily scrambled is almost at ceiling (BPO-AVD-V order). Additionally, the SD is very small, indicating very little within-group variability. In comparison, while their judgements of the ungrammatical ADV-BPO-V structures results in a mean that is considerably lower at 3.23 (and a much bigger SD, indicating greater within-group variability), it is still a fairly mid-level mean and more comparable to the *vir*-marked structures' means (see the discussion in §8.8.2.2 to follow).

As noted above, in MsA a *vir*-marked pronoun may remain unscrambled, but it doesn't necessarily have to, i.e. it may still scramble. The above means suggest, however, that the ref-group participants have a preference for the ADV-OMO-V structure in which the *vir*-marked pronoun has remained unscrambled.

To fully understand the ref-group participants' pronominal scrambling judgements, their judgement distributions for the four classes are presented in Figure 8.1 below.
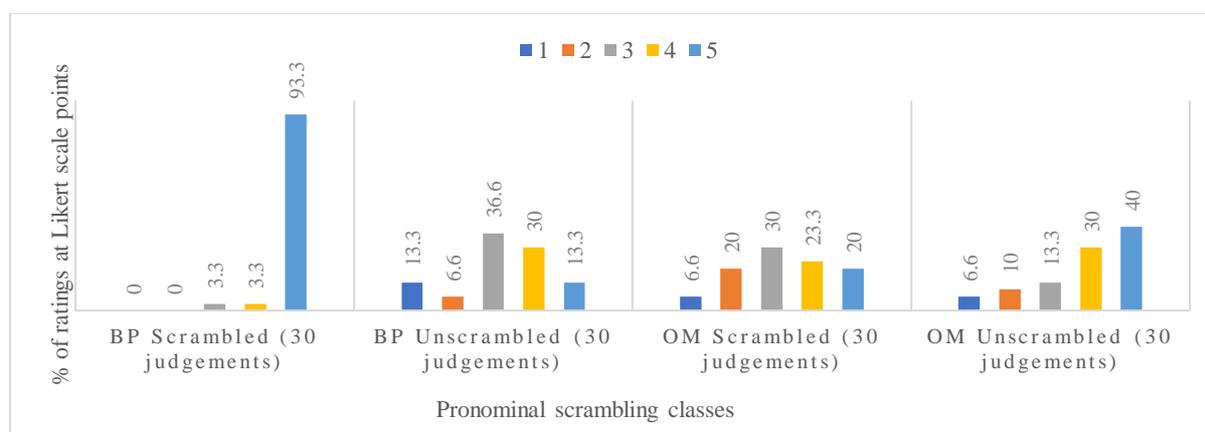
Figure 8. 1 The ref-group participants' Likert scale rating distribution for pronominal scrambling

Figure 8.1 confirms that indeed, the ref-group participants are unequivocal in their assessment of the fact that the scrambling of bare pronouns is "completely grammatical". However, there is still a great deal of within-group variability across the remaining scrambling classes. While this is not necessarily unexpected for the *vir*-marked options that feature in MsA, this variability extends to their assessment of even the *ungrammatical* structures, in which the bare pronoun has remained unscrambled. In this regard, the ref-group participants' ratings, although mostly falling at the mid-level of the Likert scale (i.e. rating point "3"), are still distributed across the entire Likert scale spectrum. They do therefore not rate structures in which the bare pronoun has remained unscrambled as poorly as the descriptive account of pronominal scrambling in Afrikaans would seem to predict (see Chapter 3, §3.6.2).

In sum, the ref-group participants' judgements of what is prescriptively sanctioned for pronominal scrambling are at ceiling on the Likert scale. In contrast, their judgements of the (ungrammatical) unscrambled structures are more "greyscale" than they are polarised. Of the *vir*-marked structures, the ADV-$_{OM}$O-V structure (the "MsA innovation") indeed appears to be the preferred option of the two.

8.4.2 Reference group participant's choices for full DP scrambling

As discussed in Chapter 5 (§5.2), the full DP scrambling data was analysed using a GEE with Binomial distribution, i.e. a type of distribution that has two possible outcomes: "success" or "failure". Recall that a GEE models the expected response for the individual groups based on their repeated responses. In other words, with "success" equal to a "1" (i.e. the contextually appropriate (un)scrambled structure is chosen) and "failure" equal to a "0" (i.e. the contextually inappropriate (un)scrambled structures is chosen or participants opt for "both" or participants "don't know"), the GEE estimates the likelihood of "success" based on the variable in question. It is therefore worth noting that the options that equate to "failure" include a wider range of options than the one option that equates to "success".

Ref-group participants' assumption means are presented in the table below (means are again in grey). The lower (LCL) and upper (UCL) confidence intervals are presented in the columns to the right of the means (indicated in grey).

Full DP Scrambling						
	Scrambled (n = 3)			Unscrambled (n = 3)		
Group	mean	LCL	UCL	mean	LCL	UCL[67]
REF (n = 10)	0.90	0.67	0.97	0.40	0.19	0.64

Table 8. 6 The ref-group participants' full DP scrambling means

The above means confirm that, on the Binomial distribution between "1" (success) and "0" (failure), the chance of success in contexts which elicit the scrambled order strongly outweighs that in contexts which elicit the unscrambled order (0.90 and 0.40 respectively).

To understand exactly how participants' ratings are distributed (according to whether they opt for "scrambled", "unscrambled", "both", or "don't know"), the percentage breakdown of participants' choices is presented in Figure 8.2 below. Note that in the diagram below, the graph on the left signifies contexts where the DP should scramble (anaphoric/old information contexts), and the graph on the right signifies contexts where the DP should remain unscrambled (non-anaphoric/new information contexts).
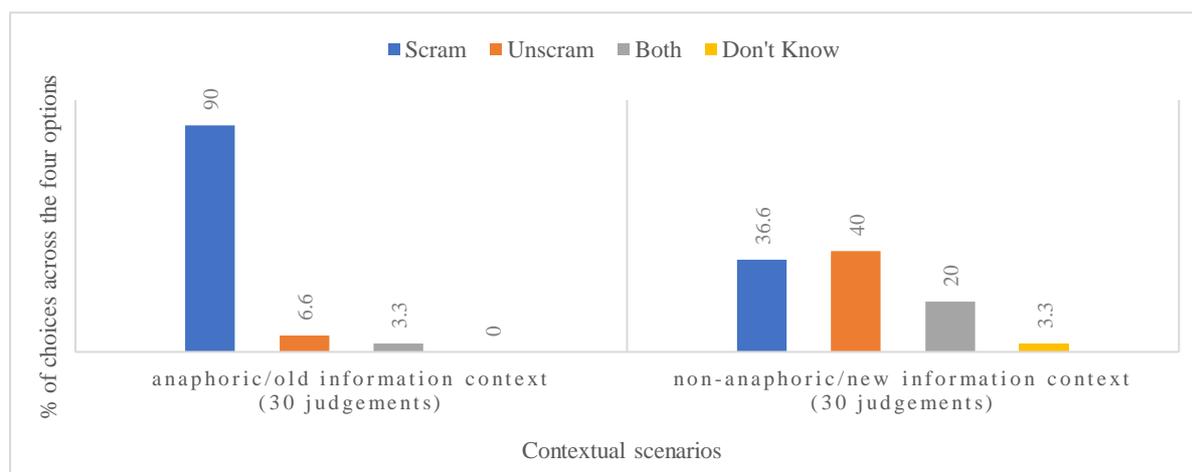
Figure 8. 2 The ref-group participants' choices for contextualised full DP scrambling

Ref-group participants' success rate in correctly identifying structures which should be scrambled in anaphoric/old information contexts is very high at 90% (27/30 judgements). On the other hand, in non-anaphoric/new information contexts, where structures would typically remain unscrambled, the success rate for the correct (unscrambled) choice is only 40% (12/30 judgements). Furthermore, in non-anaphoric/new information contexts, in which scrambling is not required, a considerable number of scrambled structures (36.6%; 11/30 judgements) are

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[67] The LCL and UCL pertain to the lower and upper confidence levels respectively and indicate how much uncertainty there is our estimate of the mean.

chosen over the unscrambled option. Interestingly, however, in such contexts participants also often opt for "both" (20%; 6/30 judgements) – which very infrequently occurs in anaphoric/old information contexts (3.3%; 1/30 judgements).

The above results reveal that, when felicitous, ref-group participants successfully opt for the scrambled option most of the time; however, they only successfully opt for the unscrambled structure less than half of the time. In other words, it appears that the ref-group participants' choices exhibit a "scrambling bias", and a greater deal of uncertainty in non-anaphoric/new information contexts.

In the section that follows, the results from the variable SA-EX will be presented in detail.

8.5   The role of linguistic environment

As already noted in Chapter 6 and 7 (§6.5 and 7.5 respectively), one of the central concerns of the present study is to probe the role of linguistic environment in relation to EotSLotF. Accordingly, the SA-EX scrambling results will be presented in full below.

8.5.1 SA-EX: Pronominal scrambling

The results of the SA- and EX-group participants' AJT judgements of scrambled and unscrambled bare and OM (*vir*-marked) pronominals are set out in Table 8.7 and Table 8.8 below respectively.

		Bare pronominal scrambling F (2,824) = 1.02, p = 0.36			
Structure		*scrambled* (*n* = 3)		*unscrambled* (*n* = 3)	
Variable	**Group**	**Mean**	**SD**	**Mean**	**SD**
SA-EX					
	REF (*n* = 10)	4.90	0.40	3.23	1.19
	SA (*n* = 70)	4.90	0.39	3.42	1.13
	EX (*n* = 86)	4.80	0.67	3.43	1.28
post hoc p value		.38		.87	

Table 8. 7 BP pronominal scrambling AJT judgement means for the variable SA-EX

		OM pronominal scrambling F (2,824) = 0.34, p = 0.71				
Structure		*scrambled* (*n* = 3)			*unscrambled* (*n* = 3)	
Variable	**Group**	**Mean**	**SD**		**Mean**	**SD**
SA-EX						
	REF (*n* = 10)	3.30	1.20		3.86	1.25
	SA (*n* = 70)	3.76	1.19		4.20	1.02
	EX (*n* = 86)	3.77	1.17		4.15	1.06
post hoc *p* value		.91			.70	

Table 8. 8 OM pronominal scrambling AJT judgement means for the variable SA-EX

The above means indicate that the SA- and EX-group participants' judgements in response to pronominal scrambling structures are comparable. Both two-way ANOVA's (for bare and OM pronouns) prove to be non-significant, with highly non-significant post hoc *p* values for the between-structure differences.

8.5.2 SA-EX: Full DP scrambling

As already discussed in §8.4.2 above, participants' choices for full DP scrambling were analysed using a GEE, and not a two-way ANOVA like the other properties.

Recall again that a GEE is used to estimate the average response of the given test group(s), and that the test works using assumption levels from "0" to "1". Therefore, a mean of .80 indicates that there is a higher likelihood of participants selecting the correct option than is indicated by a mean of .50. SA- and EX-group participants' average responses for full DP scrambling are tabulated in Table 8.9 below. Note that the LCL and UCL confidence intervals are again presented in the columns to the right of the means (indicated in grey).

		Full DP scrambling Wald[68](2)=3.65, p = 0.16					
		Scrambled contexts (*n* = 3)			Unscrambled contexts (*n* = 3)		
Variable	**Group**	**mean**	**LCL**	**UCL**	**mean**	**LCL**	**UCL**
SA-EX							
	REF (*n* = 10)	0.9	0.67	0.97	0.4	0.19	0.64
	SA (*n* = 70)	0.82	0.76	0.86	0.62	0.55	0.69
	EX (*n* = 86)	0.81	0.75	0.85	0.58	0.50	0.65
post hoc *p* value		.81			.41		

Table 8. 9 Full DP scrambling means for the variable SA-EX

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[68] Note that, unlike an *F* test, which has no theoretical upper limit (i.e. it can range from zero to positive infinity), a Wald test assesses the constraints on statistical parameters that have been estimated according to a maximum likelihood.

As indicated above, as with the ref-group participants' judgements, both the SA- and EX-group participants mostly opt for the scrambled option in anaphoric/old information contexts. With the mean values of the assumption levels as high as 0.81 and above for all three groups, participants appear to be correctly selecting the contextually determined scrambled structure over the unscrambled option. However, in non-anaphoric/new information contexts, where the DP would typically remain unscrambled, the various groups' performance declines. This is the same pattern that was evidenced for the ref-group participants' choices (see §8.4.2). Importantly, however, there are again no differences of statistical significance between SA and EX group participants' means for either the scrambled or the unscrambled structures.

8.5.3   Summary of results for the variable SA-EX and scrambling in Afrikaans

The variable SA-EX, and thus community-level exposure to the L1 *alone*, is once again revealed to be entirely unpredictive in determining bilinguals' acceptability judgements of pronominal and full DP scrambling in Afrikaans. That this has been the case across all five properties investigated is quite remarkable. The fact that the variable SA-EX has consistently not been predictive very strongly suggests that L1/L2 *use*, in conjunction with L1 disuse, is a greater predictor that L1 exposure *alone* in determining variation under the influence of L2 English.

8.6   Variable-specific pronominal scrambling results

This section presents the pronominal scrambling results. As with verb placement and sentential negation, pronominal scrambling in Afrikaans is expected to be early acquired (although slightly later than the former two properties; see Chapter 3, §3.5.4). Unlike verb placement and sentential negation, pronominal scrambling is a property at the syntax-semantics interface. However, as pronominal scrambling does not interface with discourse considerations, it is still an "interface-internal" property (see Chapter 2, §2.3.1 and §2.4.2).

Recall that scrambling in Afrikaans does not exhibit a structural overlap with English. Although this is an instance of L1-L2 structural *difference*, CLO is only predicted under circumstances of a partial overlap, whereby the L1-L2 differences, and not similarities, are exaggerated (§2.2.6.2). CLO is therefore not expected. In terms of stability then, because

pronominal scrambling is thought to be early acquired, and does not interface with discourse considerations, it was predicted to exhibit stability under the influence of L2 English.

Only two variables resulted in between-group differences of statistical significance for pronominal scrambling: LoLT-P and LTRCU. Both effects were evidenced for bare pronominal scrambling, with no statistically significant differences revealed for *vir*-marked (OM) pronominal scrambling across any of the variables under investigation.

As with verb placement and sentential negation, it was once again found that, regardless of the extralinguistic variable in question and participants' ensuing language exposure- and use-related patterns, participants' judgements of obligatory bare pronominal scrambling (i.e. the *standard* option: BPO-ADV-V) remain comparable to the ref-group participants' judgements, and at ceiling on the Likert scale.

The results for the variable LoLT-P are presented in §8.6.1, followed by the results for the variable LTRCU in §8.6.2.

8.6.1 Language exposure and use in childhood and adolescence: The variable LoLT-P

Based on whether participants' LoLT at primary school was Afrikaans (A), English (E) or both languages (B) in a dual-medium school, their judgement means for bare pronominal scrambling are plotted in Figure 8.3 below.
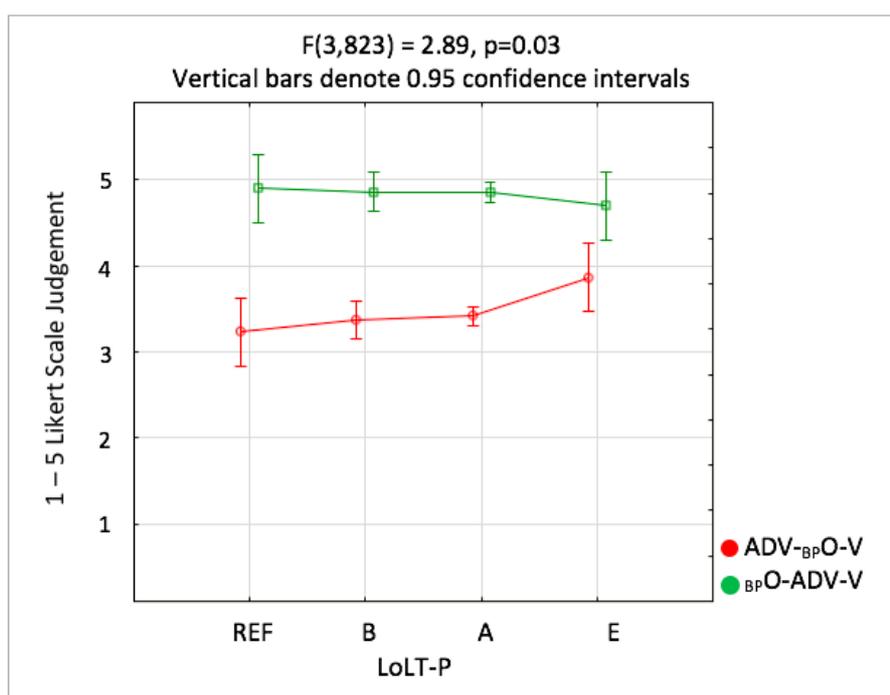
Figure 8. 3 BP pronominal scrambling judgement means for the variable LoLT-P

The two-way ANOVA is statistically significant at .03 (F(3,823)=2.89). The graph in Figure 8.3 indicates that the E-group participants' higher Likert scale judgements of the *ungrammatical* structures is likely to be the cause of this statistically significant *F*. To confirm this the bare pronominal scrambling means based on participants' LoLT-P are presented in Table 8.10 below (participants' *ungrammatical* means again identified by grey cells below).

| | Pronominal scrambling: bare pronoun F(3,823)=2.89, p=0.03 | | | |
| Variable: LoLT-P | BP scrambled (*n* = 3) | | BP unscrambled (*n* = 3) | |
Group	Mean	SD	Mean	SD
REF (*n* = 10)	4.90	0.40	3.23	1.19
A (*n* = 114)	4.85	0.56	3.41	1.22
B (*n* = 32)	4.86	0.51	3.36	1.23
E (*n* = 10)	4.70	0.79	3.86	1.10

Table 8. 10 BP pronominal scrambling AJT judgement means for the variable LoLT-P

A comparison of the above means confirms that participants whose LoLT was English in primary school have a higher mean rating for the unscrambled (i.e. ungrammatical) structure than the other three groups. In other words, when compared to the other groups' ratings, the E-group participants' mean suggests that they consider it more likely that such structures would form part of L1 Afrikaans speakers' repertoires. Additionally, the E-group participants' SD reveals that in comparison to the other groups, their judgements exhibit less variability across the Likert scale. The post hoc *p* values are presented below (with the statistically significant values again indicated by the grey cells).

	REF	A	B	E
REF	–	.39	.57	.03
A	.39	–	.70	.03
B	.57	.70	–	.03
E	.03	.03	.03	–

Table 8. 11 Post hoc p values for unscrambled BP structures and the variable LoLT-P

The difference between the E-group participants' judgement mean for the unscrambled structures and the ref-, A- and B- groups' means is statistically significant at .03 in every instance. A breakdown of each group's Likert scale ratings is presented in Figure 8.4 below.
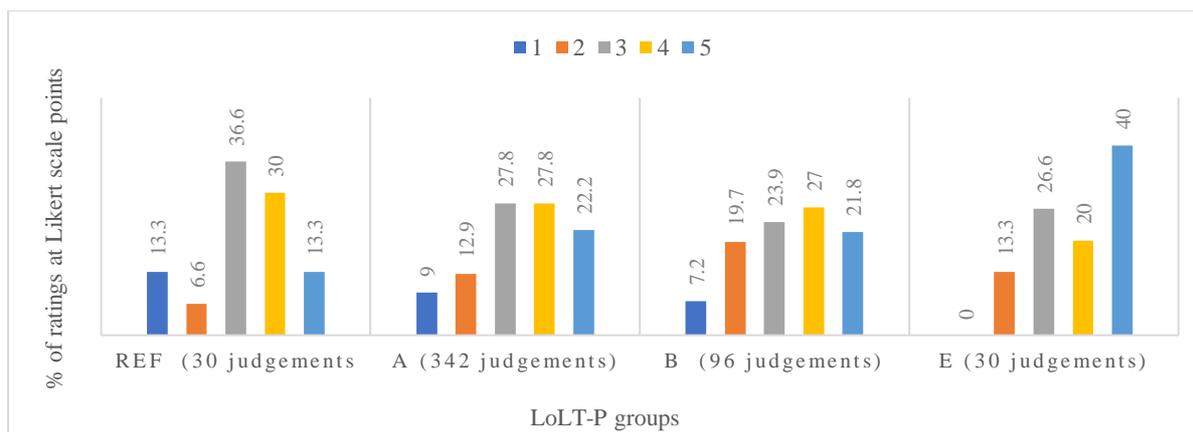
Figure 8. 4 Likert scale rating distribution for unscrambled BP structures and the variable LoLT-P

As the above distribution illustrates, the most variation occurs at either end of the Likert scale. While the E-group participants rate none of the unscrambled structures a "1", 13.3% (4/30 judgements), 9% (31/342 judgements), and 7.2% (7/96 judgements) of the structures are rated a "1" by the ref-, A-, and B-group participants respectively.

Most notably, 13.3% (4/30 judgements), 22.2% (76/342 judgements), and 21.8% (21/96 judgements) of the *unscrambled* structures are rated a "5" on the Likert scale by the ref-, A-, and B-group participants respectively. However, as many as 40% (12/30 judgements) of the *unscrambled* structures are rated a "5" (i.e. "completely grammatical") by the E-group participants.

The E-group participants are more inclined to accept this *ungrammatical* structure as "completely grammatical", with not a single "completely ungrammatical" assessment. Their judgement patterns are not only the most divergent in comparison to the other groups', but they are also the most internally uniform in their assessment of this ungrammatical structure.

It is, however, important to emphasise that this effect is evidenced in the judgements of only 10 participants. Recall that the variable LoLT-P was also predictive for participants' judgements of *ungrammatical* verb placement and *nie*-drop. However, unlike what was revealed for these properties, whereby the variable LoLT-S (amongst other exposure and usage variables in adulthood) was also revealed to be predictive, this is a stand-alone result. Thus, the robustness of this effect is certainly open to question. It would therefore be unwise to commit strongly to the significance of the E-group participants' divergent pronominal scrambling judgements.

8.6.2 Circumstances of a dominance shift to English: The variable LTRCU

In the LBQ, participants stipulated whether they felt they had made a dominance shift to English, or whether they felt they had remained Afrikaans-dominant or equally proficient in both languages (NS[69]-group participants). If participants identified as now being English-dominant, their LTRCU fell into one of the following categories:

(i)   LTRCU of < 10 years;

(ii)   10-19 years;

(iii)   20-29 years; and

(iv)   ≥30 years.

According to these groupings, participants' judgement means for pronominal scrambling are plotted in Figure 8.5 below, along with the judgment means of the 33 NS-group participants.
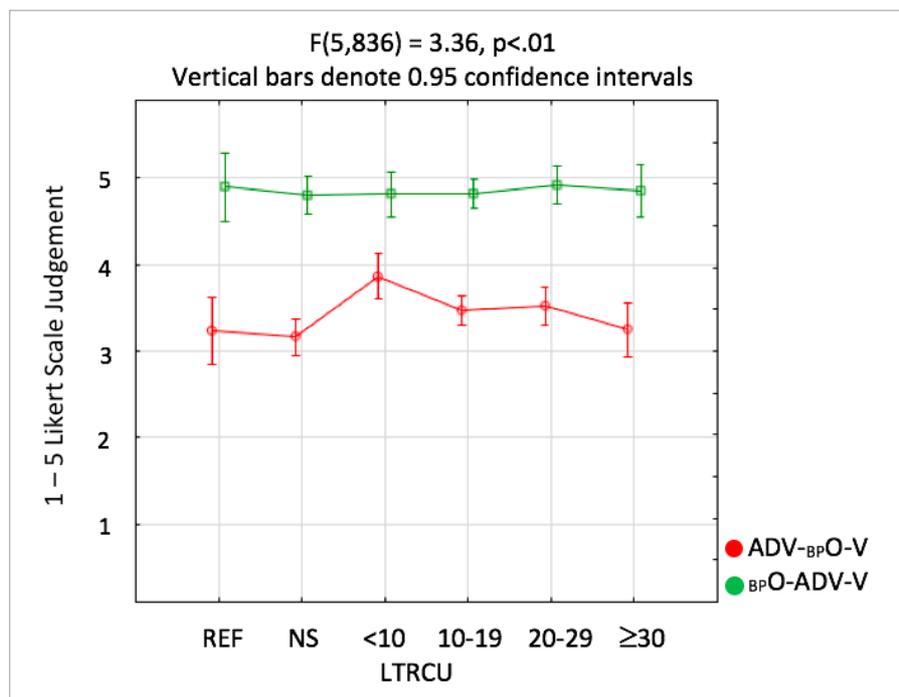
Figure 8. 5 BP pronominal scrambling judgement means for the variable LTRCU

The two-way ANOVA is statistically significant at <.01 (F(5,836)=3.36). The judgement mean of participants with a LTRCU of <10 years, which results in a considerable

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[69] The "no shift" group.

spike for the *ungrammatical* structures (the red plot), appears to be the cause of the statistically significant *F*. Participants' means for bare pronominal scrambling and the variable LTRCU are presented in Table 8.12 below (grey cells indicate the unscrambled means).

	Pronominal scrambling: bare pronoun F(5,836)=3.36, p <.01			
Variable: LTRCU	**BP scrambled (*n* = 3)**		**BP unscrambled (*n* = 3)**	
Group	**Mean**	**SD**	**Mean**	**SD**
REF (*n* = 10)	4.90	0.40	3.23	1.19
NS (*n* = 32)	4.80	0.73	3.16	1.29
<10 (*n* = 21)	4.88	0.51	3.93	1.13
10-19 (*n* = 55)	4.82	0.56	3.47	1.22
20-29 (*n* = 32)	4.91	0.31	3.52	1.14
≥30 (*n* = 16)	4.85	0.61	3.25	1.21

Table 8. 12 BP pronominal scrambling AJT judgement means for the variable LTRCU

As the above means indicate, participants with a LTRCU of <10 years have the highest mean rating for the *unscrambled* structures of all the groups (mean 3.93). The ref- and NS-group participants, as well as those participants with a LTRCU of ≥30 have the lowest means (between 3.16 and 3.25), with those with an LTRCU of between 10-19 years and 20-29 years performing fairly comparably (means of 3.47 and 3.52 respectively). The post hoc *p* values presented in Table 8.13 below.

	<10	**10-19**	**20-29**	**>=30**
REF	<.01	.26	.20	.95
NS	<.01	.02	.02	.65
<10	–	.02	.06	<.01
10-19	.02	–	.72	.21
20-29	.06	.72	–	.15
>=30	<.01	.21	.15	–

Table 8. 13 Post hoc p values for unscrambled BP structures and the variable LTRCU

The difference between the NS-group participants' mean and the means of all participant groups who have shifted to English dominance is statistically significant in all but one instance: those with an LTRCU of ≥30 are the exception.

While it is unsurprising that those who have shifted to English dominance perform differently to those who have not, it *is* surprising that those with the longest LTRCU perform most comparably to the NS-group participants.

The most noteworthy pattern, however, relates to participants with a LTRCU of <10 years. With the highest judgement mean in response to the *ungrammatical* structures, the difference between their judgement means and all other groups is statistically significant in all but one instance (and in this case, it is approaching significance at .06 for the difference evidenced in relation to those with an LTRCU of between 20 and 29 years).

To identify whether these differences in fact warrant further attention, the distribution for participants' Likert scale judgements for the variable LTRCU are presented in Figure 8.6 below.
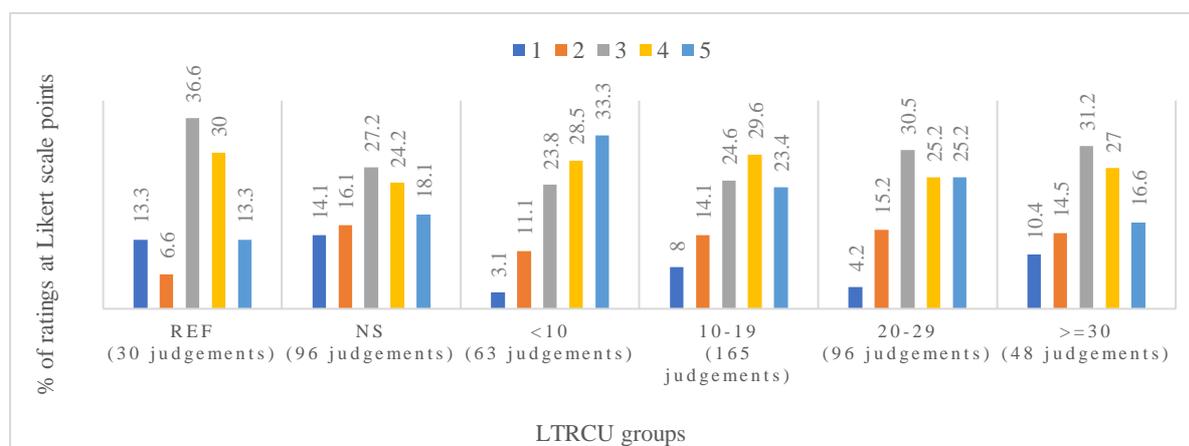
Figure 8. 6 Likert scale rating distribution for unscrambled BP structures and the variable LTRCU

The above distribution indicates that, although an unscrambled bare pronoun (uttered with neutral intonation) is ungrammatical in Afrikaans, bilinguals' judgements still fall primarily between the mid- to top-end of the Likert scale. However, when the judgements of participants with a LTRCU of <10 are compared to the other participant groups' judgements, notable differences emerge for the percentage of structures that are rated "completely grammatical" (i.e. a "5"). All participant groups who shifted to English dominance less than 30 years ago rate more structures a "5" than the "non-shifters" (the ref- and NS-group participants). Surprisingly, this is not the case when compared to those with a LTRCU of ≥30 years, who rate 16.6% (8/48 judgements) of the structures a "5". Interestingly, participants with a LTRCU of <10 years rate the most structures "completely grammatical" at 33,3% (21/63 judgements).

It would appear that the most recent "shifters" are the ones whose scrambling judgements are the most divergent from those who have not undergone a dominance shift to English; and, interestingly, those who have been English-dominant for the longest time (≥30

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years) appear to behave the most similarly to participants who have not undergone a dominance shift to English.

8.6.3   Summary of pronominal scrambling results

Participants' judgements of BPO-ADV-V structures, in which the bare pronoun has obligatorily scrambled (i.e. the "standard" option), remain unaffected regardless of their language exposure and usage patterns. All participants perform comparably to the ref-group participants and close to ceiling (see §8.8.2.1 for the detailed discussion).

The results for the *ungrammatical* ADV-BPO-V structures reveal that participants whose LoLT at primary school was English appear to be the least sensitive to the fact that an unscrambled bare pronoun is ungrammatical. It was, however, noted that due to the small group size ($n = 10$), and the lack of replicability across the other exposure and usage variables in childhood and adulthood, the robustness of this result is undermined. As noted above in §8.6.1, it would therefore be unwise to commit strongly to the significance of these results.

The results for the variable LTRCU revealed that participants who shifted to English dominance less than 10 years ago were the most likely to rate the *unscrambled* (and therefore *ungrammatical*) ADV-BPO-V structures a "5" on the Likert scale (i.e. "completely grammatical"). Interestingly, participants with the longest LTRCU (≥30 years) performed the most comparably to the ref- and NS-group participants. It therefore seems that the most recent shifters are less sensitive to the fact that, when uttered with neutral intonation, leaving a bare pronoun unscrambled is ungrammatical. Somewhat unexpectedly, the inverse pattern is evidenced in relation those who have been English-dominant for the longest time, who perform most similarity to bilinguals who have not shifted to English dominance.

Overall, further research is certainly required to confirm or refute the possible correlations between LoLT at primary school and LTRCU and bilinguals' assessment of pronominal scrambling. However, in the limited instances where variation is evidenced, participants' judgements of (ungrammatical) ADV-BPO-V structures in which the bare pronoun remained unscrambled were more lenient than the ref-group participants' judgements.

8.7 Full DP scrambling results

This final section presents the results for full DP scrambling. Full DP scrambling is a late acquired property in Dutch (see Chapter, §3.6.4), and it is therefore expected that the same will hold true for Afrikaans. Furthermore, full DP scrambling interfaces with discourse considerations. As a consequence, it was predicted to exhibit more instability under the influence of L2 English than pronominal scrambling. Interestingly, however, none of the extralinguistic variables investigated resulted in differences of statistical significance for full DP scrambling. In spite of the fact that there were no differences based on differing L1 exposure and usage patterns, *all* participants' judgements exhibited divergence from what is prescriptively sanctioned in full DP scrambling in Afrikaans. Thus, although not the result of changing L1/L2 exposure and usage patterns, in contrast to the informants' pronominal scrambling results, all informants' full DP scrambling judgements exhibit optionality.

The results from the 12 variables' respective GEEs are presented in Table 8.14 below. Note that the GEE *p* values below are not the results obtained via the *F* tests used in the two-way ANOVAs, but rather pertain to the results obtained via Wald tests (Wald, 1945; see footnote 68 on p.355), which are also used to determine if the variables in a model are significant.

Variable	GEE result
AoO-B	Wald(3)=3.70, p=0.30
LoLT-N	Wald(3)=2.36, p=0.50
LoLT-P	Wald(3)=3.80, p=0.28
LoLT-S	Wald(3)=3.71, p=0.29
AoO-D	Wald(4)=11.62, p=0.02
LTRCU	Wald(5)=8.60, p=0.13
SA-EX	Wald(2)=3.65, p=0.16
FREQ	Wald(3)=3.55, p=0.31
SIBL	Wald(3)=3.45, p=0.33
INT	Wald(4)=5.37, p=0.25
WRIT	Wald(3)=4.04, p=0.26
TV-RAD	Wald(3)=4.13, p=0.25

Table 8. 14 Significance of GEEs for the 12 language exposure- and use-related variables

The above *p* values indicate that of the 12 variables presented above, only the variable AoO-D results in a *statistically* significant interaction effect (significant at .02). An analysis of the post hoc *p* values for the variable AoO-D reveals that none of the between-group differences were in fact statistically significant. The difference was, however, approaching significance (at .07) for the means of bilinguals with an AoO of ≤13 years (anaphoric/old information context: mean = 0.89; non-anaphoric/new information context: mean = 0.48) when compared to the 33 NS-group participants' assumption means (anaphoric/old information context: 0.77; non-anaphoric/new information context: 0.64). Importantly, however, participants with an AoO of ≤13 performed comparably to the other groups, and, in fact, performed most comparably to the ref-group participants (anaphoric/old information context: mean = 0.9; non-anaphoric/new information context 0.4). Thus, the statistically significant *p* value appears not to be empirically significant.

Full DP scrambling therefore appears not to reveal any instability based on differing amounts of L1/L2 exposure and usage. However, as with the ref-group participants' judgements (§8.4.2), the same pattern emerges for *all* participants' (contextualised) preferences for full DP scrambling. That is, all participants appear to have a "scrambling bias". This is presented in §8.7.1 below, and is evidenced across the board, irrespective of extralinguistic factors.

8.7.1   A scrambling bias

Based on the ref- and experimental-group participants' choices in response to structures which should be either scrambled or unscrambled – anaphoric/old information contexts or non-anaphoric/new information contexts respectively – the GEE estimations are plotted in the graph in Figure 8.7 below. Recall that, in terms of the expected responses that the GEE models, with "success" equal to a "1" and "failure" equal to a "0", the former refers to the fact that the contextually appropriate (un)scrambled structure is chosen. On the other hand, the latter entails three possibilities:

(i)   the contextually inappropriate (un)scrambled structures is chosen;

(ii)   participants opt for "both";

(iii)   participants "don't know".

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In other words, as already noted above (§8.4.2), the "failure" category groups together three response options, whereas the "success" category represents only one response option.
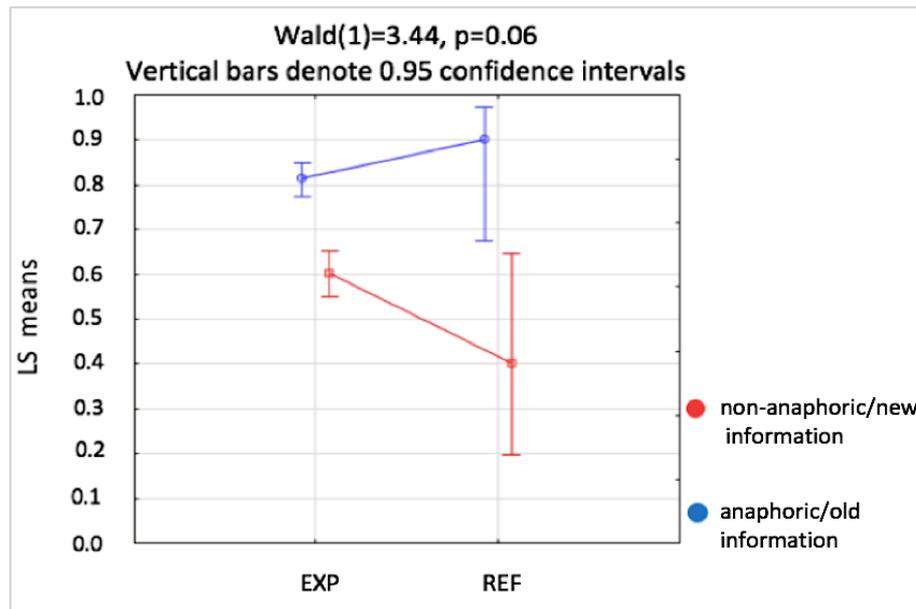
Figure 8. 7 The ref- & experimental-group participants' full DP scrambling means

The above graph reveals that, when felicitous, informants successfully opt for the scrambled option most of the time (i.e. the blue plot), but that they only successfully opt for the unscrambled structure between 40% and 60% of the time (ref- and experimental-group participants respectively). In other words, it appears that *all* bilinguals in the present study have a marked preference for scrambled over unscrambled structures. The means are presented in the table below (means are again in grey, with the corresponding LCL and UCL intervals again to the right of each respective mean).

	full DP Scrambling Wald(1)=3.44, p =0.06					
	Scrambled (*n* = 3)			Unscrambled (*n* = 3)		
Group	mean	LCL	UCL	mean	LCL	UCL
REF (*n* = 10)	0.90	0.67	0.97	0.40	0.19	0.64
EXP (*n* = 156)	0.81	0.77	0.84	0.60	0.54	0.65

Table 8. 15 The ref- and experimental-group participants' full DP scrambling means

The above means confirm that, on the Binomial distribution between "1" (success) and "0" (failure), the chance of success in contexts which elicit the scrambled order (0.90 and 0.81 for the ref- and experimental-group participants respectively) again outweighs the chance of

success in contexts which elicit the unscrambled structures (0.40 and 0.60 for the ref- and experimental-group participants respectively).

To understand exactly how participants' choices are distributed (according to whether they opt for "scrambled", "unscrambled", "both", or "don't know"), the percentage breakdown of participants' choices is presented in Figure 8.8 below in percentages.
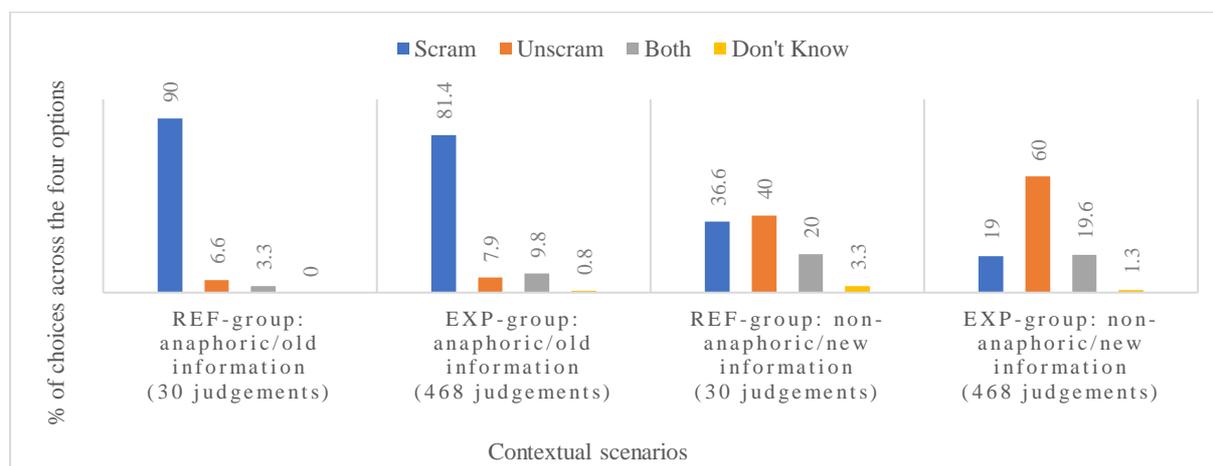
Figure 8. 8 The ref- and experimental-group participants' choices for contextualised full DP scrambling

Overall, both the ref- and experimental-group participants' success rate in correctly identifying structures which should be scrambled in *anaphoric/old information contexts* is very high. Consider the percentages below:

(i)   Ref-group: 90% (27/30 judgements)
(ii)   Experimental-group: 81.4% (381/468 judgements)

On the other hand, in *non-anaphoric/new information contexts*, the success rate for the correct unscrambled choice is considerably lower:

(i)   Ref-group: 40% (12/30 judgements)
(ii)   Experimental-group: 60% (281/468 judgements)

In *non-anaphoric/new information contexts*, in which scrambling is not required, a considerable number of scrambled structures are chosen over the unscrambled option. The percentages are as follows:

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(i)   Ref-group: 36.6% (11/30 judgements)

(ii)   Experimental-group: 19% (89/468 judgements)

Interestingly, in *non-anaphoric/new information contexts*, participants also often opt for "both", with the percentages again presented below:

(i)   Ref-group: 20% (6/30 judgements)

(ii)   Experimental-group: 19.6% (92/468 judgements)

In contrast, participants very infrequently opt for the "both" option in *anaphoric/old information contexts* (which elicit the scrambled option). Consider the percentages below:

(i)   Ref-group: 3.3% (1/30 judgements)

(ii)   Experimental-group: 9.8% (46/468 judgements)

8.7.2   Summary of full DP scrambling results

It would appear that with respect to the present cohort of bilinguals, there is a clear preference for scrambled over unscrambled full DPs, even when the felicitous structure is the unscrambled option. The full DP scrambling results therefore reveal a general "scrambling bias", and greater levels of uncertainty in non-anaphoric/new information contexts – a bias which holds irrespective of bilinguals' L1/L2 exposure and usage profiles. Overall, the full DP scrambling results suggest that the informants consistently seem to know better how to deal with anaphoric/old-information contexts than with non-anaphoric/new information contexts. Some possibilities that may account for this asymmetry will be discussed in detail in §8.8.2.3, as well as in Chapter 9 (§9.4.1).

8.8   Discussion of the scrambling results

The pronominal and full DP scrambling results presented above are interpreted and discussed in this section. The three primary research questions, and their associated sub-questions are addressed. Once again sub-questions (ii-c) and (iii-b) (*concerned with the predictive power of the extralinguistic variables under investigation*) will be discussed in detail in Chapter 9 to

reflect on their *overall* predictive power with respect to the properties considered in this investigation.

8.8.1 *Do bilinguals' acceptability judgements of their L1 Afrikaans differ according to whether they are in South Africa or the diaspora?*

For pronominal and full DP scrambling, there were once again no differences of statistical significance for the variable SA-EX. Across both scrambling properties and all structural classes, the judgements of bilinguals in South Africa and the diaspora remain comparable. Therefore, for scrambling, as with verb placement and negation, the answer to research question (i), concerned with whether bilinguals' acceptability judgements of their L1 Afrikaans differ according to whether they are in South Africa or the diaspora, is *no*. Sub-question (i-a) concerned with how the potential differences are evidenced, and sub-question (i-b), concerned with sensitive period considerations and interface status therefore fall away.

8.8.2 *Do bilinguals' acceptability judgements of what is prescriptively sanctioned and/or ungrammatical in their L1 Afrikaans exhibit evidence of EotSLotF as a result of differential language exposure and use in childhood and adulthood?*

This section addresses the second primary research question and its associated sub-questions. This question will be addressed in relation to *bare* pronominal scrambling and full DP scrambling (see §8.8.3 for a discussion of the *vir*-marked structures). Section 8.8.2.1 will discuss participants' judgements of obligatory bare pronominal scrambling (i.e. the prescriptively sanctioned option in StdA), and §8.8.2.2 discusses participants' judgements of structures in which the bare pronoun has remained unscrambled (i.e. ungrammatical in StdA). Section 8.8.2.3 is concerned with participants' judgements of full DP scrambling.

If variation, indicative of EotSLotF, is evidenced in bilinguals' judgements of scrambling in Afrikaans, sub-question (ii-b), asks whether the effects are limited to the later acquired and external interface-oriented properties, or if the earlier acquired properties that do not interface with discourse considerations are also subject to variation. As with negation, given the global perspective that is again required to answer this question, sub-question (ii-b) will be addressed separately in §8.8.2.4.

8.8.2.1 Bare pronominal scrambling: scrambled structures

As was seen for verb placement and sentential negation, no interaction effects of statistical significance were evidenced for the prescriptively sanctioned structures, in which the bare pronoun has obligatorily scrambled (BPO-ADV-V). Once again, the results indicate that, irrespective of participants' exposure to or use of Afrikaans, the experimental groups' acceptability judgements of what is prescriptively sanctioned for bare pronominal scrambling remain comparable to the ref-group participants' judgements (which, recall, resulted in a mean of 4.90 and an SD of 0.40). Therefore, across all three properties which are thought to be early acquired in Afrikaans, and which do not interface with discourse considerations, the results suggest that Afrikaans-English bilinguals' acceptability judgements of what is prescriptively sanctioned in Afrikaans are not subject to variation under the influence of English. Subsequently, sub-question (i-a) again falls away.

To account for this stability, let us consider again the sensitive period for pronominal scrambling and its interface status. As with verb placement and sentential negation, pronominal scrambling is thought to be early acquired in Afrikaans. As the L1 acquisition of scrambling in Afrikaans has not been studied, we take Dutch acquisition studies as our point of departure (see Chapter 3, §3.5.4). These studies concluded that in the L1 acquisition of Dutch, the acquisition of scrambling is a gradual process. However, pronominal scrambling is the first step in this acquisition process. Hoekstra & Jordens (1994) found that children as young as 2;8 scrambled in obligatory contexts (e.g. with pronouns), and Babier (2000) found that by age 4;5, pronominal scrambling was target-like most of the time.

There are to date no studies that have investigated EotSLotF with respect to pronominal scrambling in Dutch, meaning that no direct comparison between Dutch and Afrikaans can be made. However, the stability evidenced for the prescriptively sanctioned BPO-ADV-V structures in Afrikaans is exactly what we would expect of an early acquired property that does not interface with discourse considerations. As with the stability evidenced for the sentential double-*nie* requirement in Afrikaans, this result is therefore compatible with the expectation that pronominal scrambling is an early-acquired property in Afrikaans. In all cases, a dedicated acquisition study would be required to establish the acquisition facts.

Participants' judgements of ADV-BPO-V structures in which the bare pronoun has remained unscrambled (in an ungrammatical position), did, however, reveal some evidence of between-group variability. Let us consider the patterns that emerged in this respect in §8.8.2.2 below.

8.8.2.2 Bare pronominal scrambling: unscrambled structures

Only two variables were revealed to be predictive for participants' judgements of *ungrammatical* ADV-$_{BP}$O-V structures: *Languages of learning and teaching in primary school* (LoLT-P) and *length of time since reduced contact or use* (LTRCU). The post hoc analysis reveals that, when compared to the ref-group participants' judgements of unscrambled bare pronouns, the variable LTRCU resulted in the most marked between-group difference (p = .008), while the effect evidenced for the variable LoLT-P (p = .04) was less robust.

Sub-question (ii-a) was concerned with determining *how* variation, indicative of EotSLotF, is evidenced in the acceptability judgements of bilinguals. Before addressing this question, let us consider the ref-group participants' judgements of structures in which the bare pronoun has remained unscrambled (ADV-$_{BP}$O-V structures).

The ref-group participants' judgement mean of the unscrambled bare pronominal structures was 3.23, with an SD of 1.19. As it is ungrammatical for a bare pronoun to remain unscrambled when uttered with neutral intonation in Afrikaans (as was the case in the present study; see Chapter 3, §3.5.1.1), this mean is surprisingly high. Furthermore, unlike what was revealed for participants' judgements of *ungrammatical* verb placement in Afrikaans, the SD indicates a great deal of within-group variability, more in line with what has emerged for the MsA structures up until this point (see Chapters 6 and 7, §6.7.4 & §7.8.3 respectively).

In comparison to the ref-group participants' judgement distribution of what is prescriptively sanctioned in Afrikaans (scrambling of a bare pronoun), which sees 93.3% (28/30 judgements) of the ref-group judgements at rating point "5", none at rating points "1" and "2" and only 3.3% at rating points "3" and "4" respectively (1/30 judgements at each rating point), the ref-group participants are far less uniform in their assessment of the unscrambled structures.

While the ref-group participants rate only 13.3% (4/30 judgements) of the unscrambled structures "completely grammatical" (i.e. a "5"), they also rate only 13.3% (4/30 judgements) and 6% (2/30 judgements) of the structures a "1" or "2" on the Likert scale respectively. The majority of their ratings fall at rating points "3" (*This is not standard Afrikaans, but an Afrikaans speaker could say this in certain contexts*) and "4" (*This may not be standard Afrikaans, but an Afrikaans speaker could say this*) at 36.6% (11/30 judgements) and 30% (9/30 judgements) respectively. Thus, the ref-group participants still seem to distinguish between what is prescriptively sanctioned on the one hand, and ungrammatical on the other.

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However, it is important to note that the ref-group participants' judgements suggest that they are perhaps not very certain about the status of these ungrammatical structures. It is also worth noting that the same pattern was evidenced for the 33 NS-group participants (mean = 3.16; SD = 1.29) (a point which will be returned to in §8.8.3 to follow).

The reason for this may be related to the fact that, when accompanied with the appropriate stress intonation on the pronoun, these structures can in fact be uttered in a very specific kind of context. Thus, although these judgements are higher than one might have expected given that the specific prosodic and contextual requirements are not met to allow this word order, the ref- and NS-group participants' judgements may reflect this sensitivity.

Let us now turn to the experimental group, and the patterns that emerged for their judgements of unscrambled bare pronouns. The first variable which revealed differences of statistical significance was LoLT-P. Recall that the group size in question (E-group) is very small ($n = 10$), and that the robustness of the result is particularly undermined because it is not replicated across the other exposure- or usage-related variables in childhood or adulthood. In spite of this, I will briefly outline and discuss the emerging pattern to highlight what might be at play, and what may therefore be worth following up on in future.

Participants whose LoLT was English at primary school are the most lenient in their assessment of the unscrambled structures, and they are also the most internally uniform (mean = 3.86; SD = 1.10). Forty percent of their judgements fall at rating point "5" (12/30 judgements), with none at rating point "1". In comparison to the ref-group participants' judgements, which seem to be indicative of an uncertainty as to how acceptable these structures in fact are, participants whose LoLT was English in primary school seem to exhibit even greater levels of uncertainty in this respect. These E-group participants' judgements in fact suggest that they are the least sensitive to the fact that these structures are ungrammatical in StdA.

As noted at the outset of this discussion, the robustness of this stand-alone result is undermined by the small group size ($n = 10$), and, more importantly, because the pattern is not replicated across any of the other exposure or usage variables in childhood or adulthood. It would therefore be not be wise to ascribe undue significance to this effect. Recall, however, that statistically significant effects were evidenced for the variable LoLT-P for both verb placement and sentential negation. Thus, at most, because all three properties thought to be early acquired interacted with LoLT-P, it may be worthwhile in larger-scale studies to probe whether there is in fact a correlation between bilinguals' judgements of pronominal scrambling and their LoLT at primary school.

The results for the variable LTRCU will now be discussed. Recall that the only group whose judgements were different enough from the ref-group participants' judgements were those who had shifted to English-dominance less than 10 years prior to testing (mean = 3.93; SD = 1.13). Furthermore, recall that the participants whose judgement patterns were most comparable to the ref- or NS-group participants' judgements were those who had been English-dominant for more than 30 years (mean = 3.25; SD = 1.21).

The majority of the most recent shifters' (LTRCU of <10 years) judgements fall at rating point "5" on the Likert scale (33.3%; 21/63 judgements). In other words, as with those whose LoLT at primary school was English, these bilinguals' judgements suggest that they are less sensitive to the fact that these structures are not grammatical in StdA, and even less certain as to their status than the ref-group participants.

This particular group's judgements are intriguing because, recall, a related pattern emerged for verb placement in MsA. Let us briefly consider the MsA verb-placement pattern again (Chapter 6, §6.6.2.2). When compared to the ref-group participants' judgements of verb placement in MsA, the MsA verb placement judgements of those who have been English-dominant for <10 years were more divergent than those who have been English-dominant for 10-19 years. After this time, a linear change in the variation was evidenced with those who have been English-dominant for the longest time exhibiting the most divergent judgement patterns. There appears then to be a period where the variation is more pronounced (<10 years), with a brief period of stabilisation (10-19 years), followed by a linear pattern of change the longer these bilinguals remain L2-dominant (see Scherag et al. 2004 for a similar result in the domain of adjectival inflection in German).

For the scrambling judgements, however, the pattern is a bit different. We do not see a linear change over time following the 10-19 year period, but rather the opposite ensues. There is a levelling in the judgement patterns of bilinguals who have been English-dominant for the longest period of time that is comparable to the judgement patterns of the ref- and NS-group participants. Bilinguals who have been English-dominant for more than 30 years rate only 16.6% of the structures a "5" on the Likert scale (8/24 judgements), which is more in line with the ref- (13.3%; 4/30 judgements) and NS-group (18.1%; 18/99 judgements) participants' judgement patterns.

For both verb placement and pronominal scrambling then, there is a marked increase in the variation evidenced in the first 10 years following a dominance shift to English. At first glance, this appears to provide supporting evidenced for the idea that EotSLotF may be particularly pronounced in the first decade (Köpke & Schmid, 2004). Recall the long-held view

that attrition, specifically, takes place predominantly in the first decade after reduced L1 contact or use. Recall again that L1 inhibition is said to account for these effects (Köpke, 2007; see Chapter 2, §2.5.2.1). The reasoning is that inhibition is thought to consume resources, "which will be withdrawn from other levels of processing" (Green, 1986). Accordingly, L1 inhibition results in an increase in processing-related issues.

As already noted, in Scherag et al.'s, (2004) study, where those with a length of residence of less than two years performed identically to the long-term attriters, inhibition does seem a plausible consideration (see Chapter 6, §6.7.4). Importantly, however, recall that Scherag et al.'s (2004) "long term attriters" had a length of residence of between six and 49 years. This complicates the argument that inhibition specifically might be the source of the attrition evidenced in the first *decade*. It was therefore noted that the argument that inhibition can affect bilinguals' performance *right* after a dominance-shift to the L2, for example in the first two years as found by Scherag et al. (2004), seems justifiable. However, the suggestion that this kind of inhibition might persist for almost a decade seems questionable (especially given that participants with a LTRCU of <10 years in the present study had a LTRCU of between 4 and 9 years).

Recall also that for the MsA verb placement results, participants who have been English-dominant for over 30 years were the most divergent in their assessment of the MsA structures. This was proposed to be the result of a lack of L1 activation, which, like inhibition, results in processing difficulties. As both inhibition and activation present processing problems (Green, 1986), if pronominal scrambling is in fact subject to L2-induced variation/uncertainty in AJT, we might reasonably expect processing-related issues *right* after an L2 dominance shift, *and* again after a long period of reduced L1 activation – as was the case with Scherag et al.'s (2004) study.

However, in the present study, the long-term shifters' judgements of the pronominal scrambling structures were the most comparable to the ref- and NS-group participants' judgements (contra what we saw for their MsA verb placement results). This is therefore not what one would expect if bilinguals' judgements of these structures were in fact subject to variation as a result of sub-optimal L1 syntactic processing.

In sum, neither of these variables result in effects that appear particularly robust, nor are they replicated in a manner that one might expect if bilinguals' judgements were in fact vulnerable to change under the influence of L2 English. Thus, further large-scale research into the (in)stability of pronominal scrambling is certainly required. It is, however, of interest that no differences of statistical significance emerged for the other three pronominal scrambling

structures; which are either prescriptively sanctioned or permissible in MsA (and do not rely on specific prosodic requirements for their acceptability).

To make sense of this, recall again that studies of ERPs have shown that ungrammatical structures elicit a P600 effect, whereas grammatical structures do not (see Chapter 4, §4.5.5). The former are therefore thought to be more difficult to process than the latter. Additionally, as noted in Chapter 6 (§6.7.4), and based on the StdA-MsA pattern revealed in the WMT reported on in Chapter 4 (§4.5.2), the *MsA* structures in fact yielded *faster* RTs than their prescriptively sanctioned counterparts. Accordingly, the *vir*-marked MsA structures (ADV-$_{OM}$O-V/$_{OM}$O-ADV-V) should not necessarily incur more processing costs than the prescriptively sanctioned $_{BP}$O-ADV-V structures. However, the *ungrammatical* structures (ADV-$_{BP}$O-V) would be expected to present more processing problems than both the StdA and MsA structures.

As already noted, we do not want to place too much emphasis on the patterns that emerged for the variables LoLT-P and LTRCU. However, it has to at least be considered that the potential processing issues incurred by these ungrammatical structures may make these structures even more difficult to assess for the bilinguals where variation was observed.

8.8.2.3 Full DP scrambling

The answer to question (ii), which asks whether bilinguals' judgements of full DP scrambling are subject to variation under the influence of L2 English, is *no*. Therefore, sub-questions (ii-a) and (ii-b), concerned with how possible variation is evidenced in the acceptability judgements of bilinguals, and as a result of which extralinguistic variables, fall away. Although no between-group variation based on L1/L2 exposure or usage patterns was evidenced, *all* bilinguals' judgements of full DP scrambling reveal instability in what is prescriptively sanctioned in StdA. The pattern that emerges for the experimental-group participants' judgements is similar to that evidenced for the ref-group participants' judgements.

Recall that both the ref- and experimental-group participants correctly opt for the scrambled option in anaphoric/old information contexts 90% (27/30 judgements) and 81.4% (381/468 judgements) of the time respectively (see §8.7). However, in non-anaphoric/new information contexts, the ref- and experimental-group participants correctly opt for the unscrambled option 40% (12/30 judgements) and 60% (281/468 judgements) of the time respectively. Furthermore, while the ref- and experimental- group participants only opt for the "both" option 3.3% (1/30 judgements) and 9.8% (46/468 judgements) of the time in

anaphoric/old information contexts respectively, these percentages rise to 20% (6/30 judgements) and 19.6% (92/468 judgements) in non-anaphoric/new information contexts for the ref- and experimental-group participants respectively.

The results suggest that although differing L1/L2 exposure and usage patterns do not affect the informants' judgements of full DP scrambling, there does appear to be a persistent optionality that is evidenced in their assessment of which option is correct in these non-anaphoric/new information contexts. Crucially, however, this is not the case in anaphoric/old information contexts (see Chapter 9, §9.4.1 for a discussion as to why this may be the case).

What is particularly puzzling about this result is that, as discussed in Chapter 3 (see §3.5.5), on-line comprehension studies of flexible word-order languages have found that noncanonical (i.e. scrambled) structures incur more processing costs than canonical (i.e. unscrambled) structures (Frazier & Flores d'Arcais, 1989; Bader & Meng, 1999; De Vincenzi, 1991; Sekerina, 1997; Kaan, 2001; Mazuka, Itoh, & Kondo, 2002; Tamaoka et al., 2005; Tamaoka, Kanduboda, & Sakai, 2011; Koizumi et al., 2014). One might therefore expect a preference for the unscrambled order and not the scrambled order, with more optionality evidenced in anaphoric/old information contexts.

Crucially, however, recall also that most studies that have looked at the role of word order in relation to processing costs have presented the structures in isolation and not in context (Chapter 3, §3.5.5). These studies are not, then, able to account for the role played by discourse factors in language processing. Let us consider again Kaiser & Trueswell's (2004) study, concerned with flexible word order patterns in Finnish. Kaiser & Trueswell (2004) concluded that, if contextualised, the processing difficulties associated with the noncanonical order are significantly reduced. Furthermore, Kaiser & Trueswell (2004) in fact propose that complexity is not simply a reflection of syntactic complexity, but also propose that complexity correlates with predictive processing. To this end, Kaiser & Trueswell (2004; p.141) propose that "certainty (about the discourse-newness of upcoming referents) increases processing load because it provides opportunity for further processing, even predictive processing".

Thus, it may be that although non-anaphoric/new information contexts elicit the syntactically less complex word order, they may be more costly in processing terms than anaphoric/old information contexts. This, in turn, may interfere with the informants' ability to assess which option (scrambled or unscrambled) is contextually appropriate. It is, however, surprising that these effects appear not to be worsened under the influence of L2 dominance (as seems to be the case for the other properties). It may be the case that the task modality and small group sizes contribute to the fact that, if present, these L2-induced differences are not

detected. With respect to the former, it is also important keep in mind that, even though contextualised, artificial experiments do not provide informants with the kind of "real-world" scenario that might mitigate the challenge of thinking oneself into a new-information scenario.

Additionally, a further consideration is that, if uttered with the appropriate intonation, a "new" interpretation can be yielded in the scrambled position. As with the higher-than-expected *ungrammatical* bare pronominal scrambling judgements – which, recall, are possible under strict contextual and prosodic circumstances – it may be that the informants are sensitive to this intonational possibility in full DP scrambling too.

For full DP scrambling then, there appear to be numerous factors which may contribute to this pattern of across-the-board instability in non-anaphoric/new information contexts. Further larger-scale research, presenting these kinds of structures in isolation as well as in context, and, importantly, in an on-line mode is certainly required to gain further insight into bilinguals' judgements of full DP scrambling in Afrikaans. What is clear, however, is that further thinking and research is required to advance our understanding of the role that context plays in relation to these kinds of patterns.

8.8.2.4 *Are EotSLotF limited to the later acquired and more external interface-oriented properties, or are earlier acquired properties associated with narrow syntax/internal interfaces also vulnerable to EotSLotF?*

To answer this question, recall, firstly, that all participants, including the ref-group participants, are more variable in their assessment of the *ungrammatical* ADV-$_{BP}$O-V structures. It was proposed that, on the one hand *ungrammatical* structures may incur processing costs (see Chapter 4, §4.5.4). On the other hand, it was noted the informants' judgements of these ADV-$_{BP}$O-V structures may in fact reflect a sensitivity to the fact that these structures are permissible under strict contextual and prosodic restraints (see §8.6.3 for discussion). In terms of variation indicative of EotSLotF, recall that when compared to the ref-group participants' judgements, only a minimal amount of variation was evidenced in the participants' judgements of the unscrambled bare pronominal structures for the variables LoLT-P and LTRCU. However, the results did not prove to be particularly robust.

Importantly, for bare pronominal scrambling, all participants' judgements of the prescriptively sanctioned $_{BP}$O-ADV-V structures are at ceiling. As such, their judgements of the prescriptively sanctioned option remain stable.

In contrast to the across-the-board stability evidenced for the prescriptively sanctioned pronominal scrambling ᵦₚO-ADV-V structures, *all* participants' judgements of full DP scrambling exhibit optionality in non-anaphoric/new information contexts, but not anaphoric/old information contexts. As discussed in above, numerous factors may underlie this this pattern.

One proposed hypothesis was that certainty about the discourse-newness of upcoming referents in such contexts may in fact increase the processing load. The reasoning, following, Kaiser & Trueswell (2004), is that such contexts provide opportunity for further "predictive processing". It was additionally noted that the experimental context may make it particularly difficult for the informants to imagine the kind of new-information scenario that would be more readily available to them in a naturally occurring context. A further proposed possibility was that, scrambling, both pronominal and full DP, may be challenging to probe in linguistic judgement tasks, as the informants' awareness of how intonational conditions can affect the word order optionality might affect their judgements.

In sum, although bilinguals' judgements of the *ungrammatical* ADV-ᵦₚO-V structures are more variable than one might have expected given that the intonational and contextual requirements are not met to allow the unscrambled order; the informants' judgements of the prescriptively sanctioned ᵦₚO-ADV-V structures remain stable and at ceiling. On the other hand, the informants' judgements of full DP scrambling in non-anaphoric/new information contexts exhibit an optionality not evidenced in the judgements of the prescriptively sanctioned ᵦₚO-ADV-V pronominal scrambling structures.

Although further research is required to understand what underlies the informants' asymmetrical full DP judgement patterns, based on what can be determined in the present study, the results lend support to the IH in predicting more instability in properties at the syntax-discourse interface than in properties that do not interface with discourse considerations.

8.8.3 *Do the acceptability judgements of bilinguals show evidence of a specific L1 language- internal multi-competence that is indicative of their ability to distinguish between what is prescriptively sanctioned in StdA, in comparison to what is permissible in MsA?*

This question was initially intended to address whether bilinguals distinguish between the prescriptively sanctioned bare pronominal ᵦₚO-ADV-V structures on the one hand, and the *vir*-marked innovation in MsA, whereby the pronoun may remain unscrambled on the other (e.g.

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vir-marked ADV-_{OM}O-V structures). Furthermore, recall that participants' responses to both unscrambled and scrambled *vir*-marked pronouns were investigated to determine whether the scrambled order is preferred, even when accompanied by the OM, or whether scrambling is dispreferred when pronouns are *vir*-marked.

However, the bare pronominal scrambling results revealed that informants' judgements of the *ungrammatical* ADV-_{BP}O-V structures may also in fact need to be considered in the context of what is permissible in MsA. As noted above, somewhat surprisingly, bilinguals do not judge structures in which a bare pronoun remains unscrambled as poorly as our descriptive account thereof may lead one to expect (Chapter 3, §3.5.2.1). It was proposed that processing issues may, in part, account for these judgement patterns. A further possibility, in the context of what is permissible in MsA, will now be discussed.

As already stated, it is ungrammatical for a bare pronoun to remain unscrambled when spoken with neutral intonation (as was the case with the structures in the present study). However, it can remain unscrambled in the presence of the appropriate stress intonation on the pronoun; in this case, it yields a specific deictic interpretation (Chapter 3, §3.5.2.1). The fact that this contextually licensed option exists in spoken Afrikaans may, in part, account for informants' more lenient judgements of the ADV-_{BP}O-V structures. As already noted in §8.8.2.4 above, their judgements may therefore reflect an awareness of the possibility of an unscrambled structure under appropriately constrained discourse conditions. This, in turn, may add to the informants' uncertainty when assessing the structures' status in an *uncontextualised* AJT (even though the neutral intonation should flag the structure as ungrammatical). As a consequence, it may mean that pronominal scrambling is not in fact well suited to probing in uncontextualised AJTs. While only future research can confirm or refute whether this underlies the informants' judgement patterns of these structures, this possibility suggests that for the ADV-_{BP}O-V structures, we may be dealing with two contributory factors: processing issues (see §8.8.2.3) *and* a possible sensitivity to the fact that, under the right circumstances, these structures are possible in spoken Afrikaans. In the case of the latter, these informants may therefore possess an even greater sensitivity to what is permissible in MsA than the initial research question set out to probe.

Let us now address the final research question as it was intended. That is, a comparison of the informants' judgements of what is prescriptively sanctioned in Afrikaans (_{BP}O-ADV-V structures) versus what is permissible in MsA (the *vir*-marked ADV-_{OM}O-V structures). Additionally, participants' judgements of the _{OM}O-ADV-V structures are discussed to determine their preferences when the object is *vir*-marked. Once again, the ref- and NS-group

participants' judgements will be discussed first. The latter groups' judgements are again discussed to consider whether the patterns evidenced across all three structures are replicated in a larger group of Afrikaans-dominant bilinguals, with more heterogenous language profiles.

Consider again the ref- and NS-group participants' descriptive statistics for the pronominal scrambling structures in Table 8.16 below. The non-significant post hoc *p* values indicating the two groups' comparability are presented in the bottom row under the corresponding means.

Pronominal scrambling						
	BP scrambled *(n =3)*		*OM scrambled* *(n =3)*		*OM unscrambled* *(n =3)*	
Group	Mean	SD	Mean	SD	Mean	SD
REF (*n* = 10)	4.90	0.40	3.30	1.20	3.86	1.25
NS (*n* = 33)	4.80	0.73	3.63	1.24	4.10	1.14
Significance	.72		.19		.36	

Table 8. 16 The ref-group participants' pronominal scrambling AJT judgement means

As already discussed, participants' judgements of what is prescriptively sanctioned in Afrikaans (i.e. bare pronominal BPO-ADV-V structures) remain at ceiling (with means of 4.90 and 4.80 for the ref- and NS-group participants respectively). Furthermore, the small SDs indicate that the judgement patterns exhibit little variability.

Participants' means for the *vir*-marked ADV-OMO-V structures (with means of 3.86 and 4.10 for ref- and NS-group participants respectively), although still high, are significantly different from the BPO-ADV-V structures (statistically significant at <.01 for both groups). Additionally, the SDs indicate that they are less internally uniform in their assessment of the *vir*-marked ADV-OMO-V structures (SDs of 1.25 and 1.14 for the ref- and NS-group participants respectively). The answer to the third primary research question therefore appears to be: *yes, the acceptability judgements of bilinguals show evidence of a specific L1 language-internal multi-competence that is indicative of their ability to distinguish between what is prescriptively sanctioned in StdA, in comparison to what is permissible in MsA*. Furthermore, with differences that are statistically significant at .02 and <.01 for the ref- and NS-group participants respectively, both groups, as one might expect, show a preference for the *vir*-marked unscrambled order, over the *vir*-marked scrambled order.

In sum, the pattern that emerges is as follows: the prescriptively sanctioned BPO-ADV-V structures are rated close to ceiling on the Likert scale by both the ref- and experimental-group participants, with the "next best" option being *vir*-marked ADV-OMO-V structures.

Importantly, no differences of statistical significance emerged for *vir*-marked scrambling for any of the extralinguistic variables investigated, with all participants' judgements comparable to the ref-group and NS- group participants' judgements. The answer to sub-question (iii-a), concerned with whether the distinctions bilinguals make between StdA and MsA are subject to change under the influence of an L2, therefore appears to be *no, the distinction remains intact*. As a consequence, sub-question (iii-b), concerned with the circumstances under which such possible change may be evidenced, falls away.

Furthermore, the fact that the informants' judgements show a preference for the *vir*-marked ADV-$_{OM}$O-V structures over the $_{OM}$O-ADV-V structures, although not unexpected, seems to suggest that they are indeed picking up on the redundancy of scrambling a *vir*-marked pronoun: *vir* morphologically signals what is typically signalled via scrambling (Chapter 3, §3.5.3). These judgement patterns suggest that bilinguals not only distinguish between the StdA structures ($_{BP}$O-ADV-V) and the "MsA innovation" (ADV-$_{OM}$O-V), but, additionally, that bilinguals possess a further fine-grained sensitivity to recognise that when *vir*-marked, pronouns typically remain unscrambled (with the $_{OM}$O-ADV-V order rated less acceptable than the ADV-$_{OM}$O-V order). As no differences of statistical significance emerged for these structures either, this too is a sensitivity that appears to remain in place under the influence of English. With respect to pronominal scrambling, it would therefore appear that bilinguals' multi-competence is particularly fine-grained.

Additionally, apart from the sensitivity to the redundancy that exists in $_{OM}$O-ADV-V structures, it may be that, of the two orders, the ADV-$_{OM}$O-V order occurs with the most frequency in spoken Afrikaans – which might further explain the informants' preferences (see Gerasimova & Lyutikova, 2020 and Chapter 4, §4.5.4). While no study has investigated the frequency with which $_{OM}$O-ADV-V versus ADV-$_{OM}$O-V structures occur in the speech of L1 Afrikaans speakers, based on what can be impressionistically determined in conversational contexts, the latter does appear to occur with more frequency than the former.

Further research using contextualised tasks is certainly required to fully understand these pronominal scrambling judgement patterns. The results reported here, however, suggest that bilinguals' judgements reflect a fine-grained sensitivity to what is possible, and preferable, in spoken Afrikaans with respect to pronominal scrambling n Afrikaans.

8.9   Chapter summary

In this chapter the pronominal and full DP scrambling results were presented and discussed. As with verb placement and negation, the role of linguistic environment (the variable SA-EX) was again revealed not to be predictive. Based on the fact that this variable produces a null result in every instance investigated, it therefore very strongly suggests that exposure *alone* is not predictive in determining L2-induced changes to bilinguals' acceptability judgements in Afrikaans.

As with what was revealed for verb placement and sentential negation, bilinguals' judgements of prescriptively sanctioned bare pronominal scrambling (i.e. bare pronoun BPO-ADV-V structures) revealed no instability under the influence of L2 English. All informants' judgements of these structures remained comparable and were judged at ceiling on the Likert scale.

The variables LoLT-P and LTRCU were revealed to be potentially predictive in determining bilinguals' judgements of unscrambled bare pronominal structures (i.e. ADV-BPO-V ordering). However, on close consideration, neither of the effects appear particularly robust, nor are they replicated in a manner that would provide further support for the patterns evidenced. It was therefore suggested that, based on what can be concluded in the present study, bilinguals' judgements of pronominal scrambling appear mostly stable under the influence of L2 English.

Surprisingly though, *all* bilinguals' judgements of the *ungrammatical* structures (ADV-BPO-V), in which the bare pronoun has not scrambled, were more positive than one might have expected. It was noted, that, on the one hand, ungrammatical structures are generally harder to process than grammatical ones, which may account for the fact that the informants' judgements of the unscrambled ADV-BPO-V structures are more variable then their judgements of the scrambled BPO-ADV-V structures. Additionally, it was noted that if accompanied with the appropriate stress intonation on the pronoun, such structures are in fact permissible in spoken Afrikaans. These more positive judgements may therefore reflect the informants' awareness of the possibility of an unscrambled structure under appropriately constrained discourse conditions. As the structures in the present study were uttered with neutral intonation, this possibility would certainly need to be confirmed in future studies using contextualised tasks with structures which feature the appropriate stress intonation on the pronoun.

Turning now to the research question concerned with the StdA-MsA distinction. It was found that bilinguals distinguish between the prescriptively sanctioned BPO-ADV-V structures

on the one hand, and the MsA ADV-$_{OM}$O-V structures on the other. Importantly, this distinction did not appear to be subject to change under the influence of L2 English. Furthermore, the informants' judgements reflect a preference for the unscrambled *vir*-marked structure (ADV-$_{OM}$O-V) over the scrambled *vir*-structure ($_{OM}$O-ADV-V). It was therefore proposed that these judgement patterns are indicative of a fine-grained sensitivity to what is preferable in the scrambling of *vir*-marked pronouns: with the preference for the ADV-$_{OM}$O-V order proposed to stem from the informants' sensitivity to the redundancy of scrambling a *vir*-marked pronoun.

Lastly, the informants' judgements of full DP scrambling did not reveal any between-group variability based on language exposure or use. In spite of this, *all* participants' judgements, regardless of their differing language exposure and usage profiles, revealed optionality in non-anaphoric/new information contexts, but not anaphoric/old information contexts. This surprising result is hypothesised to be due to the fact that, when contextualised, non-anaphoric/new information contexts may be more costly in processing terms due to the predictive processing such contextualised structures incur. The reasoning is that certainty about the discourse-newness of upcoming referents may further increase the processing load as the internal parser prepares for this new information. It was also noted that the across-the-board instability evidenced in non-anaphoric/new information contexts may also be the result of a task effect, whereby the experimental context might make it more challenging for the informants to imagine the new interpretation. A final consideration was that, as with pronominal scrambling, prosodic cues can alter the interpretation such that even when scrambled, a "new" interpretation is possible – something the informants may therefore be sensitive to.

In sum, and in spite of the fact that scrambling appears to be a particularly challenging property to probe, the across-the-board optionality evidenced for full DP scrambling in non-anaphoric/new information contexts is in contrast with the generally stability that is evidenced for pronominal scrambling. This asymmetry therefore lends support to the IH in predicting more stability at the internal interfaces than at the external interfaces.

Chapter 9
General Discussion

9.1   Introduction

This chapter summarises the findings of the study and addresses the remaining unanswered research questions. The main findings will be set out in §9.2. Following this, and taking a global perspective, the answers to the three research questions, and their associated sub-questions will be addressed in §9.3. Section 9.4 discusses lesser-considered factors in relation to EotSLotF and spoken varieties. Thereafter, based on the interaction effects evidenced in the present study, the predictive power of each extralinguistic variable will be discussed in §9.5. A final summary of the emerging picture is offered in §9.6. A chapter summary is provided in §9.7.

9.2   Summary of findings

This exploratory study set out to investigate the influence that knowing and using English as an L2 has on the L1 Afrikaans acceptability judgements of Afrikaans-English bilinguals. A multi-competence approach to bilingualism was adopted. As discussed in Chapter 2 (§2.2.6) and repeated here, from this perspective the L1 of *all* bilinguals will be subject to EotSLotF. Recall that the reason for this is that "the acquisition and use of other languages…have immediate, tangible and measurable ramifications for the first one" (Schmid & Köpke, 2017b: p.763). This study was concerned with the circumstances under which these effects might become "tangible and measurable" (see Chapter 2, §2.2.6). Recall also that the present study extended the multi-competence approach to the knowledge that bilinguals have of different varieties that exist *within* their languages. As such, both the informants' knowledge of what is prescriptively sanctioned in Afrikaans (StdA) and what is permissible in Modern Spoken Afrikaans (MsA) were investigated.

Chapter 2 concluded with a proposal related to what needs to be considered when researching EotSLotF in lifelong bilinguals. It was proposed that when studying EotSLotF in relation to L1 morphosyntactic (in)stability, the following *linguistic* factors be taken into account:

(9.1)   (i)   the developmental trajectory in first language acquisition, spanning from birth through to adolescence;

        (ii)   L1-L2 structural overlap;

        (iii)   the distinction between narrow syntactic/interface-internal and interface-external properties; and, where relevant,

        (iv)   variation in spoken language.

As the results have shown, the variation evidenced in the L1 judgements of Afrikaans-English bilinguals under the influence of L2 English is, overall, minimal. Of the 156 experimental-group participants, 123 reported that they felt they had shifted to English-dominance. In spite of the fact that the majority of the informants are therefore "L2 shifters", when compared to the ref-group participants, the majority of the informants' L1 judgements in the AJT and CAJT show remarkable stability under the influence of L2 English. As a starting point then, let us first consider the overall picture of (in)stability in the population under investigation.

The extralinguistic variables that emerged as being most predictive (with differing levels of robustness given their varied groups sizes) are as follows (see §9.5. for a detailed discussion):

(i)   *Age of onset of L2 dominance* (AoO-D);

(ii)   *Internal language use* (INT), and

(iii)   *Language(s) spoken with siblings* (SIBL).

Variation indicative of EotSLotF is mostly evidenced in the judgements of the E-group participants of these groups (for the variables SIBL and INT, $n = 13$ and $n = 38$ respectively) and those who made an L2-dominance shift in childhood or adolescence ($n = 13$ and $n = 10$ respectively). Consider Figure 9.1 below, which illustrates the relative size of these groups in comparison to the rest of the experimental-group participants. These participant groups, whose judgement patterns were different enough to result in statistically significant differences when compared to the ref-group participants' judgements, are represented by the patterned segments in Figure 9.1 below (outlined in black).
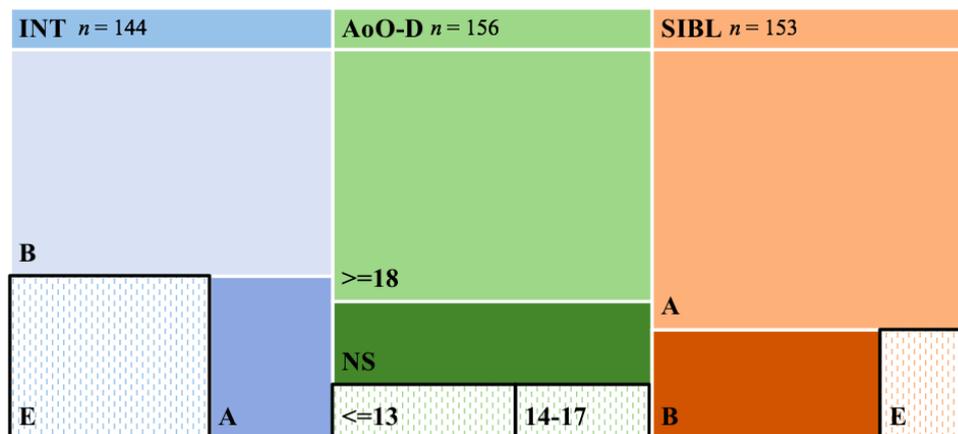
Figure 9. 1 Relative distribution of bilinguals where variation indicative of EotSLotF is evidenced[70]
● *INT (n = 144): A-group: n = 23; B-group: n =83; E-group: n =38*
● *AoO-D (n = 156): NS: n = 33; ≤13: n = 13; 14-17: n = 10; ≥18: n = 100*
● *SIBL (n = 153): A-group: n = 109; B-group: n =31; E-group: n =13*

Figure 9.1 facilitates an understanding of how minimal variation indicative of EotSLotF in fact is in the population under investigation. Given the group sizes at play where differences of statistical significance emerged, with between 10 and 38 informants in the groups of interest, variation indicative of EotSLotF is, overall, evidenced in the judgements of relatively few L1 Afrikaans-L2 English bilinguals. Recall that, as discussed in Chapter 2 (§2.2.6) with respect to simultaneous and early sequential bilinguals, Flores (2017), repeated here, states that divergent performance in a language "does not occur in cases of continued use of both native languages". Although the present cohort of bilinguals include simultaneous, early sequential and late sequential child bilinguals – potentially widening the scope with respect to relevance of this statement – the results obtained here are broadly consistent with this observation. It is therefore important to keep in mind that although the discussion that follows focusses on *how* variation indicative of EotSLotF is evidenced in the L1 judgements of Afrikaans-English bilinguals, variation indicative of EotSLotF is, on the whole, minimal.

Let us now recapitulate the main findings as they relate to the (in)stability of the Afrikaans morphosyntactic properties under investigation. For properties which are early acquired (verb placement and sentential negation) or expected to be early acquired (pronominal scrambling), and that do not interface with discourse considerations, bilinguals' judgements of the prescriptively sanctioned structures exhibit no signs of L2-induced variation. On the other hand, all informants' judgements of prescriptively sanctioned structures at the syntax-discourse

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[70] Note that the reason for the difference in *overall* group sizes for the three variables in question pertains to the fact that (i) three informants do not have siblings and (ii) 12 informants did not know what language they think/dream in.

interface, which are expected to be later acquired, exhibit optionality (DN and full DP scrambling) – with the magnitude of the effect evidenced for DN increasing under circumstances of apparent L2 dominance. These early-late/internal-external interface asymmetries confirm the importance of the linguistic factors set out in (9.1-i) and (9.1-iii) above, namely the sensitive period considerations (Tsimpli, 2014) and the distinction between properties of the narrow syntax/internal interfaces and external interfaces respectively (Sorace & Filiaci, 2006).

In terms of factor (9.1-ii) above (structural overlap), as only DN and NC interpretations exhibit a partial structural overlap in Afrikaans and English, the role of structural overlap could only be considered to a limited extent. However, the results lend support to the findings of previous studies. In the case of DN, which exhibits a complete L1-L2 structural overlap, it appears that structural overlap does not play a protective role in staving off variation under the influence of an L2 (Sorace & Serratrice, 2009). For NC, which is licensed in Afrikaans, but not (South African) English, the results revealed that bilinguals' judgements appear to be subject to crosslinguistic overcorrection (CLO). Recall that this is what one might expect under circumstances of structural difference (Kupisch, 2014). In such instances, the two languages' differences are emphasised. In this case, the bilinguals whose language exposure and usage patterns are suggestive of L2-dominance (henceforth "more L2-dominant"; see §9.5 for a discussion of possible L1/L2 dominance indicators) were less internally variable in their assessment of NC, with more conservative judgements than the ref-group participants and bilinguals whose language exposure and usage patterns suggest a more L1-dominant profile (henceforth "more L1-dominant").

The last linguistic factor identified above, variation in spoken language, proved particularly illuminating. This factor lends support to what the Labovian tradition has shown for many years, that "native speakers" are very sensitive to stylistic variation in their L1. This sensitivity cannot be accessed in more traditionally-oriented GJTs, which typically taps into prescriptivist norms. However, the AJT used in the present study allowed us to pick up on this sensitivity. The results indicate that the seemingly more L1-dominant bilinguals, but crucially also the bilinguals whose language and exposure patterns do not necessarily suggest an obvious L1/L2 dominance profile, appear to be very in tune with how their L1 is in fact used in speech. For example, as we have seen in the domain of negation, variation indicative of EotSLotF does not always diverge from what is prescriptively sanctioned in the L1. Rather, in bilinguals who appear to be more L2-dominant (bilinguals who appear to be in the minority in the present cohort), EotSLotF can manifest as more conservative judgement patterns when compared with

those who appear to be more L1-dominant, and even those who exhibit a more "balanced" dominance profile. For the language combination under investigation, this is a particularly noteworthy finding given the strong prescriptive tradition in play for Afrikaans (see Chapter 1, §1.2): that is, contrary to what one might initially think, speakers who use their Afrikaans L1 more frequently and/or in a wider range of contexts are, in fact, **more** tolerant of standard-deviant negation structures than those who use their Afrikaans L1 less frequently and/or in a more restricted range of contexts. This result highlights the importance of considering sociolinguistic variation in studies concerned with EotSLotF more generally, as an L1-dominant "baseline" does not necessarily equate to judgement patterns that align with the prescriptive rules underlying a language.

Additionally, with respect to what is permissible in MsA, the results correspond with the findings of previous studies which have found the adolescent years to be a key period in the development of sociolinguistic variation (see §2.3.3 for a detailed discussion). In this regard, the informants who shifted to L2-dominance in childhood, and, in particular, in adolescence, were less sensitive to the variation that exists in their L1. This, again, highlights the importance of understanding the L1 developmental trajectory (factor (9.1-i) above), particularly with regard to the (lesser studied) later years of the sensitive period for the L1 acquisition of morphosyntax (see §9.4 for a detailed discussion of the MsA results).

Returning now to structures which are either prescriptively sanctioned or ungrammatical in the L1, overall, the minimal amount of variation that was evidenced does not indicate that the nature of the more L2-dominant bilinguals' L1 representations have in fact changed (see Chapter 2, §2.2.3 for discussion). Rather, the divergent judgement patterns suggest a heightened uncertainty with respect to the more L2-dominant bilinguals' ability to judge the status of the following types of structures in their L1:

(i)   ungrammatical structures, and

(ii)   marked and linguistically complex structures.

The heightened uncertainty that is reflected in the seemingly more L2-dominant bilinguals' tolerance for ungrammatical structures in their L1, is similar to what has been observed in the judgement patterns of HSs in GJTs (see Chapter 2, §2.2.6.3). Recall that HSs exhibit what Polinsky (2018) refers to as a *yes*-bias. Recall further that this *yes*-bias is said to be rooted in uncertainty about the language in question (Rinke & Flores, 2014) – which is, in part, what the ungrammatical judgement patterns discussed here seem to suggest.

With respect to both ungrammatical and linguistically complex structures – in the case of the latter this refers specifically to the DN structures probed – it was proposed that

processing-related considerations may be at play. Although this would need to be corroborated by the findings of future studies making use of on-line testing methods, this proposal is based on the following two observations: (i) ungrammatical structures have been shown to incur more processing costs than grammatical ones; and (ii) because DN is linguistically complex, DN interpretations are subject to a heavy processing burden, which may account for their more degraded ratings (see Chapter 4, §4.5.4). In the case of the present study – where the prescriptively sanctioned structures of the early acquired properties of the narrow syntax/internal interfaces exhibit stability – the variation evidenced is therefore proposed to be at the level of processing and not at the level of grammatical representation (see Chamorro & Sorace, 2019 and also Chapter 2, §2.2.3, for discussion).

The remarkable L1 stability that is evidenced in this study is in line with the findings of previous studies concerned with EotSLotF, where, recall, it has been noted that "the single most astonishing feature of first language attrition is how minimal and localised it usually appears to be" (Schmid, 2002: p.1; see Chapter 2, §2.2.3). Bilinguals' grammatical knowledge in particular has repeatedly been shown to exhibit remarkable stability under the influence of an L2. While this might be less surprising for the South Africa-based informants, who continue to have exposure to Afrikaans, it is surprising that this is equally true of those in the diaspora. This finding will be discussed in detail in §9.3.1 below.

Based on the results presented in Chapters 6 through 8, the following section answers the specific research questions, and the associated sub-questions, posed in the present study.

9.3   Answers to research questions

9.3.1   *Do bilinguals' acceptability judgements of their L1 Afrikaans differ according to whether they are in South Africa or the diaspora?*

Across all five properties investigated, the variable SA-EX, probing the role of linguistic environment in determining EotSLotF, was not revealed to be predictive. Therefore, in relation to Afrikaans-English bilinguals, the answer to this first research question is *no*.

This is a potentially important finding in terms of its ability to disentangle the roles played by, on the one hand, L1 *exposure*, and on the other, L1 (*dis*)*use*. Recall Sharwood Smith & van Buren's (1991: p.23) proposal that, in theory, it may be that "…the L1 changes not because of a lack of use but because of lack of confirming evidence that the L1 is the way it is

in a community of L1 speakers" (Chapter 1, §1.5). The lack of predictive power evidenced by the variable SA-EX would suggest, however, that L1 exposure *alone* is not definitive in determining changes to the L1, or at least not changes of the kind that have been the focus of this dissertation.

As noted in §9.2 above, the variation indicative of EotSLotF evidenced in the present study is minimal, with the L1 properties under investigation showing remarkable stability under the influence of L2 English. Only the judgements of those who shifted to L2 dominance in childhood or adolescence, and those who used exclusively English in the contexts that appear to be predictive, revealed divergence – albeit minimal – from the rest of the research cohort (those in South Africa *and* the diaspora).

Although the variation evidenced was, overall, minimal, the fact that variation indicative of EotSLotF *was* evidenced, coupled with the fact that the variable SA-EX was not predictive, even with marginal effects, suggests that, at least from a terminological perspective, we need to reconsider the persistent idea that EotSLotF are reserved for emigrant communities (see Puig-Mayenco et al., 2018 and Chapter 2, §2.2.5 for discussion). This typically equates to either "L1 attriters" who have emigrated to the L2 environment in adulthood (Chapter 2, §2.2.3) or "Heritage Speakers" who are thought to speak an L1 which is not the dominant language of the larger national society (Chapter 2, §2.2.4). The results obtained in the present study suggest that variation indicative of EotSLotF appears to have little to do with geographical location, and therefore L1 exposure alone, and more with a quantitative shift in L1/L2 exposure and usage patterns, regardless of the linguistic environment. Taking into account the extralinguistic variables that emerged as being most predictive (albeit with differing levels of robustness, given the varied groups sizes) – *age of onset of L2 dominance* (AoO-D), *internal language use* (INT), and *language(s) spoken with siblings* (SIBL) – these shifting exposure and usage patterns appear to correlate with language dominance (see §9.5 to follow for a discussion).

To this end, recall Paradis's Activation Threshold Hypothesis (ATH; 2007), which proposes that the interaction between a bilingual's two languages is determined by the amount the respective languages are used, and thus activated. It is proposed that if L1 use is infrequent, its activation threshold rises, making it more difficult to activate and access the L1 items. To illustrate, recall Chamorro, Sorace & Sturt's (2016) study concerned with the permanence of attrition effects in L1 attrited Spanish "near-native" L2 English bilinguals. Chamorro, et al. (2016) found that exclusive exposure to and use of Spanish in Spain for a minimum of a week prior to testing showed a reversal of the attrition effects. Thus, as language exposure and use increased, the activation level of Spanish was lowered. In the context of the present study, it is

important to note, however, that the kind of correlation that exists in Chamorro et al.'s (2016) study between L1 and L2 *use* and the L1 and L2 environment respectively does not always map neatly onto multilingual contexts (see Chapter 1, §1.3.2 for discussion). For bi/multilinguals in multilingual contexts, L1 *exposure* does not always correlate with L1 *use.*

To illustrate, although an English-dominant Afrikaans-English bilingual living in South Africa may be frequently exposed to Afrikaans, it does not necessarily mean that they will speak Afrikaans. As noted in Chapter 1 (§1.3.2), one of the reasons is that most L1 Afrikaans speakers are proficient L2 English speakers and generally accommodate bilinguals who prefer to converse in English. Additionally, recall that bilinguals with differing L1/L2 dominance profiles often engage in translanguaging, whereby one interlocutor may speak exclusively or mostly Afrikaans, and the other English (see Chapter 1, §1.3.2 for discussion). Therefore, exposure to a language in a multilingual environment doesn't necessarily equate to language *use* as described by Chamorro et al. (2016). Furthermore, given the increase in access to technology, a lack of L1 exposure in the L1 environment does not necessarily mean that L1 *use* need cease. By communicating via telephone or various social media platforms (e.g. Whatsapp messenger), bilinguals can continue to use their L1 with family and friends in South Africa.

With reference to the above observations, let us consider the L1/L2 exposure and usage profiles of the 86 experimental-group participants in the diaspora (Tables 9.1) in comparison to the 70 experimental-group participants in South Africa (Table 9.2).

Variable	EX-group				
LoLT-P	Afrikaans	Both	English		
n =	70	13	3		
LoLT-S	Afrikaans	Both	English		
n =	63	14	9		
AoO-D	"NS"	≤13 years	14-17 years	≥18 years	
n =	19	3	3	61	
LTRCU	"NS"	<10 years	10-19 years	20-29 years	>=30 years
n =	19	15	29	17	6
FREQ	Daily	Weekly	Rarely		
n =	49	24	13		
SIBL	Afrikaans	Both	English	No siblings	
n =	60	18	7	1	
INT	Afrikaans	Both	English	Don't Know	
n =	17	52	13	4	
WRIT	Often	Sometimes	Never		
n =	20	39	27		

Table 9. 1 EX-group participants' (n = 86) language exposure and usage patterns

Variable	SA-group				
LoLT-P	Afrikaans	Both	English		
n =	44	19	7		
LoLT-S	Afrikaans	Both	English		
n =	36	23	11		
AoO-D	"NS"	≤13 years	14-17 years	≥18 years	
n =	14	10	7	39	
LTRCU	"NS"	<10 years	10-19 years	20-29 years	>=30 years
n =	14	7	24	15	10
FREQ	Daily	Weekly	Rarely		
n =	52	13	5		
SIBL	Afrikaans	Both	English	No siblings	
n =	48	14	6	2	
INT	Afrikaans	Both	English	Don't Know	
n =	6	31	25	8	
WRIT	Often	Sometimes	Never		
n =	18	30	22		

Table 9. 2 SA-group participants' (n = 70) language exposure and usage patterns

As the above tables illustrate, linguistic environment is not necessarily indicative of how much or how little the L1 is in fact used. Perhaps most striking is the fact that, although 123 of the informants maintain to have made an L2-dominance shift to English, the majority of the informants, in South Africa *and* the diaspora, still speak Afrikaans daily. It is worth noting, then, that this component of their self-reporting cannot readily be taken as an indicator of language dominance and underscores just how difficult it is to speak about "dominance" in a multilingual setting.

Overall, it would therefore seem that language dominance, which appears to be the result of a quantitative shift in L1/L2 exposure and usage patterns, is what predicts tangible and measurable variation indicative of EotSLotF (see also the discussion in §9.5.3 to follow). A quantitative shift in L1 usage patterns, and therefore L1 activation, appears to result in L2-dominant bilinguals who have more difficulty accessing their L1, **regardless of their linguistic environment**. In the present study, and as already discussed in §9.2 above, such bilinguals are in the minority.

This null result in relation to research question one sheds light on the polarised way in which the broader field of EotSLotF has approached notions like "attriters" and "heritage speakers" in the L2 context on the one hand, and L1 users in the L1 environment on the other. The latter are typically taken as the "L1 baseline". Multilingual environments, however, allow for the kind of L2 dominance shift typical of immigrant communities. In this regard, L2-dominant bilinguals could in theory be regarded as "attriters" or "heritage speakers" in spite of the fact that they remain in the L1 environment. Conversely, the global community allows for a scenario whereby immigrants are not necessarily "attriters" or "heritage speakers", but rather bilinguals who are connected to L1 speakers via telecommunications, and therefore may in fact perform on par to those who have remained in the L1 environment.

The fact that the role of linguistic environment was not revealed to be predictive, therefore, means that, from a methodological perspective and in the study of EotSLotF more generally, we need to seriously reconsider how we categorise bilinguals and why (see Chapter 10, §10.2.3 for further discussion). This is particularly the case in studies concerned with a language where the L1 environment is a multilingual context and where a "monolingual baseline" is something of a rarity, if it exists at all. In the case of Afrikaans specifically, even if a monolingual baseline was obtainable, this would certainly not be the baseline for the vast majority of L1 Afrikaans speakers, who are Afrikaans-English bilinguals. This observation further calls into question the notion of the "L1 baseline" and underscores the fact that "baselines" are not in fact meaningfully equatable with standard varieties (see Flores & Rinke, 2020).

9.3.2 *Do bilinguals' acceptability judgements of what is prescriptively sanctioned and/or ungrammatical in their L1 Afrikaans exhibit evidence of EotSLotF as a result of differential language exposure and use in childhood and adulthood?*

This section summarises the answers to the second primary research question, with a focus on sub-question (ii-a), which was concerned with how variation indicative of EotSLotF is evidenced in the acceptability judgements of bilinguals. Sub-question (ii-b), concerned with the distinction between whether and how EotSLotF manifest in properties of the narrow syntax/internal interfaces and external interfaces respectively, is addressed in the sub-section that follows (§9.3.2.1).

The property-specific structural classes that this question is applicable to are as follows:

(i)   Verb placement

      a.   prescriptively sanctioned V2/SOV structures

      b.   ungrammatical V3/S.aux.V.O structures

(ii)   Sentential negation: prescriptively sanctioned "*nie…nie*" structures

(iii)   Bare pronominal scrambling

      a.   prescriptively sanctioned $_{BP}$O-ADV-V structures

      b.   ungrammatical ADV-$_{BP}$O-V structures

(iv)   Double negation

(v)   Full DP scrambling

      a.   anaphoric/old information contexts

      b.   non-anaphoric/new information contexts

For the properties which are early acquired/thought to be early acquired and which do not interface with discourse-related considerations, bilinguals' acceptability judgements of what is prescriptively sanctioned in StdA exhibit no signs of variation indicative of EotSLotF. None of the extralinguistic variables probed interacted with bilinguals' judgements of:

(i)   verb placement (V2/SOV);

(ii)   sentential negation (*nie…nie*); or

(iii)   pronominal scrambling ($_{BP}$O-ADV-V)

Regardless of bilinguals' language exposure and usage patterns, their judgements of the above three prescriptively sanctioned structures remain comparable to those of the ref-group participants' judgements.

Where variation from the ref-group participants' judgements was evidenced, variation was only – as far as the extralinguistic variables probed are concerned - revealed in relation to:

(i) *ungrammatical* structures (*ungrammatical* V3/S.aux.V.O structures and possibly also the *ungrammatical* ADV-BPO-V pronominal scrambling structures), and

(ii) DN, which is marked and linguistically complex.

To account for this pattern, and as discussed above, recall that ungrammatical structures have been found to be harder to process than grammatical ones (see Chapter 4, §4.5.4, and see also the discussion in §9.2). Additionally, the fact that DN is linguistically complex means that DN interpretations are subject to a heavy processing burden. These effects may therefore, at least in part, be the result of sub-optimal L1 processing skills. Additionally, recall that in some cases the divergent judgement patterns corresponded with language exposure and usage variables in childhood, or an earlier AoO of L2 dominance. As such, it was also suggested that bilinguals' L1 metalinguistic skills may, under these circumstances, not be as sharp as they would otherwise be if they were not developing under the influence of increased exposure to L2 English.

Recall that the full DP scrambling results revealed that *all* informants were target-like in anaphoric/old information contexts, but not in non-anaphoric/new information contexts. In other words, there appears to be an across-the-board instability in non-anaphoric/new information contexts. Interestingly, based on what can be determined on the basis of the task used to probe full DP scrambling, the magnitude of this effect does not appear to increase under circumstances of L2 dominance like it does in the case of DN. See §9.4.1 below for a detailed discussion related to the instability of new information contexts in comparison to the apparent stability evidenced in old information contexts.

In sum, and as noted above, it would seem then that the issues the seemingly more L2-dominant bilinguals are faced with are not ones that represent a change to their L1 grammatical representations. Rather, these effects seem to suggest a heightened uncertainty with respect to their ability to judge the status of structures which are either linguistically complex or ungrammatical in their L1. This is proposed to potentially be the result of the fact that the seemingly more L2-dominant bilinguals' L1 may be subject to sub-optimal syntactic processing. This may be what makes it slightly more difficult for these bilinguals to assess the status of the L1 structures which incur more processing costs. The answer to this research question is therefore *yes, but crucially, only in relation to ungrammatical or linguistically complex structures, with the variation evidenced being minimal.* Overall, the results indicate

that bilinguals' judgements of structures in their L1 exhibit remarkable stability under the influence of L2 English.

The following sub-section considers sub-question (ii-c), concerned with whether variation indicative of EotSLotF is limited to the later acquired and more external interface-oriented properties, or whether properties that are thought to be earlier acquired, associated with the narrow syntax/internal interfaces, are also vulnerable to EotSLotF.

9.3.2.1 *Are EotSLotF limited to the later acquired and more external interface-oriented properties, or are earlier acquired properties of the narrow syntax/internal interfaces also vulnerable to EotSLotF?*

The IH predicts that processing limitations in bi/multilingualism affect properties of the external interfaces, but not properties of the narrow syntax or the internal interfaces. Recall that the IH does not, however, propose that properties devoid of discourse considerations are invulnerable to EotSLotF. Rather, they are proposed to exhibit *more* stability than properties at the syntax-discourse interface. Additionally, the distinction between properties which map to LF in a less complex (narrow syntax/internal interfaces) or more complex (external interfaces) way respectively is thought to broadly correlate with properties which are either early or late acquired respectively (Tsimpli, 2014; see Chapter 2, §2.3.2).

From an (in)stability perspective, then, the results of the present study seem to support the hypothesis that properties which are early acquired/thought to be early acquired and which do not interface with discourse-related considerations (verb placement, sentential negation and pronominal scrambling), exhibit more stability than the later acquired properties that do interface with discourse-related considerations (DN and full DP scrambling). Specifically, and as discussed above, regardless of bilinguals' L1/L2 usage patterns, *all* bilinguals' judgements of what is prescriptively sanctioned for verb placement, sentential negation and pronominal scrambling exhibit no variation insofar as the extralinguistic variables in question are concerned. All informants' judgements of these prescriptively sanctioned structures were comparable to the ref-group participants' judgements. In contrast to this pattern, *all* bilinguals' DN judgements (the prescriptively sanctioned option) were more variable. Furthermore, this variability appeared to increase under circumstances of apparent L2 dominance. Additionally, *all* bilinguals' judgements of full DP scrambling in non-anaphoric/new information contexts exhibited a great deal of uncertainty, with what appears to be a "scrambling bias" (i.e. a preference to leftward-move the object) being in play.

For negation and scrambling specifically, the properties under investigation allow us to test the IH hypothesis/early-late distinction within and not only across different syntactic domains. As such, and in the domain of negation, the (in)stability of sentential negation (narrow syntax/early) and DN (interface-external/late) is probed; in the domain of scrambling, the (in)stability of pronominal (interface-internal/early) and full DP scrambling (interface-external/late) is probed. In a comparison of the sentential negation and DN results on the one hand, and the pronominal and full DP scrambling results on the other, the results indicate an asymmetry of (in)stability based on the specific properties' sensitive period or interface status.

For example, in the domain of negation, for sentential negation structures which are prescriptively sanctioned in Afrikaans (*nie…nie*; an early acquired property of the narrow syntax), all the informants' judgements are at ceiling. In contrast, all the informants are more variable in their assessment of DN interpretations (a late acquired property at the syntax-discourse interface), with the magnitude of the effect increasing under apparent L2-dominance. In the domain of scrambling, we see a similar pattern. All the informants' ratings are at ceiling in their assessment of prescriptively sanctioned structures in which a bare pronoun has obligatorily scrambled (BPO-ADV-V; an early acquired property and the syntax-semantics interface). However, once again, although the effect does not increase under circumstances of L2-dominnace, all the informants' judgements of full DP scrambling in non-anaphoric/new information contexts appears to exhibit an across-the-board instability (recall that full DP scrambling is a late acquired property at the syntax-discourse interface).

Overall, with regard to what is prescriptively sanctioned in Afrikaans, and specifically when probed in linguistic judgement tasks, the answer to this research question is therefore that *the later acquired properties of the external interfaces do appear to exhibit more instability than properties at the narrow syntax/internal interfaces, which are early acquired/thought to be early acquired.*

To this end, recall also the asymmetry evidenced between the present study's *standard* verb placement results and Grabitzky's (2014) results, which revealed attrition of structures in which the first-position element is a negator. The structures in Grabitzky's (2014) study are marked and interact with discourse considerations. In contrast, the *standard* verb placement structures in the present study are either subject-initial structures, or feature a fronted locative, which does not interface with discourse-related considerations (see Chapter 3, §3.3.2.3). These different findings highlight the fact that, because a single property may involve multiple interfaces (or both narrow syntactic and interface structures), the IH should therefore be tested

at the level of individual structures too (Chapter 2, §2.4.3.3; see also Montrul, 2011 for discussion).

Let us now consider again the role played by structural overlap at the interfaces, which in the present study, is relevant in the domain of negation. Recall that DN is prescriptively sanctioned in English too. However, this structural overlap does not appear to mitigate the effects of what appears to be sub-optimal L1 syntactic processing. As noted above, this aligns with the conclusion reached by Sorace & Serratrice (2009): the instability evidenced in properties at the syntax-discourse interface is not affected by structural similarity or difference (Chapter 2, §2.5.3.2).

Additionally, it is important to note that considerations related to the IH extend beyond purely linguistic factors: there are practical considerations related to the use of the IH as a framework for testing L1 (in)stability in different bilingual populations that need to be kept in mind. Recall that in studies concerned with EotSLotF, Sorace (2011;2012; 2019) has explicitly stated that the IH should only be tested on first generation speakers who have fully acquired the L1 *prior* to the onset of attrition. The only exception to this pertains to early bilinguals (i.e. HSs) whose L1 input has *not* undergone attrition in the first-generation speakers, and where "the differences between individual and generational attrition are clear" (Sorace, 2012: p.214). The present cohort therefore qualified as an appropriate testing ground (see Chapter 2, §2.4.2). The results, which lend support to the IH, lead us to conclude that the IH serves as a useful framework for predictions of (in)stability in the L1 grammar of early bilinguals under the influence of an L2.

Lastly, from a methodological perspective, it is important to acknowledge that properties at the syntax-discourse interface may be particularly difficult for informants to assess in artificial experiments (see Chapter 8, §8.8.2.3 for discussion). The internal-external (in)stability evidenced in the present study, and potentially in others too, may be one that is particularly pronounced in artificial experimental contexts. Although this is something which is, of course, empirically very difficult to determine, this factor has to at least be considered.

In spite of this final observation, the results obtained in the present study lend support to the IH in predicting more instability at the external interfaces than at the narrow syntax/internal interfaces. This is important because, recall that, as discussed in Chapter 2 (§2.4.21), the vast majority of studies that have used the IH as a framework for studying EotSLotF have been those concerned with (i) pro-drop languages (ii) and L1 attriters (i.e. adult L2 acquirers). This study therefore highlights the importance of testing the IH more widely, in

terms of both the language combination *and* the bilingual population under investigation (i.e. early bilinguals whose L1 input has *not* undergone attrition in the first-generation speakers).

9.3.3 *Do the acceptability judgements of bilinguals show evidence of a specific L1 language-internal multi-competence that is indicative of their ability to distinguish between what is prescriptively sanctioned in StdA, in comparison to what is permissible in MsA?*

The answer to this question is informed by the participants' judgements of:

       (i)   verb placement in MsA;

       (ii)   *nie*-drop;

       (iii)   NC interpretations; and

       (iv)   *vir*-marked pronominal scrambling.

With the exception of participants' judgements for prescriptively sanctioned DN (StdA) and NC (MsA) structures, the answer to this research question, which asks whether the informants' judgements reflect a sensitivity to the StdA-MsA distinction for verb placement, sentential negation and pronominal scrambling, appears to be *yes*. For these three properties, the informants' judgement patterns would suggest that they distinguish between what is prescriptively sanctioned in Afrikaans on the one hand, and what is only permissible in MsA on the other.

For the distinction between DN and NC, no obvious differences can be detected between bilinguals' judgements of these two interpretations. It was, however, proposed that because DN is linguistically complex and difficult to process, participants' low DN means may well be concealing their sensitivity to the StdA-MsA distinction. Therefore, while bilinguals may distinguish between the two interpretations, in all probability, AJTs are not well suited to probe this specific distinction. Thus, this question cannot in fact be answered for this specific distinction.

Let us consider sub-question (iii-a), concerned with whether these distinctions are subject to EotSLotF. For verb placement in MsA, it was noted that, because structure-specific judgement patterns emerge, the answer cannot be explicitly addressed. However, based on what can be established in this exploratory study, it would appear that for the more L1-dominant bilinguals, as well as those bilinguals who exhibit a more "balanced" dominance profile, the StdA-MsA distinction appears to remain intact across the different structures. In contrast, under circumstances of L2-dominance, the results suggest that the StdA-MsA verb placement distinction *may* be vulnerable.

For sentential negation and pronominal scrambling, the StdA-MsA distinction remains intact regardless of participants' L1/L2 usage patterns. In the case of sentential negation, however, where variation indicative of EotSLotF was evidenced, bilinguals' judgements of *nie*-drop in fact become *more*, and not less, conservative (see §9.4.2 below for a detailed discussion). For *vir*-marked pronominal scrambling, no variation indicative of EotSLotF was evidenced whatsoever. All bilinguals' judgements remain comparable to the ref-group participants' judgements (see the discussion in §9.4.1 to follow).

The different judgement patterns that emerged in response to the MsA structures (for verb placement in MsA, *nie*-drop, NC and *vir*-marked pronominal scrambling) provide further insight into important considerations not always taken into account in studies concerned with manifestations of EotSLotF. These will be considered in detail in §9.4 below.

9.4   EotSLotF: insights from spoken variation in language

The following two sub-sections consider the informants' MsA judgement patterns again and discuss what these different patterns highlight with regard to how EotSLotF manifest in relation to spoken variation. Section 9.4.1 is concerned specifically with important considerations pertaining to how variation indicative of EotSLotF manifests in word-order variation in Afrikaans (verb placement and pronominal scrambling). Section 9.4.2 discusses the variation evidenced in the domain of negation in Afrikaans and highlights the importance of taking sociolinguistic factors into account.

9.4.1   A confluence of external and internal factors

With regard to the StdA-MsA distinction for verb placement and pronominal scrambling, two different patterns emerge. Importantly, recall that both properties are thought to be early acquired and do not interface with discourse-related factors.

In the case of verb placement, under apparent circumstances of L2-dominance, the results are suggestive of a reduced sensitivity to the StdA-MsA verb placement distinction. In contrast, all informants remain sensitive to the StdA-MsA distinction for pronominal scrambling, and exhibit what appears to be a fine-grained sensitivity to the different *vir*-marked word orders. In order to understand this asymmetry, let us first recapitulate the verb placement results.

Recall in the first instance that, unlike StdA which exhibits a word-order asymmetry between MCs and ECs, English does not. It was therefore proposed that increased exposure to English may reduce the sensitivity to the distinction that exists between the prescriptively sanctioned V-final and verb-early/*wh*-V2 MsA structures. This may, in turn, reduce their sensitivity to the fact that the MsA structures are not in fact prescriptively sanctioned. It was, however, noted that this is only one possibility. A further possibility is that variation indictive of EotSLotF may not always manifest in ways that are indicative of L2 influence *per se* (recall, as one may want to propose for CLI) (see Chapter 2, §2.2.61).

To this end, a second possibility related to processing issues was discussed. It was proposed that the more L2-dominant bilinguals' ability to disambiguate between the StdA and MsA structures potentially impaired as a result of sub-optimal L1 syntactic processing (i.e. an effect that is perhaps reminiscent of a *yes*-bias). It was also suggested that less well developed L1 metalinguistic awareness may account for these patterns – the result of increased exposure to the L2 during the period when metalinguistic skills are developing. Taken together, these factors may make it more difficult for the more English-dominant bilinguals to distinguish between structures which are prescriptively sanctioned as opposed to only possible in MsA.

Furthermore, the possible role played by a reduction of L1 input was also considered. In this regard, there were again two factors which might account for what looks like a lack of sensitivity to the variation in the L1. It was firstly noted that as a result of a lack of L1 input, the more English-dominant bilinguals may be less exposed to the *variation* that exists in Afrikaans. The result is, then, that their judgement patterns also less clearly reflect the possible variation that exists in their L1. Secondly, it was discussed that a lack of L1 input can act as a trigger for language-internal changes which amplify a specific phenomenon which occurs in the L1 (Hopp & Putnam, 2015; Flores & Rinke, 2020; Shah, et al., in press; Zimmer, 2021). In such instances, the more L2-dominant bilinguals appear to pick up on a language-specific tendency and "run with it", as it were. In the case of the present study, this may again be on account of what seems to be a lesser sensitivity to the fact that the relevant structures – verb early and *wh*-V2 structures as opposed to V-final structures – are not in fact prescriptively sanctioned in their L1 (see Chapters 3 and 6; §3.3.5 and §6.7.4 respectively). Recall that this pattern is similar to what has been observed in other contact situations, whereby a *minor pattern* (Heine & Kuteva, 2005) is expanded upon in such a way that it becomes a *major pattern* (see Shah, et al., in press for Kroondal German; and Zimmer, 2021 for changes in Namibian German).

In the present study, the more English-dominant bilinguals appear to have noticed that the verb-early and *wh*-V2 structures are permitted in MsA, but their judgement patterns would suggest that they are more inclined to rate such structures as ones which are acceptable in StdA too. In other words, these bilinguals have extended this pattern beyond its status as one which is only acceptable in MsA to one which is acceptable across-the-board for Afrikaans. This *minor* to *major* shift is illustrated in the table below:

	Permissible in MsA		Permissible in StdA	
	V-final	verb early/ *wh*-V2	V-final	verb early/ *wh*-V2
L1-dominant bilinguals	✓	✓	✓	X
L2-dominant bilinguals	✓	✓	✓	✓

Table 9. 3 A "minor" to "major" change in Afrikaans

Shah, et al. (in press) emphasise that although such language-internal change is evidenced in contact situations, the patterns are in fact also representative of the kind of changes that have been evidenced in diachronic change in non-contact situations (Labov, 1994, 2007). It is therefore noted that these kinds of patterns involve a "confluence of the internal and external factors that have so frequently been dichotomised in discussions of linguistic change" (Shah et al., in press: p.68).

There is, of course, no way to disentangle the possibilities discussed above, which in fact may *all* be at play. However, the fact that there exist so many possible factors highlights the need to consider the potentially very complex interactions involved in studies concerned with EotSLotF, and in particular with respect to spoken variation in language.

Let us now turn to pronominal scrambling, which seems mostly stable under the influence of English, with the StdA-MsA distinction remaining entirely unaffected as a result of differing amounts of L1/L2 exposure and use. In considering why this may be the case, it is firstly important to note that the difference between scrambled versus unscrambled structures entails an interpretive difference, i.e. the distinction between old versus new information respectively. Old information nominals scramble, whereas new information nominals do not. Pronouns, by their nature, are old information elements; hence the obligatory scrambling operation (see Chapter 3, §3.5.2). To illustrate, recall example (3.66) of Chapter 3, repeated below in (9.2):

(9.2)   (a)   *Ons moet* [*hom*] <u>*eers*</u>   *voer.*   [O-ADV-V]

We must him   first   feed

"We must first feed him."

(b)   **Ons moet* <u>*eers*</u> [*hom*] *voer.*   [ADV-O-V]

we must   first   him   feed

Recall also that in Afrikaans, when unscrambled, a pronoun is required to be *vir*-marked (Chapter 3, §3.5.3). To illustrate this, example (3.82) of Chapter 3 is repeated below in (9.3) below:

(9.3)   (a)   *Ja, ek het* [*hom*] *gister   gesien.*

yes I have him   yesterday saw.PART

'Yes, I saw him yesterday.'

[obligatory scrambling: O-ADV-V]

(b)   *Ja, ek het   gister   **vir** [*hom*] gesien.*

yes I have yesterday for him   saw.PART

'Yes, I saw him yesterday.'

[*vir*-marked unscrambled order: ADV-OMO-V]

The use of the DOM structure in (9.3-b) is the MsA innovation which morphologically signals what is signalled via the scrambling operation in StdA (see (9.3-a) above), and therefore achieves the same (old information) effect. Importantly then, in pronoun-containing structures, the scrambling operation is effectively entailed, given the "old information" nature of pronouns.

This is in contrast to the difference between the StdA and MsA verb placement word order variation, where the distinction between V-final (StdA) and *wh*-V2/verb early (MsA) structures is not one driven by an obligatory operation, nor does it necessarily result in an interpretive difference (see Chapter 3, §3.3.3 for discussion; and Biberauer & Richards, 2006 for structures which exhibit "true optionality"). The choice to use either a V-final or *wh*-V2/verb early structure seems simply to be a case of speaker preference. However, in the case of pronoun-containing structures with an adverb, although there exists a choice as to which operation will be employed (scrambling or *vir*-marking), one of the two options *is* obligatorily

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required to satisfy the old information interpretive effect that a pronoun introduces into the derivation.

The fact that the informants' judgements of the *vir*-marked structures show a preference for the ADV-_{OM}O-V structures over the _{OM}O-ADV-V structures indicates that, as one might expect, they are sensitive to the interpretive effects at play, with a sensitivity to the redundancy of scrambling a *vir*-marked pronoun (see Chapter 8, §8.8.3). It may therefore be that the obligatory requirement of either scrambling or *vir*-marking in pronoun-containing structures, coupled with the sensitivity to the interpretive effect yielded by scrambling/*vir*-marking, is what underlies bilinguals' fine-grained sensitivity to the different word-order options available to them for pronominal scrambling – a sensitivity that appears to remain intact regardless of shifting L1/L2 exposure and usage patterns. This is in contrast to the *optional* word order variation that we see in relation to the StdA-MsA verb placement distinction, which does, crucially, not always yield an interpretive difference, exhibiting what Biberauer & Richards (2006) refer to as "true optionality" (Chapter 3, §3.3.3.2).

The obligatoriness of either scrambling or *vir*-marking in pronoun-containing structures, coupled with the interpretive effect that is achieved by such operations, may also explain why the StdA-MsA verb placement distinction, but not the StdA-MsA pronominal scrambling distinction is vulnerable under the influence of L2 English. The reason here could potentially be that linguistic knowledge about obligatory operations which yield interpretive differences may be less vulnerable to L2-induced variation than optional operations, which only sometimes entail an interpretive effect. In the case of the latter, the early placement of a nonthematic verb can, but doesn't always, yield an interpretive difference (see Biberauer, 2016 for discussion). This is not, however, the case for *wh*-V2 structures, which are always interpretively equivalent to their V-final counterparts (see Chapter 3, §3.3.3.2).

What is additionally noteworthy is that if we consider the informants' judgements of both pronominal and full DP scrambling, it would appear that in the domain of scrambling, it is the old information interpretations which exhibit stability. That is, pronominal scrambling and full DP scrambling in anaphoric/old information contexts remain target-like. This stability is in contrast to the across-the-board optionality evidenced in the informants' judgments of full DP scrambling in non-anaphoric/new information contexts. To this end, recall that although the ref- and experimental-group participants correctly opted for the scrambled option in anaphoric/old information contexts 90% and 81.4% of the time respectively, they only correctly opted for the unscrambled option in non-anaphoric/new information contexts 40% and 60% of the time respectively. It would therefore seem that in the domain of scrambling,

we are not only dealing with the difference between whether properties are early/late acquired or more interface-internal/external; rather, it may be that the interpretive considerations at play are what predict more or less stability, with old information structures/contexts seemingly less challenging than new information contexts.

Furthermore, with respect to the patterns that emerge for full DP scrambling, it may be worth considering the possible role played by the informants' knowledge of pronominal scrambling. That is, the early acquisition of pronominal scrambling may play a facilitative role in the stability evidenced for full DP scrambling in anaphoric/old information contexts. Similarly, it may be a contributory factor with respect to the "scrambling bias" evidenced in non-anaphoric/new information contexts. From a theoretical perspective then, although the present study's results can be interpreted as lending support to the IH, the reasons which underlie the internal-external asymmetries may be multifaceted and language-, property-, and structure-specific. In other words, and in (in)stability terms, it is not only the "earliness" of properties of the narrow syntax that we need to be concerned with. Rather, the scrambling results suggest that, within a linguistic domain, we may want to consider what biases the early acquisition of a property creates in respect to a later-acquired property that is in some sense connected to the earlier-acquired one.

In sum, when predicting L1 word-order (in)stability under circumstances of reduced L1 input/use and increased L2 exposure/use, the possible role played by the L2 is in itself not always sufficient. It would seem that both external and internal factors need to be considered, with language-internal factors playing a non-trivial role in predicting variation indicative of EotSLotF.

9.4.2 Sociolinguistic considerations: prescriptivist ideologies

A second asymmetry evidenced in participants' judgements of the MsA structures relates to the fact that the more English-dominant bilinguals' judgements of *nie*-drop and NC, both of which are prescriptively excluded, were more conservative than the judgements of those who are more Afrikaans-dominant. The same was not, however, true for the assessment of prescriptively barred verb placement or pronominal non-scrambling structures.

To understand why this may be the case, recall that the sentential double-*nie* requirement is an aspect of Afrikaans grammar which is strongly prescriptively reinforced in the L2 school classroom (see Chapter 7, §7.8.3.1). Additionally, it is often corrected in the speech of L1 English speakers and English-dominant bilinguals. Thus, it is an aspect that

Afrikaans language users (L1 and L2) are made hyper-aware of. With regard to NC, recall that NC is associated with a heavy stigma in English-speaking societies (see Nevalainen, 1998; Horn, 2010; Blanchette, 2013, 2015; Blanchette, Nadeu, Yeaton & Déprez, 2018; Blanchette & Lukyanenko, 2019). As South Africa generally follows a conservative version of British English in teaching English grammar (see Chapter 1, §1.3.2), this is something Afrikaans-English bilinguals in South Africa may well be aware of.

The prescriptive rules underlying negation, in both Afrikaans and English, may therefore be an aspect of the respective languages' grammar that Afrikaans-English bilinguals are explicitly aware of. In other words, this equates to "conscious knowledge" about the acceptability of *nie*-drop in Afrikaans and NC in English. What is important about this is that it brings to light the distinction between *conscious* versus *unconscious* linguistic knowledge. Unconscious knowledge is that which subjects are said to be unaware that they are accessing, whereas conscious knowledge pertains to knowledge that subjects are aware of possessing (Schachter, 1992). This conscious knowledge may therefore contribute to the fact that, under circumstances of apparent English dominance, informants' *nie*-drop and NC judgements are more conservative.

For verb placement and scrambling, however, it seems more likely that we are dealing with *unconscious* linguistic knowledge. The reason is that, firstly, no stigma like that which is associated with NC exists for what is permissible in MsA for verb placement or scrambling. Secondly, in comparison to what we see in the domain of negation (for both *nie*-drop and NC), language users don't seem to be faced with the same kind of overt error correction for verb placement or scrambling. This observation, although based on personal experience, is one which is supported by the experiences of various English-dominant speakers I have communicated with on the subject.

To this end, it is worth noting that research concerned with L2 acquisition – where grammar instruction is often central to the acquisition process – has shown that explicit grammar instruction is beneficial in language users' performance in metalinguistic tasks (see i.a. Scott, 1989; Fotos & Ellis, 1991; Leow, 1996; Macaro & Masterman, 2006). This "advantage" of course pertains to performance that is more in line with the prescriptive rules that underlie a grammar, and not with what is permissible in the spoken variety (which is not generally taught in the language classroom).

Let us extend this observation to the L1: beyond what structural overlap can predict, it may be that the informants' conscious knowledge of the grammatical rules that underlie their various languages is what, in part, predicts these more conservative judgements of *nie*-drop

and NC. This may be particularly true of the language combination under investigation, as both English and Afrikaans have strong prescriptivist traditions, and additionally, because of the fact that there is a strong prescriptively oriented grammar-teaching tradition in South African schools. From a multi-competence perspective, bilinguals will naturally draw on their knowledge of both the L1 and the L2. The prescriptive rules that language users are consciously aware of in *both* languages may therefore play an important role in predicting how they judge structures in their L1.

It appears that under circumstances of apparent L2 dominance, bilinguals may rely on their conscious linguistic knowledge as they are less attuned to *how* their L1 can in fact be used in spoken contexts than Afrikaans L1-dominant bilinguals would be. Overall, bilinguals' MsA judgements therefore prove to be illuminating with respect to the subtleties that underlie L1 users' language-specific multi-competence, and, importantly, how this multi-competence is affected under the influence of an L2.

Section 9.5 considers the role of extralinguistic factors in predicting EotSLotF.

9.5   Predictive variables in lifelong bilingualism

Recall that in Chapter 2, apart from the *linguistic* factors identified in (9.1) above (see §9.2), it was proposed that if we want to fully account for EotSLotF across the lifespan of early bilinguals, the following *extralinguistic* factors also need to be taken into account:

(9.4)   (i)   the sociolinguistic environment;

(ii)   exposure- and use-related variables during the sensitive periods in language acquisition and development; and

(iii)   exposure- and use-related variables in adulthood.

This section considers the role of these factors and specifically addresses sub-questions (ii-c) and (iii-b), concerned with which extralinguistic variables in childhood and adulthood appear to be predictive in determining whether/how variation indicative of EotSLotF is evidenced in bilinguals' acceptability judgements. Recall that the extralinguistic variables under investigation were categorised as falling into one of three broad categories:

(i)   *Language exposure and use in childhood and adolescence*;

(ii)   *Circumstances of a dominance shift to English*; and

(iii)   *Language exposure and use in adulthood*.

The variable *age of onset of L2 dominance* (AoO-D), concerned with the circumstances of a dominance shift to English, was only predictive in relation to the judgements of those who made a dominance shift prior to the age of 13 years or between the ages of 14 and 17 years. It will therefore be discussed in §9.5.1, along with the other variables associated with language exposure and use in childhood and adolescence. The results for the variable probing the informants' *length of time since reduced contact or use* (LTRCU) will be discussed in §9.5.2, followed by those associated with language exposure and use in adulthood in §9.5.3.

9.5.1   Predictive variables in childhood and adolescence

Four extralinguistic variables in childhood and adolescence were initially probed in the present study:

(9.5)   (i)   *Age of onset of bilingualism* (AoO-B);

(ii)   *Languages of learning and teaching in nursery school* (LoLT-N);

(iii)   *Languages of learning and teaching in primary school* (LoLT-P); and

(iv)   *Languages of learning and teaching in secondary school* (LoLT-S).

As noted above, the variable AoO-D was also predictive, but only if the L2-dominance shift occurred during childhood or adolescence; hence, the variable's inclusion in this section. As a reminder of which variables were revealed to be predictive for which properties, consider again the interaction effects summarised in Table 9.4 below.

Variable	Verb Placement	Sentential negation	Pronominal scrambling	DN/NC	Full DP scrambling
AoO-B	ns.	ns.	ns.	ns.	ns.
LoLT-N	ns.	ns.	ns.	ns.	ns.
LoLT-P	<.01	<.01	.03	ns.	ns.
LoLT-S	<.01	<.01	ns.	ns.	ns.
AoO-D	<.01	<.01	ns.	<.01	ns.

Table 9. 4 Predictive variables in language exposure and use in childhood and adolescence

Of these five variables, only LoLT-P, LoLT-S and AoO-D were found to be predictive. Given the overlap that exists for some of the effects, the results from these three predictive variables will be discussed together. The non-significance of the variables LoLT-N and AoO-B will be

discussed in §9.5.1.2. Note also that as the effect evidenced for pronominal scrambling was not replicated across any of the other exposure- or usage-related variables, the robustness of this stand-alone result is therefore seriously undermined, and will therefore not be discussed in the context of the discussion below.

9.5.1.1 The variables LoLT-P, LoLT-S and AoO-D

Recall that in South Africa, the term *LoLT* pertains specifically to the *predominant* language usage patterns of a school, and not whether the language in question is *taught* in school. This is because the South African educational language policy stipulates that at least two national languages are taken at school-level. Where possible, this equates to learners' L1 (if offered by the school) and a "First Additional Language", as well as sometimes a "Second Additional Language" (see Chapter 1, §1.3.3). The L1 Afrikaans-L2 English bilinguals in the present study would therefore have been exposed to both languages in the form of *language subjects,* but not necessarily as their primary LoLT across their other school subjects. Recall also that in South Africa, a school's LoLT can be understood in terms of the three-way distinction between a dual, parallel and single medium school. In a dual medium school, both languages are used in the classroom; in a parallel medium school the two languages are used in separate classes (e.g. an English or Afrikaans stream); and in a single medium school only one language is used throughout as the LoLT.

Although this specific three-way distinction was not probed in the present investigation, what is important to keep in mind is that the LoLT at a school will determine *peer language interaction*. For example, single medium schools, whose LoLT is English will naturally draw more L1 English speaking learners than dual/parallel medium Afrikaans-English schools – making English the primary "language of the playground". This is important because, as noted in Chapter 2 (§2.5.1.2), when children enter the schooling system, their peers act as an important source of *societal input* (Jia & Fuse, 2007; see also Labov, 1964 and also the further references given below). The observation is that through peer interaction at school, children first acquire the knowledge of different registers, as well as the ability to distinguish between the contextual appropriateness of the use of these registers.

In this regard, recall that the variables LoLT-P ($n = 10$ E-group participants) and LoLT-S ($n = 20$ E-group participants) were both predictive, albeit marginally, in determining bilinguals' judgements of *nie*-drop in Afrikaans. It was proposed that if the lingua franca of the school is English, this very likely results in a reduction of the Afrikaans peer interaction that

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would potentially signal *how* L1 speakers in fact use their L1. This would mean that the majority of Afrikaans input at school (in the Afrikaans language classroom) is that which enforces the prescriptive grammatical rules.

In a similar vein, it is therefore also noteworthy that the judgements of bilinguals with an AoO of L2 dominance of <17 years showed divergence in response to *nie*-drop (AoO ≤13; *n* = 13), verb placement in MsA (AoO 14-17 years; *n* = 10) and NC interpretations (AoO of 14-17 years, and to a lesser degree those with an AoO of ≤13years). All of these properties are only permissible in MsA. It was again proposed that because of a reduction in colloquial L1 input during this period, these bilinguals are potentially less sensitive to the variation that exists in their L1 (although, cf. Flores & Rinke, 2020 with respect to the fact that HSs in typical HS contexts often exhibit variation typical of colloquial varieties).

As noted above, the fact that the adolescent years appear to be predictive lends support to previous studies which have found that adolescence is a key period in the acquisition of sociolinguistic variation (Labov, 1964, 1965; Wolfram, 1969; Fasold, 1972; Cheshire, 1982; Eckert, 1989; Eckert, 1997; Rhys, 2007; Farrington, Renn & Kohn, 2017; de Vogelaer & Toye, 2017). Importantly, however, recall that although very young children show sensitivity to variation in the grammar (Ervin-Tripp, 1973; Roberts, 1994), it appears that adolescence is a key period in the development of sociolinguistic *awareness* (Chapter 2, §2.3.3).

Recall de Vogelaer & Toye's (2017) study concerned with the attitudes of eight to 18-year-olds towards different dialects in Dutch. The results revealed that while 8-10-year-olds distinguish between different varieties of Dutch, they do not attribute social significance to them. The 11-12-year-olds begin to recognise that certain varieties are associated with social prestige, with this sociolinguistic awareness developing even further in the 13-14-year-olds. The 13-14-year-olds are said to be sensitive to the covert prestige of the local varieties when compared to Standard Dutch. The 17-18-year-olds perform fairly comparably to the 13-14-year-olds but were found to be less favourable in their assessment of the vernacular varieties. What these results reveal is that adolescence indeed seems to be a turning point in the development of sociolinguistic awareness. This may explain why, in the present study, a dominance shift prior to or during adolescence results in divergent judgement patterns for the MsA structures.

Let us now shift from considerations of sociolinguistic awareness to those related to metalinguistic awareness. In doing so, we will move away from the MsA judgement patterns and consider the results for the variables probing language exposure and use in childhood and

adolescence in relation to DN interpretations and *ungrammatical* verb placement. Recall that for DN interpretations (the prescriptively sanctioned option in Afrikaans), the variable AoO-D was revealed to be predictive (divergence is evident in the judgements of those with an AoO ≤13, and to a lesser degree those with an AoO of 14-17 years). Recall also that the variables LoLT-P and LoLT-S were predictive for *ungrammatical* verb placement. To make sense of these judgement patterns, recall that the sensitive period for the development of metalinguistic awareness is thought to continue well into adolescence, and additionally that metalinguistic ability correlates with schooling (Benelli et al., 2006; Janko, 2019; see §2.3.4 of Chapter 2). It was therefore proposed that an increase in L2 exposure at school, or during the period when metalinguistic skills are developing, may interfere with bilinguals' L1 metalinguistic awareness. This may, in turn, affect these bilinguals' ability to assess the status of these structures. To shed further light on why this is the case, recall Montrul & Polinsky's (2019: p.423) observation that school plays an important role in the development and mastery of linguistic skills towards the close of the sensitive periods. The observation (Chapter 2, §2.5.1.2), repeated here, is that, once a grammatical property is acquired, command of the associated linguistic knowledge develops through the process of use, which is further reinforced by literacy skills acquired and practised at school. Without this practice and reinforcement, bilinguals may find it difficult to assess the status of structures in their L1 which are either linguistically complex (DN) or ungrammatical (V3/S.aux.V.O structures).

The fact that the childhood and adolescent years appear to play a role in shaping bilinguals' judgements of structures in their L1 corresponds with predictions of how reduced L1 input during this period affects L1 development in typical HL contexts. Studies concerned with HL development have concluded that a reduction in L1 input during childhood and adolescence – typically the result of being in the L2 environment – results in language users whose L1 judgement or production patterns exhibit divergence when compared with those whose L1 input was not reduced during this period (see i.a. Montrul, 2002, 2006, 2008, 2010; Polinsky, 2006, 2008; Pires & Rothman, 2009; Polinsky, 2018).

The results also align with the findings of studies concerned with L1 attrition. In L1 attrition, the conclusion has been that an earlier AoO of L2 dominance results in an L1 grammar that is more divergent when compared to that of bilinguals with a later AoO of L2 dominance (see i.a. Bylund, 2009; Pallier, 2007; Flores, 2010; Schmid, 2013). To this end, recall that of the 156 bilinguals in the experimental group, 123 participants stipulate that they have shifted to English dominance. Of these 123, only 23 made a dominance shift to English prior to the

close of the sensitive period for morphosyntax. Thus, in the population under investigation, although the majority of informants are "L2 shifters", most bilinguals who shift to English dominance appear to only do so in adulthood (see Chapter 4, §4.4.3.2). This fact may therefore, in part, account for the remarkable L1 stability evidenced in the population under investigation. Furthermore, the fact that the variables LoLT-P and LoLT-S were found to be predictive in the South African context, even marginally, is consistent with Bylund's (2014) findings in the lexical domain. Recall that Bylund (2014) investigated the effect of different types of language use on the occurrence of English loanwords in L1 isiXhosa-L2 English bilinguals residing in Cape Town, South Africa. The findings revealed that schooling in isiXhosa resulted in less English loanword usage.

As the above discussion has illustrated, during the childhood and adolescent years, there are, depending on the property in question, numerous factors which potentially need to be considered when predicting EotSLotF. It is precisely for this reason that this period appears to be of such importance.

To conclude, recall Schmid & Köpke's (2017b) observation that because studies concerned with HL development are generally concerned with *child* L2 acquirers (AoO <6 years), and most studies concerned with L1 attrition are concerned with *adult* L2 acquirers (AoO >15 years), there is a "blindspot" between the two fields (Chapter 2, §2.2.5). In the present study, where variation based on AoO of L2 dominance was evidenced, it was the bilinguals with an AoO of L2 dominance between the ages of seven (the lowest age threshold) and 17 years whose judgement patterns were divergent. It is acknowledged that many of the group sizes where these effects are evidenced are small, reducing the robustness of the individual results. Taken together, these results do, however, suggest that this "blindspot" (i.e. the later years in the sensitive period for the acquisition of morphosyntax) indeed warrants attention, particularly with respect to spoken variation in the L1.

9.5.1.2 The variables LoLT-N and AoO-B

The lack of predictive power evidenced for the variable LoLT-N will now be discussed. Recall that based largely on what has been established in the acquisition of Dutch as an L1, as well as the limited data available on the L1 acquisition of Afrikaans (Cable, 2005; White et al., 2022), the nursery schooling years (approximately age three to six) are thought to coincide with the sensitive period for the acquisition and mastery of verb placement, sentential negation and

pronominal scrambling. As a consequence, this variable's lack of significance in the context of the present study is perhaps surprising.

However, Cattani et al. (2014) find that typically developing bilinguals between the ages of two and six years of age, who hear their L1 60% of the time (or more) perform equivalently to their monolingual peers. Although the focus of Cattani et al.'s (2014) study was vocabulary, the results suggest that as long as bilingual children's ratio of L1-L2 input remains at a minimum of 60% and 40% for their L1 and L2 respectively, their L1 appears not to reveal divergence in the form of EotSLotF. While this result presumably depends heavily on the specific property under investigation, the finding does highlight the importance of considering L1/L2 exposure in quantitative terms.

It may therefore be that during this period, quantitative exposure needs to be strictly controlled for. To understand why the variable LoLT-N was not found to be predictive, it is important to note that nursery school is *not* compulsory in South Africa and therefore the hours spent at nursery school are family- and school-specific. In comparison to primary and secondary school age children (whose school hours are standardised by law), the average number of hours South African children spend at nursery school per week therefore exhibits a lot of between-child variation. Thus, it may be that the variable LoLT-N *alone* is too broadly defined to probe the effect that language exposure and use at nursery school has on the L1 grammar in the South African context. Rather, it is likely that a multivariate design, which takes into consideration *both* the LoLT at nursery school *and* the number of hours spent at nursery school may be better suited to probe this specific extralinguistic variable's predictive power.

Turning now to the variable AoO-B, which, although not predictive in the present study, has repeatedly been shown to be a strong predictive variable in other studies concerned with bilingualism (see Tsimpli, 2014) and EotSLoF (see Bylund, Hyltenstam & Abrahamsson, 2020 for an overview). In studies of L1 attrition where AoO-B has been found to be a very strong predictive variable, the crucial distinction in ultimate attainment typically rests on the distinction between whether the AoO-B is broadly categorised as occurring either before or after the onset of puberty. Recall that this pre- versus post-pubescent distinction is based on Lenneberg's (1976) CPH, which postulates puberty as the start of the close of the sensitive period for language acquisition (Chapter 2, §2.2.2). However, as already noted, the age of offset for the sensitive period for morphosyntax has more recently been suggested to be later than the period previously thought, with a gradual offset around age 17 (Hartshorne et al., 2018). Nonetheless, with the exception of one participant (AoO of bilingualism = age 16), all

participants stipulated that they acquired English prior to the age of 13, and thus prior to the close of the sensitive period for morphosyntax, according to both Bylund et al. and Hartshorne et al.'s definitions. The present study is therefore unable to probe this pre- versus post-sensitive period distinction.

In terms of the variables' lack of predictive power, it is important to note that in L1 attrition, AoO of bilingualism typically correlates with the age at which L1 input and use is reduced. In multilingual contexts, however, the picture looks different. Recall that Puig-Mayenco et al. (2018) note that the situation in Catalan allows for the possibility of either Spanish or Catalan dominance, and that the environment supports successful bilingualism. As already pointed out in §9.2 above, the same is true of the South African context, as with multilingual contexts the world over. In such contexts L2 acquisition does not necessarily equate to the kind of reduction of L1 input and use that one sees in emigrant contexts.

To this end, although most participants in the present study only shifted to English dominance in adulthood, as their AoO of bilingualism is prior to the close of the sensitive period for morphosyntax, they are argued to be better suited to the "HS label" (Chapter 2, §2.2.5). Thus, in the present study, the variable AoO-B can only inform on the distinction between how EotSLotF are evidenced in relation to 2L1 bilinguals, early child sequential bilinguals and late child sequential bilinguals. Recall Herschensohn's (2009: p.267) observation that the acquisition of subsequent languages, even during early childhood, occurs once the brain has been altered from the birth state (Chapter 2, §2.2.2). It was therefore proposed that the L1 grammar of 2L1 bilinguals *may* differ from that of either early or late child sequential bilinguals. The proposal is based on the fact that the former's L1 linguistic system is developing in conjunction with another linguistic system from birth. In terms of whether this prediction has been reflected in the literature, recall that studies on child bilingualism have not yielded consistent results (Gagarina & Klassert, 2018; Chapter 2, §2.5.1.1). With regard to the present cohort of bilinguals, who acquired their two languages either simultaneously or sequentially in childhood, the L1 grammar of the 2L1 bilinguals did not, however, differ from that of either the early or late child sequential bilinguals. The variable AoO of bilingualism was therefore not revealed to be predictive.

The fact that in the present study the variables AoO-D and AoO-B yield different results is important. The reason, as pointed out above, is that in studies concerned with L1 attrition, *AoO of bilingualism* and *AoO of an L2-dominance shift* are often conflated. In a population such as the present one, bilingualism does not, however, equate to an L2-dominance shift as it often does in other bilingual populations where EotSLotF are typically studied (e.g. immigrant

communities). The results obtained here are not readily generalisable due to the (naturally occurring) small group sizes. However, the fact that the variable AoO-B was *not* revealed to be predictive, but that the variable AoO-D was, does suggest a need to disentangle the two concepts.

9.5.2   The variable LTRCU

The variable LTRCU resulted in differences of statistical significance for participants' judgements of the *verb early MsA* structures, as well as structures in which the bare pronoun had remained unscrambled in an ungrammatical position. These effects are presented again in Table 9.5 below.

Variable	Verb Placement	Sentential negation	Pronominal scrambling	DN/NC	Full DP scrambling
LTRCU	<.01	ns.	<.01	ns.	ns.

Table 9. 5 The predictive domains of the variable LTRCU

As noted in Chapter 2 (§2.5.2.1), the gradual and linear decline of L1 knowledge/proficiency that is often assumed in L1 attrition has not been borne out. While the same is potentially true of the present study, as with studies which have considered LTRCU (or specifically, length of residence), the effects appear to be rather elusive. Let us consider again the patterns that emerged for the variable LTRCU.

Recall that for both verb placement and pronominal scrambling, divergence was evidenced in the first 10 years following a dominance shift to English. The MsA verb placement results revealed that, when compared to the ref-group participants' judgements, bilinguals with a LTRCU of <10 years ($n = 21$) were more divergent than those with a LTRCU of between 10-19 years ($n = 55$). However, after more than 20 years of English dominance, a linear change was evidenced in the variation. The result here is that those who had been English-dominant for more than 30 years ($n = 16$) were the most divergent in their assessment of the verb placement structures in MsA.

The pattern for bare pronominal scrambling is, however, different. Here there was not a linear change over time following the 10-19-year period, but rather a levelling in the judgement patterns of bilinguals who have been English-dominant for over 30 years. This group's judgements were most comparable to the judgement of the ref- and NS-group participants.

These patterns are intriguing, and potentially correlate with the observation that attrition effects have been found to be the most marked in the first decade (see Schmid, 2019; Chapter 2, §2.6.2.1). However, as already noted, the justification for why this might occur doesn't necessarily align with the present study. Let us consider again why. Recall that inhibition, which is required to prevent interference from one language when the other is selected (Köpke, 2004), is thought to negatively impact bilinguals' L1 syntactic processing (see Chapter 2, §2.4.1). As a result, inhibition is proposed to underlie these divergent patterns, (Köpke, 2007). While this seems credible in the first year or two following an L2-dominance shift (see Scherag et al., 2004), it seems highly unlikely that this inhibition would continue for a decade. Furthermore, even if inhibition did persist for as long as 10 years, as evidenced in Scherag et al.'s (2004) study, one might then expect similar processing issues to be evidenced in the judgements of those who have been L2-dominant the longest, in this case, attributable to a lack of L1 activation. Although this does seem to be the case for participants' verb placement results, the fact that the same pattern is not evidenced for pronominal scrambling results casts doubt on the hypothesis that inhibition may in fact be at play for this group of bilinguals. This is particularly so because the effect was less marked for the MsA verb placement pattern, a fact which undermines the result's robustness.

Lastly, if we completely take processing considerations out of the equation, recall the proposal based on the hypothetical "desert island" analogy (see Chapter 2, §2.2.3) posed in Chapter 6 (§6.7.4) whereby the L1 changes as a result of lack of L1 exposure. For the MsA verb placement results, because variation was evidenced across three groups where participants could all be considered more English-dominant, it was argued that their exposure to Afrikaans was likely to be far less, and that therefore their exposure to the variation that exists in Afrikaans would also be substantially reduced. The outcome is that these bilinguals may therefore be less sensitive to the variation that is possible for verb placement in Afrikaans. Importantly, this proposal could apply to all instances where these effects are evidenced for verb placement in MsA. This is particularly the case for those participants with a LTRCU of ≥30 years. Therefore, at least for verb placement, a diminished sensitivity to the variation that exists in the L1 as a result of a reduction in L1 exposure may be a more likely explanation.

We can of course not be sure as to whether these findings do in fact support the view that EotSLotF may be more marked in the first decade as a result of increased levels of inhibition, or whether they are the result of complex interactions with other extralinguistic variables. We can, however, be certain that the role played by LTRCU is not a straightforward

one. This in itself, although an inconclusive result, aligns with what previous studies concerned with L1 attrition have found. In Schmid's (2019) review of 41 studies where length of residence (LOR) was probed as a predictive variable, in 29 cases the impact of LOR was not significant (Chapter 2, §2.5.2.1). In the 12 cases where LOR was predictive, the results were mixed, and even negative correlations were revealed, i.e. the "attriters" outperformed the monolinguals in pronunciation (de Leeuw, 2008).

Recall Köpke & Schmid's (2004) observation regarding the suggestion that LOR will only have an effect in cases where there is little or no contact with the L1 (Chapter 2, §2.5.2.1). As was noted for the variable SA-EX above (§9.2.1), and as pointed out by Schmid (2019), this variable may be particularly difficult to probe given how accessible technology makes communication, regardless of geographical location. Thus, with regard to the variable LTRCU (or LOR), Schmid (2019: p.297) notes that "these and other factors exist in a complex web of interdependencies, and how they may combine to either amplify each other or cancel each other out remains to be determined". The variable LTRCU may therefore be predictive under certain circumstances, for specific properties and in relation to particular population groups. At present, however, we do not have the answers to what these various conditions may be. When considered in isolation, however, the variable LTRCU seems to have little predictive power that is generalisable in any shape or form.

9.5.3 Predictive variables in adulthood

The following extralinguistic variables in adulthood were initially probed in the present study:

(9.6) (i) *Linguistic environment* (SA-EX)

(ii) *Frequency with which Afrikaans is spoken* (FREQ)

(iii) *Interactive language use*

a. *Language(s) spoken with partner* (PART)

b. *Language(s) spoken to friends* (FRIENDS)

c. *Language(s) spoken with siblings* (SIBL)

d. *language use for professional purposes* (WORK)

(iv) *Internal language use* (INT)

(v) *Receptive language use*

a. *Exposure to written Afrikaans* (WRIT)

b. *Exposure to Afrikaans TV or RADIO* (TV-RAD)

Recall, however, that any variable with a language-use-based group size (e.g. "only English"; "only Afrikaans"; "both languages") smaller than the reference group ($n = 10$) was excluded (see Chapter 4, §4.4.3). As a consequence, the following variables had to be excluded on this basis:

(9.7)   (i)   *Language use for professional purposes* (WORK);

        (ii)   *Language use with partner* (PART); and

       (iii)   *Language use with friends* (FRIENDS).

As a reminder of which variables interacted with which properties, a summary is provided in Table 9.6 below.

Variable	Verb Placement	Sentential negation	Pronominal scrambling	DN/NC	Full DP scrambling
SA-EX	ns.	ns.[71]	ns.	ns.	ns.
FREQ	<.01	ns.	ns.	ns.	ns.
SIBL	<.01	<.01	ns.	<.01	ns.
INT	<.01	ns.	ns.	.03	ns.
WRIT	<.01	ns.	ns.	ns.	ns.
TV-RAD	ns.	ns.	ns.	ns.	ns.

Table 9. 6 Predictive variables in language exposure and use in adulthood

Of the exposure- and usage-related variables probed in adulthood, passive exposure to television or radio broadcasting (TV-RAD) was revealed to be non-significant (see Schmid & Dusseldorp, 2010 for similar results; cf. Bylund, 2014 for the marginal effects of these variables). As with Bylund's (2014) study, the variable probing written exposure to Afrikaans (WRIT) was only revealed to be marginally predictive. Additionally, this was only the case for *ungrammatical* verb placement, whereby variation indicative of EotSLotF was evidenced in the form of more accommodating judgements. The fact that these two variables prove to be either non-significant, or only marginally predictive, further supports the conclusion that passive L1 exposure is not a key factor in shaping the L1 grammar under the influence of an L2.

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[71] Recall that although the effects evidenced were *statistically* significant, the marginal difference was revealed to be insignificant.

The variable probing frequency of use (FREQ) was also only found to be predictive in bilinguals' judgements of *ungrammatical* verb placement, but again with only minimal effects. Recall, however, that because the ref-group participants' judgements of verb placement in MsA, DN and NC interpretations were always the most different when compared to the other participant groups (even the NS-group participants), it was proposed that higher *overall* levels of L1 use may underlie these judgement patterns. The reason is that these bilinguals may be the most attuned to how the L1 can in fact be used. They may additionally also be the group that suffers the least from L1 processing issues. However, this proposal would appear to be undermined by the fact that the variable FREQ was not predictive for these properties (although approaching significance at .08 for DN and NC). At the very most, what these patterns may suggest is that, although frequency of L1 use may play *some* role, the effect is indeed marginal. This has also been the conclusion reached by studies that have probed the role of frequency of use alone in determining L1 attrition (Schmid, 2007). This variable's lack of predictive power is accounted for by the proposal that there is a saturation level of entrenchment that is achieved in pre-pubescent L1 speakers, which remains unaffected by use in adulthood (see Hernandez et al., 2005; Schmid, 2007; MacWhinney, 2011).

As the null result pertaining to the variable SA-EX has already been discussed in §9.3.1, it will not be discussed here again. Based on this variable's lack of predictive power, the conclusion, however, is that the L1 does not simply change as a result of a *lack of L1 exposure*. Rather, it appears that shifting L1/L2 exposure and usage patterns, which appear to correlate with language dominance, underlie variation indicative of EotSLotF.

It is, however, at this point that in studies comparing bilinguals with bilinguals (and not bilinguals with monolinguals), a methodological concern arises, namely the identification of language dominance. It is assumed that self-reported proficiency data alone is not a particularly reliable source to base an assessment of dominance on (Schmid, 2004). Thus, in studies such as the present one, and in studies concerned with EotSLotF in multilingual contexts more generally, novel insights that allow for predictions of L1/L2 dominance are required.

To this end, recall that the use of English (and in some cases, both languages) with siblings (SIBL) as well as the use of English as an internal language (INT) were both predictive in determining variation in bilinguals' judgments. The variable SIBL was predictive for *ungrammatical* verb placement, *nie*-drop and DN interpretations, and the variable INT was predictive for verb placement in MsA and DN interpretations (and recall too, to a lesser degree, potentially also their NC interpretations). In both cases the E-group participants' acceptability

judgements were divergent when compared to the ref-group participants and the more Afrikaans-dominant participants.

It is important to keep in mind that the group size where the effect was evidenced for the variable SIBL (E-group: $n = 13$) is smaller, and therefore less robust than that of the variable INT (E-groups: $n = 38$). Both results are, however, important to take into consideration. The reason, recall, is that internal language usage (Pavlenko, 2005, Dewaele, 2006, 2015) and language use with siblings (Dunn, 2002) are both thought to be affective in nature. It was therefore proposed that these two variables may correlate with language dominance (see Chapter 2, §2.5.2.2). The divergence evidenced in these two E-group participants' acceptability judgements, although not equally robust due to their differing sizes, also seems to support this hypothesis.

With regard to the variable SIBL, this proposal is further supported by the LBQ data. As noted in Chapter 4, §4.4.3.3, only two participants in the SIBL E-group indicated that they speak Afrikaans daily, while the others all speak Afrikaans either weekly ($n = 4$), or rarely ($n = 7$). Furthermore, it is worth noting again that the present study's results, which reveal a correlation between L2 use with siblings and more favourable V3 judgements in the acceptability judgement task, align with Schmid's (2002) finding in relation to language use with siblings. That is, in Schmid's (2002) study, the group with the highest degree of L1 attrition, reflected in part by an increase in V3 errors in production, reported the lowest amount of L1 use with their siblings (see Chapter 6, §6.7.3.2). It was therefore noted that bilinguals who use their L2 with their siblings appear more susceptible to V3 errors in production (Schmid, 2002) and more accepting of V3 in judgement tasks (the present study).

If these effects are replicated in future studies, particularly with larger participant numbers, these two extralinguistic variables may make for a novel, yet potentially reliable, way of identifying language dominance in bilinguals in multilingual contexts. This, in turn, may allow for the field to move beyond the monolingual-bilingual comparison, in an effort to compare bilinguals with varying degrees of L1/L2 dominance.

The following section summarises the results and discusses the overall picture that emerges from this initial probe into the (in)stability of L1 Afrikaans under the influence of L2 English.

9.6   The emerging picture

As the above discussion has shown, and as made explicit in §9.2 (see Figure 9.1), of the 123 bilinguals who maintain to have made an L2-dominance shift to English, only the L1 judgements of a select number of bilinguals exhibit variation indicative of EotSLotF – that is, those bilinguals whose language exposure and usage patterns potentially suggest that they are the most L2-dominant of the cohort (see §9.5 above for discussion). Overall then, the results suggest that variation indicative of EotSLotF is minimal in the population under investigation.

Let us now summarise what this variation, where evidenced, in fact looks like. Starting with the results for structures which are prescriptively sanctioned in StdA (Table 9.7), the overall picture of (in)stability and variation indicative of EotSLotF is presented below.

Early acquired properties of the narrow syntax/internal interfaces	Late acquired properties at the syntax-discourse interface	Property/structure	Result
✓		**Verb placement:** V2/SOV	no variation, all judgements at ceiling
✓		**Sentential negation**: *nie…nie*	no variation, all judgements at ceiling
✓		**Pronominal scrambling**: $_{BP}$O-ADV-V	no variation, all judgements at ceiling
	✓	**DN**	variation, with the magnitude of the effect increasing under apparent L2-dominance
	✓	**Full DP scrambling**	across-the-board instability in non-anaphoric contexts

Table 9. 7 Summary of results for prescriptively sanctioned structures

The above table depicts the already discussed asymmetry of (in)stability that is evidenced in the present study between early acquired properties of the narrow syntax/internal interfaces and late acquired properties that interface with discourse-related considerations – the former exhibit less instability than the latter (see §9.3.2.1 above for a detailed discussion). What is important to note again, however, is that *all* the informants' judgements of the two late acquired properties at the syntax-discourse interface exhibit optionality, with the magnitude of the effect increasing under circumstances of apparent L2-dominance for DN only. In other words, although full-DP scrambling exhibits an across-the-board instability, of the five property-specific structural classes above, only DN exhibits *variation indicative of EotSLotF*.

Overall, then, for structures which are prescriptively sanctioned in Afrikaans, variation indicative of EotSLotF is extremely localised. Crucially, the variation affects an area of the L1 grammar which, although it overlaps structurally with the L2, is linguistically complex and therefore carries a heavier processing burden.

Finally, let us now consider the results summarised in Table 9.8, which pertain to structures which are either ungrammatical or only permissible in MsA.

Property	Structure	Result
Verb placement		
	Ungrammatical V3	variation indicative of EotSLotF
	Verb placement in MsA	variation indicative of EotSLotF
Sentential negation		
	nie-drop in MsA	variation indicative of EotSLotF
Pronominal scrambling		
	ungrammatical ADV-$_{BP}$O-ADV	possible variation indicative of EotSLotF
	vir-marked ADV-$_{OM}$O-ADV	no variation
	vir-marked $_{OM}$O-ADV-V	no variation
DN/NC		
	NC interpretations in MsA	variation indicative of EotSLotF

Table 9. 8 Summary of results for ungrammatical and MsA structures

As the results of the present investigation have shown, and as summarised in the above table, variation indicative of EotSLotF is, perhaps unsurprisingly, more prevalent in the judgements of structures which are either ungrammatical in Afrikaans, or only permissible in MsA, than it is in structures which are prescriptively sanctioned in StdA (see Polinsky, 2018 for discussion on similar patterns in HS judgements). However, with respect to what is permissible in the domain of pronominal scrambling in MsA (i.e. an unscrambled *vir*-marked pronoun; ADV-$_{OM}$O-V), the fact that no variation indicative of EotSLotF is evidenced underscores the importance of considering EotSLotF and L2-induced variation on a language-by-language basis. Furthermore, in the population under investigation, the results indicate that variation indicative of EotSLotF does not always result in a higher tolerance of variation in language, i.e. we are not always dealing with a *yes*-bias. Rather, in some cases, the seemingly more L2-dominant bilinguals are in fact more conservative in their assessment of structures which are only permissible in MsA – a fact which is possibly accounted for by the sociolinguistic factors at play (see §9.4).

Overall, however, it does appear that the informants' judgements of ungrammatical and "non-standard" structures, in contrast to structures which are prescriptively sanctioned in Afrikaans, are those that are the most likely to be subject to variation under the influence of L2

English. Possible reasons for this have already been extensively explored and will therefore not be discussed again. However, with respect to the MsA structures specifically, what is important to note again is that variation indicative of EotSLotF therefore appears to primarily affect an area of the L1 grammar not always considered in studies concerned with EotSLotF, *variation that is specific to the spoken language*. Crucially, this variation, by its nature, is subject to more between-speaker variability, a factor which may well contribute to the more L2-dominant bilinguals' uncertainty when assessing the status of these structures in their L1.

The picture that emerges then, is that:

(i)   variation indicative of EotSLotF seems to affect the L1 grammar of only those bilinguals who appear to be the *most* L2-dominant, bilinguals who are in the minority in the population under investigation (see Figure 9.1, §9.2);

(ii)   the properties broadly exhibit an early-late/internal-external asymmetry of (in)stability/optionality; and

(ii)   variation indicative of EotSLotF appears to more readily affect properties and structures which are already subject to more between-speaker variability (e.g. linguistically complex DN interpretations and MsA structures).

Furthermore, where variation indicative of EotSLotF is evidenced, the variation is, in some instances, similar to that evidenced in traditional HS populations. That is:

(i)   the more L2-dominant bilinguals in the present study have a greater tolerance for (some of the) ungrammatical structures in the AJT than the ref-group participants or those who have not made a dominance shift to English. This recalls Polinsky's (2018) *yes*-bias;

(ii)   the more L2-dominant bilinguals appear to expand upon the language-internal tendencies present in their L1, e.g. the MsA verb placement phenomena of Afrikaans (see Flores & Rinke, 2020).

Finally, the results also suggest that language-specific sociolinguistic factors appear to play a non-trivial role in how bilinguals judge structures in their L1, e.g. consider the reinforcement of the sentential double-*nie* requirement in Afrikaans.

The results therefore suggest that, although early-late and interface internal/external considerations make for a useful framework of predicting optionality in the L1 grammar; predictions of L1 (in)stability in non-standard varieties under the influence of an L2 require a more nuanced approach. That is, L1-internal tendencies as well as sociolinguistic factors appear to be of central relevance in predicting variation indicative of EotSLotF in structures

which, although not prescriptively sanctioned, are permissible in the L1 of populations that resemble the Afrikaans-English type.

9.7   Chapter summary

This chapter summarised the main findings presented in Chapters 6 through 8. The research questions were answered, and implications for the IH were discussed. Lesser-considered factors in relation to predictions of L1 (in)stability under the influence of an L2 were also discussed, as were the results pertaining to the predictive power of the various extralinguistic variables probed in the present study. Overall, the results indicate that in the population under investigation, variation indicative of EotSLotF is minimal. The minimal variation that is evidenced appears to correlate with L2 dominance, regardless of whether bilinguals are in the L1 or L2 environment. The variation is proposed to be, in part, the result of sub-optimal L1 processing skills, which in turn appears to result in a heightened sense of uncertainty when judging the status of structures in their L1. In spite of the remarkable stability that Afrikaans exhibits under the influence of L2 English, the Afrikaans properties at the external interfaces exhibit more optionality than those of the narrow syntax/internal interfaces. Furthermore, the MsA judgement patterns suggest that areas of the L1 grammar which are already subject to variability appear particularly vulnerable to further variation indicative of EotSLotF. To this end, the results suggest that in order to fully understand how the L1 changes under the influence of an L2, both language-internal and external factors need to be taken into account. In other words, we cannot simply turn to the grammatical make-up of the L2 to determine how the L1 is likely to change under the influence of a second language. The consequence of this is that there is not necessarily a one-size-fits-all approach to predictions of L1 (in)stability under the influence of an L2. Rather, it is important to acknowledge that a language-specific approach, which takes both linguistic and sociolinguistic factors into account, is required to understand the factors at play in shaping the L1 under the influence of an L2.

Chapter 10

Conclusion

10.1   Overview of the study

The exploratory study reported on in this dissertation investigated EotSLotF in L1 Afrikaans-L2 English bilinguals. In order to probe variables in lifelong bilingualism in a country where this is very common, this study combined insights from the fields of *heritage language development* and *first language attrition*. These two artificially separated fields are generally concerned with child and adult bilinguals respectively. As a consequence, the extralinguistic variables investigated are generally representative of one of these periods of bilingualism, and not *both*. The present study departs from this approach.

Three primary research questions and associated sub-questions were posed in relation to five properties across three syntactic domains. The syntactic properties differ with respect to their:

(i)   sensitive periods;

(ii)   their relationship to the interfaces; and

(iii)   their degree of L1-L2 structural overlap.

The study examined the acceptability judgements of ten reference-group participants and 156 experimental-group participants in South Africa ($n = 70$) and the diaspora ($n = 86$). The data were elicited through the administration of a language background questionnaire, an acceptability judgement task, and a contextualised acceptability judgement task.

This exploratory study is novel in that it:

(i)   considers EotSLotF in a language where the L1 environment is a multilingual context;

(ii)   compares bilinguals with differing amounts of L1-L2 exposure and usage patterns, rather than bilinguals with monolinguals;

(iii)   includes bilinguals in both the L1 and L2 environment;

(iv)   investigates variables typical of both L1 attrition and HL development; and

(v)   focuses on what is prescriptively sanctioned in Afrikaans as well as what is permissible in (not specifically dialectal) spoken Afrikaans.

To my knowledge, this study is the first to investigate EotSLotF in Afrikaans-English bilinguals.

The study was inspired by gaps in the L1 attrition and HL development literature pertaining to how/whether EotSLotF manifest in languages where the L1 environment is a multilingual context. Studies concerned with EotSLotF typically centre on emigrant or immigrant communities, and therefore investigate how the L1 changes in the L2 environment. However, as multilingualism, and not monolingualism, is the norm in most parts of the world (Butler, 2013), studying EotSLotF in an L1 environment which is simultaneously also a multilingual environment is an important and necessary lacuna to fill.

Studying EotSLotF in multilingual societies brings to the fore the problematisation of the monolingual grammar as the yardstick of success. The study therefore adopted a *multi-competence* approach to bilingualism, and further extended the multi-competence view of language competence to the knowledge that language users have of different varieties that exist within their languages. The present study was therefore concerned with the informants' knowledge of what is prescriptively sanctioned in Afrikaans (StdA), as well as what is permissible in Modern Spoken Afrikaans (MsA). This is a novel approach, as spoken variation is often not taken into account in studies concerned with EotSLotF. To this end, it was considered whether/how EotSLotF manifest in both StdA and MsA under the influence of L2 English.

Based on the results presented and discussed in Chapters 6 through 9, the findings will be drawn together in this concluding chapter. The implications of the findings and the contribution of the study will be discussed in §10.2. Section 10.3 discusses the study's limitations and directions for future research on this topic. The dissertation concludes with final remarks in §10.4.

10.2 Implications of the findings

This study has shown that, as with other studies concerned with EotSLotF, the L1 grammar is remarkably stable under the influence of an L2. Although the overall picture is one of stability, the L1 was not found to be entirely invulnerable to EotSLotF, however. Let us consider the key linguistic factors taken into account – namely, sensitive period considerations in language acquisition, interface status, L1-L2 structural overlap and sociolinguistic variation in the L1 grammar – and what the results suggest about the role of these linguistic factors in predicting variation indicative of EotSLotF.

10.2.1 Linguistic factors and EotSLotF

The first two factors, sensitive period considerations in language acquisition (Tsimpli, 2014) and interface status (see Chamorro & Sorace, 2019 for an overview), appear to play a non-trivial role in predicting variation and (in)stability in the L1. As predicted by the IH, the properties of the narrow syntax and internal interfaces (i.e. properties at the syntax-semantics interface), which are early acquired (or in the case of pronominal scrambling, thought to be early acquired) – namely, verb placement, basic sentential negation and pronominal scrambling – exhibited more stability than the properties of the external interfaces (i.e. properties at the syntax-discourse interface), which are generally late acquired – namely, Double Negation (DN) and full DP scrambling. It is important to note again, however, that only DN interpretations appear to be subject to *variation indicative of EotSLotF*, as the full DP scrambling results are suggestive of an across-the-board instability. Therefore, with respect to what is prescriptively sanctioned in Afrikaans, and as already noted in Chapter 9 (§9.6), evidence of variation indicative of EotSLotF in the L1 grammar is extremely localised in the population under investigation.

Let us now turn to the third linguistic factor under consideration, structural overlap. In the present study, a complete structural overlap was not revealed to play a protective role with respect to DN, a property at the syntax-discourse interface (Sorace & Serratrice, 2009). Where the L1 and L2 exhibit a partial structural overlap (DN/Negative Concord (NC) interpretations), the results indicate that *crosslinguistic overcorrection* (CLO; Kupisch, 2014) is evidenced with respect to what is allowed in MsA, but not in the SAE – i.e., in relation to participants' judgements of NC in Afrikaans.

The final linguistic factor taken into consideration was variation in spoken language. This factor proved to be particularly illuminating, as the results suggest that structures typical of spoken Afrikaans may be more vulnerable to variation indictive of EotSLotF than their prescriptively sanctioned counterparts. To this end, and with respect to what is permissible in MsA, the results suggest that often EotSLotF can be *very* indirect. That is, an increase in L2 exposure and use may trigger L1-internal changes whereby L2-dominant bilinguals boost a pattern already present in their L1 (see Flores & Rinke, 2020).

The MsA results were also insightful with respect to the role played by sociolinguistic factors in predicting variation indicative of EotSLotF. Let us now consider these insights along with the other extralinguistic factors at play.

10.2.2 Extralinguistic factors and EotSLotF

The final linguistic factor discussed above, variation in spoken language, additionally highlighted the importance of taking sociolinguistic considerations into account. The results suggest that sociolinguistic factors (e.g. the reinforcement of the sentential double-*nie* requirement in StdA) appear to play a non-trivial role in how bilinguals judge structures in their L1. It was therefore proposed that L2-induced factors cannot be considered in isolation. Rather, variation in spoken language as well as sociolinguistic factors – neither of which are typically considered in studies concerned with EotSLotF – should be taken into account in studies probing these effects. Where variation was evidenced in the informants' judgements of MsA structures (verb placement, *nie*-drop and NC), the results suggest that remaining dominant in the L1 is facilitative in preserving bilinguals' sensitivity to patterns typical of spoken variation in the L1.

This leads us to consider one of the most significant findings to come out of this study: that linguistic environment was not predictive in determining EotSLotF – or at least, it is not for the range of structures that were the focus of the present study. The consequence of this is that L1 exposure *alone* appears not to be predictive in determining changes to the L1 in the population under investigation. Rather, it would seem that L1 exposure *and* L1 (dis)use/L2 use, in both the L1 and L2 environment, need to be considered together when predicting variation indicative of EotSLotF. The results suggest that variation indicative of EotSLotF appears to have little to do with the linguistic environment, and is rather determined by bilinguals' shifting L1/L2 exposure and usage patterns. In other words, regardless of whether bilinguals are in the L1 or the L2 environment, language dominance appears to be the most definitive factor in determining changes to the L1 for this language pair. Given the pervasive influence of English in South Africa (see Chapter 1, §1.3.2, for discussion) and the world over, one might expect this to be true of other language combinations involving English; and additionally other multilingual settings more generally where there is a heavily dominant language in play.

In terms of identifying language dominance in bilinguals, it was proposed that language use with siblings and internal language use may make for reliable measures of L1/L2 dominance. However, given the small group sizes at play, and in particular for the variable SIBL, this specific result would need to be replicated on a larger scale in order to be more seriously pursued. Additionally, it is acknowledged that impressionistic self-reporting is

subject to methodological challenges, as it is, but its nature, subjective (see §10.3 for further discussion). This is a factor that, although not obviously avoidable, needs to be kept in mind.

As noted above, this study drew on both the field of L1 attrition and the field of HL development by considering variables from both. The fact that extralinguistic variables in both childhood and adulthood were revealed to be predictive supports the growing sentiment that, in order to fully understand how the L1 develops under the influence of an L2 in lifelong bilinguals, insights from both fields are in fact required. This perspective is also highlighted by Schmid & Karayayla (2020).

This in turn underscores the importance of AoO considerations. It is important that the variable AoO of bilingualism was not found to be predictive, but that the variable AoO of L2 dominance was. This serves as an indication that, in studies concerned with EotSLotF, it is necessary to disentangle these two concepts.

The results also align with findings from studies that have concluded that an earlier AoO of dominance is predictive in determining EotSLotF (Bylund, 2019). The findings further lend support to previous studies which have found that the later years in the sensitive period for the acquisition of morphosyntax, i.e. adolescence, are of particular importance with respect to variation in the L1 (see de Vogelaer & Toye, 2017 for an overview). The results therefore underscore the importance of understanding the developmental trajectory in first language acquisition, spanning from birth through to adolescence.

10.2.3. A variable "baseline"

The results suggest that the areas of the L1 grammar which are already subject to within-population variability – e.g. the MsA structures – appear to also be the areas particularly susceptible to further variation indicative of EotSLotF (see Chapter 9, §9.6). The fact that variation indicative of EotSLotF, however minimal, appears to follow property-specific patterns based on the various language-internal and external factors at play, enables us to attempt make sense of the emerging patterns in the language combination under investigation. However, accepting that variation is in fact the norm requires us to reframe how we conceptualise the knowledge, or multi-competence, possessed by language users. This, in turn, requires us to rethink the labels we assign to different bilingual populations.

From a theoretical perspective, a question arises as to whether the variation evidenced in these judgement patterns could justify labelling these bilinguals "attriters" or even "heritage speakers". Such terminological labels might seem appealing in allowing linguists to

characterise what a more L2-dominant bilingual's L1 grammar may look like when compared to the L1 grammar of a more L1-dominant bilingual. However, bilinguals are by nature heterogenous, with Valdés (2001) maintaining that we need to think of bilingualism as a continuum of L1-L2 knowledge (see Chapter 1, §1.4). As a review of the literature in the present study has aimed to illustrate, these distinctions are over-simplified and highly Western-centric. This over-simplification is a point that only readily comes to light when studying EotSLotF in multilingual contexts where between-speaker variation appears to be the norm. Although the variation indicative of EotSLotF is, in some instances, similar to that evidenced in traditional HS populations, what the present study again highlights about multilingual situations is that we need to rethink the notion of a "baseline" – particularly in relation to spoken language (see Flores & Rinke, 2020; D'Alessandro et al., 2021).

Furthermore, the labels we apply to these L1 grammars under the influence of an L2 seem misfocused when reframed in terms of the definition of bilingualism proposed in Chapter 1 (see (1.4) of §1.4) and repeated in (10.1) below:

(10.1)

The use of two languages, at various stages across the lifespan of a language user, in which receptive and communicative competence has been achieved in both languages across a number of varied contexts.

The fact that the above definition highlights differing amounts of L1/L2 exposure and use at different stages across the lifespan of a bilingual is of central relevance. This is because, at any given stage, all we are able to capture is a snapshot of a bilingual's L1 grammar. As Chamorro, Sorace & Sturt's (2016) study illustrates in relation to Spanish-English bilinguals, attrition effects are not always permanent (see Chapter 2, §2.2.3). Bilinguals' knowledge of their languages, or rather their (un)certainty with respect to this knowledge, should therefore not be regarded as static, but rather as ever-changing depending on their L1/L2 usage patterns at a given point in time (see also Flores, 2010). This perspective makes the use of labels like "attriters" and "HSs" even more problematic.

It is hoped that by illuminating these points this study has provided insight into some of the practical and theoretical limitations of studying EotSLotF in multilingual contexts. Such contexts:

    (i)   necessitate a breakaway from traditional bilingual-monolingual comparisons, which further necessitates a reframing of the L1 "baseline";

(ii)   require new ways of identifying language dominance in bilinguals; and

(iii)   additionally highlight the polarised way in which the broader field of EotSLotF has categorised bilinguals.

10.3   Limitations and suggestions for future research

This study has brought to light new and potentially important considerations in research concerned with EotSLotF, and in particular, research concerned with EotSLotF in bi/multilingual contexts. The exploratory nature of the study meant that the group sizes were naturally occurring. As a result, the group sizes were not evenly matched, and in some cases were very small. As a result, the statistical findings of the study have relatively low power and may therefore not readily be generalised. Furthermore, due to the difficulty of recruiting more participants during the Covid-19 pandemic (see Chapter 5, §5.5), these uneven group sizes meant that certain extralinguistic variables of interest – e.g. language use with friends, language use with one's partner, and, potentially, language use for professional purposes (although see Chapter 2, §2.5.2.2 and Chapter 4, §4.4.4.3 for discussions centring around the challenges of probing this final variable in the South African context) – could not be probed.

This study probed whether and, if so, how the morphosyntactic system of the L1 changes under the influence of an L2 as a result of language use and exposure across the lifespan. It is, however, difficult to accurately quantify informants' L1/L2 exposure and usage patterns. The reason is that one cannot practically, or ethically for that matter, record language use across the lifespan of an individual (see Schmid, 2002). This means that the basis for establishing the role played by the extralinguistic variables is based on self-reported data. Self-reported data is, of course, subject to the informants' human ability to provide an accurate account of their language exposure and usage patterns. Such accounts may very well be flawed, particularly with respect to questions relating to language exposure and usage patterns in childhood (which they may struggle to accurately recall). Informants may over- or underestimate how much they use their respective languages. As a consequence, it has to be acknowledged that the LBQ data, which formed the basis for the participant groupings, may be subject to a degree of error.

A further limitation of this study, where the distinction between early and late acquired properties is of central relevance, pertains to the fact that the L1 acquisition data for Afrikaans is limited. As a result, we simply do not know for Afrikaans what we know about the course

of acquisition for Dutch. For this reason, and particularly with respect to scrambling, it was necessary to make assumptions based on what we know about the course of acquisition of Dutch as an L1. It is therefore acknowledged that, in future studies concerned with the acquisition of Afrikaans, these assumptions may, or may not, be proven to be accurate.

In terms of the task design, the number of target structures was non-ideal. One practical reason for this is that there were unfortunately a number of failed experimental items. Primarily, however, the task design was not intended to be extensive, and therefore confirmatory in nature. Rather, the purpose of the study, exploratory in nature, was to do an *initial* probe of:

(i)   the extent to which, if at all, differences that one might expect between early-acquired/interface-internal structures and late-acquired/interface-external structures emerge in the L1 of the population under investigation; and

(ii)   the extent to which L1 Afrikaans-L2 English bilinguals are sensitive to prescriptively sanctioned versus non-standard distinctions in their L1.

As a result of this exploratory approach, and in order for any of these results to be confirmed, a confirmatory study would need to be conducted using a greater number of suitably selected target structures.

It is also important to note that the data collection tasks only probed informants' judgements in off-line tasks. The findings are therefore not generalisable to bilinguals' on-line processing and performance in spontaneous speech production. As the present study did detect clear-cut differences between informants' judgements of *standard*, *ungrammatical*, and *MsA* structures in Afrikaans, it is certainly worth following up whether these three structural classes are processed differently in on-line tasks. Recall that this was the case in Hubers et al.'s (2020) study, the results of which revealed that a specific grammatical norm violation, a structure which occurs frequently in spoken Russian, is processed differently to both the grammatical and ungrammatical structures included in the experiment. Recall also the WMT data discussed in Chapter 4 (§4.5.2), which suggests that the different structural classes may be processed differently. However, contra the Hubers et al. (2020) data, the WMT data suggests that in Afrikaans, MsA structures may in fact be processed faster than their prescriptively sanctioned counterparts. As pointed out in Chapter 4 (§4.5.4), we may therefore expect processing-related issues to vary between languages, properties and structures – a possibility worth keeping in mind in future studies, and one which additionally warrants further attention.

Furthermore, given the present study's focus on both StdA and MsA, it would be of value to investigate how informants' off-line judgements compare with their spoken Afrikaans. Such a comparison might be useful in determining to what degree off-line judgement tasks can

inform upon bilinguals' usage of structures in the non-standard variety (e.g. MsA). In other words, the question would be whether more or less conservative MsA judgement patterns correlate with a lower or higher occurrence of MsA structures respectively in spontaneous speech production. This will undoubtedly depend on the property under investigation. For example, in relation to *nie*-drop in Afrikaans, we have seen that clause-final *nie* remains stable in the judgements of even the most English-dominant bilinguals, potentially because of the sociolinguistic factors at play. Whether this will be the case in their spontaneous speech production is, however, an entirely different matter. However, for verb placement in Afrikaans, and taking into consideration both the MsA judgements patterns evidenced in the present study and what has been evidenced in other contact situations (Hopp & Putnam, 2015; Flores & Rinke, 2020; Shah, et al., in press; Zimmer, 2021), it is conceivable that less conservative judgements of verb-early/wh-V2 structures may in fact correlate with a higher occurrence of such structures in spontaneous speech production.

This highlights the need to deepen our understanding of how StdA and MsA differ, and furthermore, how speakers in fact use structures typical of each variety. The difficulty here lies in the fact that spoken varieties, and MsA is no different, are often not well documented. Much of what we know about MsA still needs to be systematically studied. The ViVa corpora (https://viva-afrikaans.org) serve as a very useful initial resource. However, a collective effort needs to be made to compile a more comprehensive corpus of MsA. Only once this is established can we seriously investigate to what degree MsA is subject to EotSLotF under the influence of L2 English.

The results do, however, underscore the need to reconsider the idea that an "L1 baseline" is one which can in any meaningful way be equated with the standard variety. Furthermore, and with respect to MsA specifically, the results suggest that variation is the norm – a point which problematises the idea of baselines altogether. In particular, this variation is seen in the informants' MsA verb placement judgement patterns – patterns which are certainly worth following up on in larger scale studies in the future. What these initial results highlight, however, is that some MsA structures elicit fairly uniform responses across the population under investigation, whilst others result in a great deal of within-group variation. In other words, the baseline problem is one which is not only applicable to the difference between how informants assess structures in the standard variety versus the non-standard variety, but it becomes a property- and even structure-specific consideration. This is an observation that may be worth keeping in mind in future studies concerned with bi/multilingual populations.

The fact that variation appears to be the norm in the bilingual population under investigation calls attention to a further consideration worth probing in future studies concerned with speakers that resemble the Afrikaans-English type. That is, the role played by *intergenerational transmission* (see i.a. Campbell & Christian, 2003; Pascal y Cabo, 2013; Bayram, Pascal y Cabo & Rothman, 2019). The present study probes to what degree variation indicative of EotSLotF is the result of shifting L1/L2 exposure and usage patterns. However, a shift in language use, and it would seem then language dominance, may only be one factor in what is certainly likely to be a complex web of interdependencies. An inquiry into the role played by intergenerational transmission may reveal that, in fact, language dominance is only one factor underlying between-speaker variation, with an additional factor being that patterns of variation are passed down from one generation to the next in the course of the L1 acquisition process. To achieve a more comprehensive understanding of what underlies bilinguals' L1 judgement patterns, this may be a worthwhile avenue to investigate in the future.

The L1 acquisition process is therefore central to our understanding of variation in bilingual populations. However, as already noted above, we know relatively little about the actual course of acquisition of Afrikaans. This dissertation has therefore highlighted the need for more research concerned with language acquisition, and specifically with regard to understudied languages like Afrikaans. Specifically, the results of the present investigation suggest that the later years of the sensitive period for morphosyntax warrant close attention. That is, the adolescent years, which appear to be of central relevance with respect to the development of language users' sensitivity to variation in spoken language (see i.a. Labov, 1964; Wolfram, 1969; Fasold, 1972; Cheshire, 1982; Eckert, 1989; Eckert, 1997; Rys, 2007; Farrington, Renn & Kohn, 2017; De Vogelaer & Toye, 2017). Furthermore, the language combination under investigation has again shown the importance of research focused on L1 acquisition in contact situations (see Hickey, 2020b). Not only do we need to systematically document the L1 acquisition of Afrikaans, and other African languages, but we need to do so within the (almost inevitable) scenario of contact with other languages.

This leads us to an additional aspect in need of further investigation in language contact scenarios: the relationship between L1 variation indicative of EotSLotF and L2 acquisition. A question of interest that has arisen in the field of bilingualism is whether selective changes evidenced in the L1 are not only predictable aspects of acquiring an L2, but are also changes which may facilitate successful bilingualism (see Hicks & Domínquez, 2019). The question at stake here is therefore one that centres around bilinguals' *multi-competence*. Specifically, this line of inquiry is concerned with whether the successful co-existence of more than one

language in an individual speaker necessitates changes to the L1 grammar. Furthermore, it is of interest as to whether selective changes in the L2/L*n* are also necessary for this successful L1/L2 co-existence. In future studies concerned with EotSLotF and Afrikaans-English bilinguals, it may be of interest to probe the correlation between L1 variation indicative of EotSLotF and selective changes in the L2 by assessing bilinguals' judgements of structures in both Afrikaans *and* English.

Finally, I wish to conclude this section by briefly discussing considerations related to the role played by extralinguistic cognitive processes such as inhibition and activation in bi/multilingualism. As noted in Chapter 6 (§6.7.3.2), these extralinguistic cognitive processes are complex phenomena that need to be explored more fully in future research. Although we do not fully understand the role played by these extralinguistic cognitive processes, they appear to be of central relevance to language processing, and therefore of particular importance in studies concerned with EotSLotF (see Sharwood Smith, 2019 for discussion). Specifically, further attention should be given to how these processes are affected by different societal contexts. These cognitive processes interact not only with language exposure-, usage- and dominance-related considerations of the kind which appear to be of importance in this dissertation, but also with societal context. In scenarios where languages are in contact with one another, inhibition appears to depend, in part, on how the languages under investigation are used in the specific society. For example, research has shown that inhibition is likely to be affected by whether both languages are spoken in most contexts, or whether there is a diglossic pattern of use (Green & Abutalebi, 2013). In the case of the former, there has been an increase in interest related to whether there is a difference between the cognitive control of on the one hand, (i) bilinguals who use both languages in a single context, but keep the two languages separate; or (ii) bilinguals who engage in "dense codeswitching"[72] (see i.a. Green & Abutalebi, 2013; Hartanto & Yang, 2016, 2020; Henrard & Van Daele, 2017; Ooi, Goh, Sorace, & Bak, 2018; Pot, Keijzer, & de Bot, 2018; Beatty-Martinez, Navarro-Torres, Dussias, Bajo, Guzzardo Tamargo, & Kroll, 2019). Although such an investigation was beyond the scope of the present study, a multilingual context like South Africa, and populations that resemble the Afrikaans-English type may serve as a good testing ground for future research concerned with the role played by these different kinds of bilingual usage patterns on bilinguals' cognitive control.

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[72] The behavioural description "dense code-switching" is used to refer to utterances which contain numerous language switches (Green, 2018).

10.4   Concluding remarks

By focussing on a bilingual population that has not previously been examined in studies concerned with EotSLotF, this dissertation has contributed to the existing literature in the broader field of study concerned with EotSLotF, and bilingualism-oriented research more generally. In spite of the limitations mentioned above, I hope to have presented detailed and critical analyses on how the L1 judgements of bilinguals are affected under the influence of an L2 and to have added new perspectives to the field.

I wish to echo the sentiments with which this dissertation began: that by marrying multiple research veins relating to bilingual language development that often remain largely independent from one another, we can facilitate a more comprehensive picture of L1 development under L2 influence than is typically taken into account in bilingualism-oriented research. By considering both the standard *and* a vernacular variety, this study has shed light on the potentially very complex interactions involved in manifestations of EotSLotF, and in particular with respect to spoken variation in language. Overall, although the picture that emerges from this exploratory study is one of remarkable L1 stability under L2 influence, it is also one of variability. The latter highlights the fact that "baselines" are not meaningfully equatable with standard varieties, and therefore underscores the importance of distinguishing between variation and divergence. It is my hope that this dissertation may contribute to future studies concerned with EotSLotF in languages in multilingual settings. It is also my wish that this study will inspire further research on the acquisition, development and maintenance of Afrikaans and other African languages in the contact situations that multilingual South Africans inhabit.

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APPENDIX A
Participant recruitment

Forgetting your first language: A study involving Afrikaans-English bilinguals

The first language has always been thought to hold a privileged status in the mind, but the question of how well it really holds up under the pressure of an ever-increasing dominant second language is of great interest to linguists and bilinguals alike.

The process whereby a bilingual forgets their first language is a normal linguistic development known as "first language attrition". In many cases it is the result of immigration, but in other cases it is simply the result of reduced first language usage/exposure and increased second language usage/exposure.

A researcher from Stellenbosch University in South Africa is undertaking a study that looks at the first language attrition of Afrikaans under the influence of English. If you are a **first language Afrikaans, second language English bilingual** living in South Africa, the United Kingdom or any predominantly English speaking country your help is requested to make this research possible. All testing takes place online and takes not more than 45 minutes.

All participants will automatically be entered into a lucky draw where you stand a chance to win one of FIVE iStore gift cards to the value of R 1,000- each (or the UK pound equivalent).

If you would like to participate in this study, or if you wish to contact the researcher to find out more about the study, send an email to **Marie-Louise van Heukelum** at afribilingual@gmail.com.

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APPENDIX B

Language Background Questionnaire: SA participants

SOUTH AFRICAN PARTICIPANTS

This questionnaire will help me to get an idea of your language background and language usage when it comes to Afrikaans and English. It consists of 44 items. There are no right or wrong answers!

1) What is your date of birth?

2) Are you: ❑ male   ❑ female

3) Where did you grow up? (please specify country/ies and region(s))

4) Where have you lived (please include various moves/relocations and (roughly) at what age they took place), and where do you currently live?

5) At what age did you first begin to learn Afrikaans?

6) At what age did you first begin to learn English?

7) What languages did you hear in your home between the ages of birth-5 years? (circle all those that apply)
      ❑ Afrikaans ❑ English   ❑ Other (specify)……………………….

8) Which other **languages**, if any, do you know? Please specify if the acquisition was **naturalistic** (outside of school), **instructed** (at school/institution), or both and and what age you acquired them.

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9) On a scale from 1 (least proficient) to 5 (fully fluent) how do you rate yourself in speaking, understanding, reading, writing in all of the languages that you know?

10) What language(s) did your parents/caregivers speak?

Mother: ………………………………………….

Father:…………………………………………

Other caregiver(s): ………………………………

11) What language(s) did your parents/caregivers use most when speaking to you?
❑ Afrikaans ❑ English ❑ Both ❑ Other (specify) ………………

12) What language(s) did you use most when speaking to your parents/caregivers?
❑ Afrikaans ❑ English ❑ Both ❑ Other (specify) ……………….

13) Do you have siblings?

❑ Yes ❑ No ❑ If yes, are they older or younger?..............................

14) What language/s did/do you and your siblings use when speaking with one another?

Before you left home
❑ Afrikaans ❑ English ❑ Both ❑ Other

Now
❑ Afrikaans ❑ English ❑ Both ❑ Other

15) Did you play more with other Afrikaans- or English-speaking children growing up?
❑ Afrikaans ❑ English ❑ Both languages equally
❑ Other (specify)

16) Did you attend an Afrikaans or English **nursery school**?
❑ Afrikaans ❑ English ❑ Afrikaans & English ❑ Other (specify)…………………

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17) Did you attend an Afrikaans or English **primary school**?

❑ Afrikaans ❑ English ❑ Afrikaans & English ❑ Other (specify)…………………

18) Did you attend an Afrikaans or English **high school**?

❑ Afrikaans ❑ English ❑ Afrikaans & English ❑ Other (specify)…………………

19) What is the highest level of education you have completed?

❑ primary school ❑ secondary school: ……………………………………….

❑ higher education: (university, college or other degree and/or diploma/certificate): ………………………………………………………………

20) If you have a tertiary education, please specify the primary language(s) of teaching and learning that were used during this part of your education:

❑ Afrikaans ❑ English ❑ Afrikaans & English ❑ Other (specify)

21) What language(s) is/are predominantly spoken at work?

22) If more than one language is spoken regularly at work, what language(s) do you speak while at work?

23) Do you see yourself as bilingual? In other words, do you think you are as proficient in Afrikaans as in English?

❑ no, I'm more proficient in English   ❑

yes   ❑

no, I'm more proficient in Afrikaans   ❑

I don't know, because:……………………………………………………………….

24) Do you switch between languages within a conversation with certain people?

When speaking with friends and family

❑Never   ❑Rarely   ❑Sometimes ❑Frequently   ❑All the time

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Only with certain friends

❑Never   ❑Rarely   ❑Sometimes   ❑Frequently   ❑All the time

When speaking with strangers

❑Never   ❑Rarely   ❑Sometimes   ❑Frequently   ❑All the time

At work

❑Never   ❑Rarely   ❑Sometimes   ❑Frequently   ❑All the time

25) If you do switch between languages, is it mainly on the basis of:

❑ content (what you're talking about)

❑ from one sentence to another

❑ inserting occasional words only

26) In general, how would you rate your English language proficiency at present?
❑ very poor ❑ poor ❑ sufficient ❑ good ❑ very good ❑ excellent

27) In general, how would you rate your Afrikaans language proficiency at present?
❑ very poor ❑ poor ❑ sufficient ❑ good ❑ very good ❑ excellent

28) Has your current proficiency level always been as you have stated above, or where you once more proficient in Afrikaans and now you feel/are more proficient in English

29) If you think your proficiency level has changed, at what age do you think "switched" to speaking more English and why?

30) How often do you speak Afrikaans?
❑ rarely ❑ few times a year ❑ monthly ❑ weekly ❑ daily

31) Would you say that you speak/spoke an informal (colloquial or strongly spoken rather than consciously as-I-was-taught-to-write) variety of Afrikaans or a (regional) dialect??
❑ standard Afrikaans ❑ informal Afrikaans ❑ a dialect, namely:

…………………………………………….............

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32) In general, do you have more Afrikaans- or English-speaking friends?

❑ only English-speaking friends

❑ both, but more English-speaking friends

❑ as many Afrikaans- as English-speaking friends

❑ both, but more Afrikaans-speaking friends

❑ only Afrikaans-speaking friends

33) Do you feel more comfortable speaking Afrikaans or English?

❑ English ❑ Afrikaans ❑ no preference ❑ it depends on the context (specify)

34) Could you elaborate on your answer: why do you feel more comfortable speaking either Afrikaans or English, or why don't you have any preference?

35) What language(s) do you mostly use when at home?

❑ only English

❑ both Afrikaans and English, but mostly English

❑ both Afrikaans and English, roughly the same amount

❑ both Afrikaans and English, but mostly Afrikaans

❑ only Afrikaans

❑ other

36) If you are in a relationship, what language(s) do you mostly use when talking to your partner? If not, skip to question (39).

❑ only English

❑ both Afrikaans and English, but mostly English

❑ both Afrikaans and English, roughly the same amount

❑ both Afrikaans and English, but mostly Afrikaans

❑ only Afrikaans

❑ other

37) If you are in a relationship, what language(s) was your partner brought up?

❑ Afrikaans ❑ English ❑ other, namely: ………………………………

38) If you have children, what language or languages do you mostly use when talking to your children? If you do not have children, skip to question (40).

    ❏ only English

    ❏ both Afrikaans and English, but mostly English

    ❏ both Afrikaans and English, roughly the same amount

    ❏ both Afrikaans and English, but mostly Afrikaans

    ❏ only Afrikaans

    ❏ other

39) Could you, in the following tables, please indicate to what extent you use Afrikaans (table 1) and English (table 2) in the domains specified? You may simply tick the box. If a certain domain is not applicable to you (for example, if you don't have any pets), you may leave the box empty.

(1.) I speak Afrikaans

	all the time	frequently	sometimes	rarely	very rarely
With relatives					
With friends					
To pets					
At work					
In church					
In shops					
At clubs or organisations					

(2.) I speak English

	all the time	frequently	sometimes	rarely	very rarely
With relatives					
With friends					

To pets					
At work					
In church					
In shops					
At clubs or organisations					

40) If you were to say you "think" or "dream" in a language, which language would it be in?

❑ English ❑ Afrikaans ❑ both ❑ I don't know

41) Do you ever watch Afrikaans television/listen to Afrikaans radio programmes?

❑ often ❑ sometimes ❑ never

42) Do you ever read Afrikaans newspapers, books, magazines and/or blogs?

❑ often ❑ sometimes ❑ never

43) Do you ever feel uncomfortable when speaking Afrikaans with an Afrikaans-speaking person because of how you might sound or mistakes you might make?

❑ yes, always ❑ yes, sometimes ❑ no, never

44) You have come to the end of this questionnaire. Is there anything you would like to add? This can be anything from language-related comments to remarks about the questionnaire or research itself.

APPENDIX C

Language Background Questionnaire: participants in the diaspora

PARTICIPANTS IN THE DIASPORA

This questionnaire will help me to get an idea of your language background and language usage when it comes to Afrikaans and English. It consists of 52 items. There are no right or wrong answers!

1) What is your date of birth?

2) Are you: ❑ male   ❑ female

3) Where did you grow up?.

4) Where have you lived (please include various moves/relocations and at what age they took place), and where do you currently live?

5) When did you come to the United Kingdom (year)?

6) At what age did you first begin to learn Afrikaans?

7) At what age did you first begin to learn English?

8) What languages did you <u>hear</u> in your home between the ages of birth-5 years? (circle all those that apply)

    ❑ Afrikaans   ❑ English   ❑ Other (specify) ………………………………

9) Which other **languages**, if any, do you know? Please specify if the acquisition was **naturalistic** (outside of school), **instructed** (at school/institution), or both and and what age you acquired them.

10) On the scale from 1 (least proficient) to 5 (fully fluent) how do you rate yourself in speaking, understanding, reading, writing in all of the languages in question?

11) What languages do your parents/caregivers speak?

Mother: …………………………………

Father:…………………………………..

Caregiver: …………………………………

12) What languages did your parents/caregivers use mostly when speaking to you?
❑ Afrikaans ❑ English ❑ Both ❑ Other (specificy) ………………

13) What languages did you use mostly when speaking to your parents/caregivers?
❑ Afrikaans ❑ English ❑ Both ❑ Other (specify) ……………….

14) Do you have siblings?

❑ Yes ❑ No Are they older or younger?................................

15) What language/s did/do you & your siblings use when speaking with one another?

In your youth
❑ Afrikaans ❑ English ❑ Both ❑ Other

Now
❑ Afrikaans ❑ English ❑ Both ❑ Other

16) Did you play more with other Afrikaans- or English-speaking children?
❑ Afrikaans ❑ English

17) Did you attend an Afrikaans or English **nursery school**?

❑ Afrikaans ❑ English ❑ Afrikaans & English ❑ other

(specify)……………………

18) Did you attend an Afrikaans or English **primary school**?

❑ Afrikaans ❑ English ❑ Afrikaans & English ❑ other

(specify)……………………

19) Did you attend an Afrikaans or English **high school**?

❑ Afrikaans ❑ English ❑ Afrikaans & English ❑ other

(specify)……………………

20) What is the highest level of education you have completed?

❑ primary school ❑ secondary school, level: …………………………………………….

❑ higher education, namely: ……………………………………………………………

❑ university, degree: …………………………………………………………………

21) If you have a tertiary education, please specify the primary language(s) of teaching and learning

❑ Afrikaans ❑ English ❑ Afrikaans & English ❑ other (specify)……………………

22) Have you been back to South Africa since leaving for the UK?

❑ never

❑ seldom

❑ regularly, 1-2 times a year

❑ regularly, 3-5 times a year

❑ regularly, over 5 times a year

23) Do you see yourself as bilingual? In other words, do you think you are as proficient in

Afrikaans as in English?

❑ no, I'm more proficient in English

❑ yes

❑ no, I'm more proficient in Afrikaans

❑ I don't know, because:……………………………………………

24) Do you switch between languages within a conversation with certain people?

    (Never   Rarely   Sometimes   Frequently   All the time)

- ❑ When speaking with friends and family
- ❑ Only with certain friends
- ❑ When speaking with strangers
- ❑ At work

25) If you do switch between languages, is it mainly between:

- ❑ topics
- ❑ sentences
- ❑ occasional words only

26) In general, how would you rate your English language proficiency before you moved to the UK?

❑ none ❑ very bad ❑ bad ❑ sufficient ❑ good ❑ very good

27) In general, how would you rate your English language proficiency at present?

❑ none ❑ very bad ❑ bad ❑ sufficient ❑ good ❑ very good

28) In general, how would you rate your Afrikaans language proficiency before you moved to the UK?

❑ none ❑ very bad ❑ bad ❑ sufficient ❑ good ❑ very good

29) In general, how would you rate your Afrikaans language proficiency at present?

❑ none ❑ very bad ❑ bad ❑ sufficient ❑ good ❑ very good

30) How often do you speak Afrikaans?

❑ rarely ❑ few times a year ❑ monthly ❑ weekly ❑ daily

31) Would you say that you speak/spoke a variety of Afrikaans or a dialect?

    ❑ standard Afrikaans ❑ a dialect, namely:

32) Has your current proficiency level always been as you have stated above, or where you once more proficient in Afrikaans and now you feel/are more proficient in English

33) If you think your proficiency in Afrikaans changed before moving to the UK, at what age do you think "switched" to speaking more English and why?

34) In general, do you have more Afrikaans- or English-speaking friends in the UK?
- ❑ only English-speaking friends
- ❑ both, but more English-speaking friends
- ❑ as many Afrikaans- as English-speaking friends
- ❑ both, but more Afrikaans-speaking friends
- ❑ only Afrikaans-speaking friends

35) Do you feel more comfortable speaking Afrikaans or English?
❑ English ❑ Afrikaans ❑ no preference

36) Could you elaborate on your answer: why do you feel more comfortable speaking either Afrikaans or English or why don't you have any preference?

37) What language(s) do you mostly use when at /home?
- ❑ NA
- ❑ only English
- ❑ both Afrikaans and English, but mostly English
- ❑ both Afrikaans and English, without preference
- ❑ both Afrikaans and English, but mostly Afrikaans
- ❑ only Afrikaans
- ❑ other

38) If you are in a relationship, what language(s) do you mostly use when talking to your partner?

- ❑ NA
- ❑ only English
- ❑ both Afrikaans and English, but mostly English
- ❑ both Afrikaans and English, without preference

❑ both Afrikaans and English, but mostly Afrikaans

❑ only Afrikaans

❑ other

39) If you are in a relationship, what language(s) was your partner brought up?

❑ NA ❑ Afrikaans ❑ English ❑ other,

namely: ………………………………………………….

40) If you have children, what language or languages do you mostly use when talking to your children?

❑ NA

❑ only English

❑ both Afrikaans and English, but mostly English

❑ both Afrikaans and English, without preference

❑ both Afrikaans and English, but mostly Afrikaans

❑ only Afrikaans

❑ other

41) Are you in frequent contact with relatives and friends in the South Africa?　❑ very rarely ❑ rarely ❑ sometimes ❑ frequently ❑ all the time

42) How do you keep in touch with those relatives and friends in the South Africa?

❑ telephone ❑ letters ❑ e-mail ❑ Skype ❑ Whatsapp messages ❑ Whatsapp calls

❑ another way, namely: ……………………………...………………………

43) What language or languages do you mostly use to keep in touch with relatives and friends in South Africa?

❑ only English

❑ both Afrikaans and English, but mostly English

❑ both Afrikaans and English, without preference

❑ both Afrikaans and English, but mostly Afrikaans

❑ only Afrikaans

❑ other

44) What is the mother tongue of the majority of the people you are friends with in the UK?

❑ English ❑ Afrikaans ❑ Afrikaans-English bilinguals ❑ other language(s)

45) Could you, in the following tables, please indicate to what extent you use Afrikaans (table 1) and English (table 2) in the domains provided? You may simply tick the box. If a certain domain is not applicable to you (for example, if you don't have any pets), you may leave the box empty.

(1.) I speak Afrikaans					
	all the time	frequently	sometimes	rarely	very rarely
With relatives					
With friends					
To pets					
At work					
In church					
In shops					
At clubs or organisations					

(2.) I speak English					
	all the time	frequently	sometimes	rarely	very rarely
With relatives					
With friends					
To pets					
At work					
In church					

In shops					
At clubs or organisations					

46) If you were to say you "think" or "dream" in a language, which language would it be in?

❏ English   ❏ Afrikaans   ❏ both   ❏ I don't know

47) Do you ever watch Afrikaans television/listen to Afrikaans radio programmes?

❏ often ❏ sometimes ❏ never

48) Do you ever read Afrikaans newspapers, books or magazines?

❏ often ❏ sometimes ❏ never

49) Do you think your Afrikaans language proficiency has changed since you moved to the UK?

❏ yes, I think it has become worse

❏ no

❏ yes, I think it has become better

50) Do you think you use more or less Afrikaans since you moved to the UK?

❏ yes, I think I use less Afrikaans

❏ no, I don't think I use more or less Afrikaans now

❏ yes, I think I use more Afrikaans

51) Do you ever feel uncomfortable when speaking Afrikaans with an Afrikaans-speaking person because of how you might sound or mistakes you might make?

❏ yes, sometimes ❏ no, never

52) You have come to the end of this questionnaire. Is there anything you would like to add? This can be anything from language-related comments to remarks about the questionnaire or research itself.

APPENDIX D

Ethics: Notice of approval

UNIVERSITEIT
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NOTICE OF APPROVAL

REC Humanities New Application Form

25 May 2018

Project number: 7014

Project Title: Attriting first language Afrikaans

Dear Ms Marie-Louise Van Heukelum

Your REC Humanities New Application Form submitted on 18 April 2018 was reviewed and approved by the REC: Humanities.

Please note the following for your approved submission:

Ethics approval period:

Protocol approval date (Humanities)	Protocol expiration date (Humanities)
25 May 2018	24 May 2021

GENERAL COMMENTS:

Please take note of the General Investigator Responsibilities attached to this letter. You may commence with your research after complying fully with these guidelines.

If the researcher deviates in any way from the proposal approved by the REC: Humanities, the researcher must notify the REC of these changes.

Please use your SU project number (7014) on any documents or correspondence with the REC concerning your project.

Please note that the REC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

FOR CONTINUATION OF PROJECTS AFTER REC APPROVAL PERIOD

Please note that a progress report should be submitted to the Research Ethics Committee: Humanities before the approval period has expired if a continuation of ethics approval is required. The Committee will then consider the continuation of the project for a further year (if necessary)

Included Documents:

Document Type	File Name	Date	Version
Research Protocol/Proposal	10_05_vanHeukelum_PhD proposal	17/04/2018	1
Recruitment material	vanH_EC_TheSA_recruitment_ad	17/04/2018	1
Recruitment material	MvanH_TheSA_Ad Spec&Deadlines_Sheet	17/04/2018	1
Informed Consent Form	vanH_EC_consent_form_electronic_research_study	17/04/2018	1
Information sheet	vanH_PhD_information_sheet	17/04/2018	1
Default	Software Development Contract_MV	17/04/2018	1
Data collection tool	LBQ_EC_SA_participants	17/04/2018	1
Data collection tool	LBQ_EC_UK_participants	17/04/2018	1
Data collection tool	Task1_OPT_EC_vanH	17/04/2018	1
Data collection tool	Task2_GJT_EC_structures_vanH_final	18/04/2018	1
Data collection tool	Task3_WMT_EC_structures_vanH_final	18/04/2018	1
Data collection tool	Task4_TVJT_EC_structures_vanH_final	18/04/2018	1

If you have any questions or need further help, please contact the REC office at cgraham@sun.ac.za.

Sincerely,

Clarissa Graham

REC Coordinator: Research Ethics Committee: Human Research (Humanities)

APPENDIX E

Consent form

Consent form

Dear prospective participant

My name is Marie-Louise van Heukelum, a PhD Candidate in the Department of General Linguistics at Stellenbosch University and I would like to invite you to take part in my research study, the results of which will contribute to a research project in order to complete my PhD degree.

Please take some time to read the information presented here, which will explain the details of this project. Your participation is entirely voluntary, and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

The purpose of this study
The process whereby bilinguals forget a first language is a normal linguistic development known as 'first language attrition'. In many cases it is the result of immigration, but in other cases (in South Africa for example) it is simply the result of speaking the first language less (and eventually almost not at all) and the second language more. The focus of this study is to determine the degree to which first language (Afrikaans) exposure in comparison to second language (English) competition impacts upon the attrition of Afrikaans in Afrikaans-English bilinguals.

Procedures

The four tasks will take approximately 10 to 20 minutes each to complete and will contain a series of Afrikaans sentences, which you will be asked to make simple decisions about. You do NOT have to complete all the tasks at the same time. Individual tasks need to be completed in a single sitting, but you can complete the full set of tasks at different points, whenever you have a chance.

Lucky draw

By volunteering to take part in this research study you will automatically be entered into a lucky draw where you stand a chance to win one of FIVE iStore gift cards to the value of R 1,000- each (or the UK pound equivalent). In order to be entered into the lucky draw I require only your email address (which will not be shared with anyone else).

RIGHTS OF RESEARCH PARTICIPANTS:

You have the right to decline answering any questions and you can exit the survey at any time without giving a reason. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research participant, please contact Mrs Maléne Fouché (mfouche@sun.ac.za, 021 808 4622) at the Division for Research Development.

Confidentiality

Your information and response to the survey will be protected and will remain anonymous by means of a random participant code. The data will be stored in a locked cabinet in the researcher's office and electronic data will be stored in a folder on the researcher's password-protected computer.

If you have any questions or concerns about the research, please feel free to contact the researcher Marie-Louise van Heukelum at afribilingual@gmail.com and on (0027) 72 5256902.

☐ **I confirm that I have read and understood the information provided for the**

current study.
☐ **I agree to take part in this survey.**

Please be sure to check BOTH boxes in order to move to the next page.

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APPENDIX F

AJT instructions

For this task, you will listen to 60 different sentences.

You will be asked to rate, on a scale of 1 to 5, how likely you think it is that an Afrikaans speaker would say the sentences.

Use the keys 1-5 on your keyboard.

Next

This is what the ratings look like. Please take some time to familiarise yourself with them.

Next

1 – This sounds completely ungrammatical, and no Afrikaans speaker would say this.

2 – This sounds strange, and it is very unlikely that an Afrikaans speaker would say this.

3 – This is not standard Afrikaans, but an Afrikaans speaker could say this in certain contexts.

4 – This may not be standard Afrikaans, but an Afrikaans speaker could say this.

5 – This sounds completely grammatical, and an Afrikaans speaker could definitely say this.

Next

Press the "Speel/Herhaal" button to play the audio for the first sentence: after that, the audio will play automatically for the rest of the sentences.

If you wish to listen to a sentence again, press the "speel/heraal" button.

Please turn up your volume!

Let's practise!

Next

498

Now that you know what to do, let's begin!

Please rate, on a scale of 1 to 5, how likely you think it is that an Afrikaans speaker would say the following sentences.

1 – This sounds completely ungrammatical, and no Afrikaans speaker would say this.
2 – This sounds strange, and it is very unlikely that an Afrikaans speaker would say this.
3 – This is not standard Afrikaans, but an Afrikaans speaker could say this in certain contexts.
4 – This may not be standard Afrikaans, but an Afrikaans speaker could say this.
5 – This sounds completely grammatical, and an Afrikaans speaker could definitely say this.

Next

1/60

1   **2**   **3**   **4**   **5**

Speel/Herhaal

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APPENDIX G

CAJT instructions (Full DP scrambling)

Part 1

< Previous   Page 2/5   Next >

You will be presented with 10 scenarios and two corresponding audio replies for each scenario.

Please select which sentence you think an Afrikaans speaker would be more likely to say **in the context of the scenario** you read.

Please ensure that you click on the **audio bar** below the numbers **1** and **0** to listen to the audio.

< Previous   Page 3/5   Next >

If you think it is the **sentence on the left,** press **"1"** on your keyboard.

If you think it is the **sentence on the right,** press **"0"** on your keyboard.

If you are not sure or think that they are both acceptable, press **Spacebar** on your keyboard.

If you do not know: press the **Enter** key.

< Previous   Page 4/5   Next >

Let's practise!

< Previous   Page 5/5   Next >

Please select which sentence you think an Afrikaans speaker would be more likely to say **in the context of the scenario.**

Practice

500

Now that you know what to do, let's begin!

Begin

Twee vriende praat oor hulle vriend Sam se verhouding.

Jane vra: *Wat sê Sam: is sy vrou baie ondersteunend as dit kom by sy lang werksure?*

Alex antwoord:

1	0
▶ 0:00 / 0:03 ◀) ⋮	▶ 0:00 / 0:03 ◀) ⋮
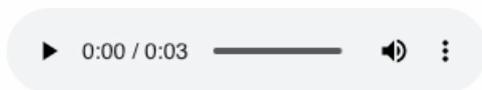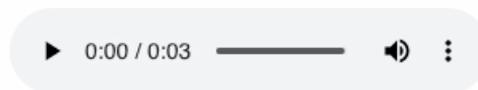
APPENDIX H

CAJT instructions (DN/NC)

Part 2

< Previous   Page 1/4   Next >

You will be presented with 12 scenarios.

In the context of each scenario, please rate, on a scale of 1 to 5, the likelihood of an Afrikaans speaker saying the final **bolded** part of the sentence.

Please ensure that you click on the speaker **below** the sentence to listen to the accompanying audio. Please listen to the audio for each sentence **before** you make your decision.

< Previous   Page 2/4   Next >

This is what the ratings look like:

1 – This sounds completely ungrammatical, and no Afrikaans speaker would say this.

2 – This sounds strange, and it is very unlikely that an Afrikaans speaker would say this.

3 – This is not standard Afrikaans, but an Afrikaans speaker could say this in certain contexts.

4 – This may not be standard Afrikaans, but an Afrikaans speaker could say this.

5 – This sounds completely grammatical, and an Afrikaans speaker could definitely say this.

< Previous   Page 3/4   Next >

Let's practise!

< Previous   Page 4/4   Next >

Now that you know what to do, let's begin!
Here are the ratings again.
1 – This sounds completely ungrammatical, and no Afrikaans speaker would say this.
2 – This sounds strange, and it is very unlikely that an Afrikaans speaker would say this.
3 – This is not standard Afrikaans, but an Afrikaans speaker could say this in certain contexts.
4 – This may not be standard Afrikaans, but an Afrikaans speaker could say this.
5 – This sounds completely grammatical, and an Afrikaans speaker could definitely say this.

Begin

Jana het die hele naweek vir haar seun se koekverkoping gebak, maar ongelukkig het die koek nie verkoop nie. Toe sy dit met haar vriendin Anna bespreek, het sy gesê: **Niemand het niks gekoop nie; dit is so frustrerend!**

▶ 0:00 / 0:04 ━━━━━━ 🔊 ⋮

1   2   3   4   5

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APPENDIX I

AJT structures

Verb placement

Standard (V2/SOV)

(I.1)   *Die hond het   aanhoudend geblaf.*

        the dog have continuously barked.PART

        "The dog barked continuously"

(I.2)   *In Kaapstad   reën dit met tussenposes.*

        in Cape.Town rain it with intervals

        "In Cape Town, it's raining intermittently."

(I.3)   *Daardie kind het   in Matriek uitstekend gedoen.*

        that   child have in Matric outstanding did.PART

        "That child did excellently in Matric."

(I.4)   *Hy het   blykbaar nie vir haar gesien   nie.*

        he have apparently not for her   saw.PART POL

        "He apparently didn't see her."

(I.5)   *Hy kan sien dat sy   daarmee besig is.[73]*

        he can see that she with   with is

        "He can see that she is busy with it."

(I.6)   *Nee man, hy weet   dat hulle dit moet doen!*

        no man he know that they that must do

        "No man, he knows that they must do it!"

(I.7)   *Almal   weet dat sy dit gesê   het.*

        everyone know that she that said.PART have

        "Everyone knows that she said it."

(I.8)   *Het jy gehoor   hoe sy oor haar ma   praat? Dis verskriklik!*

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[73] Note that structures 5 – 6 are the prescriptively sanctioned counterparts (i.e. with the corresponding modal/copula form) of the MsA verb placement structures. The reason these were specifically included, recall, is that a structure-by-structure analysis was conducted for the StdA versus MsA distinction. As such, there are eight StdA structures, whereas there are only four ungrammatical and four MsA structures.

have you hear.PART how she over her   mother talk   it.is terrible

"Did you hear how she talks about her mother? It's terrible!"

Ungrammatical (English-style V3)

(I.9)   *Die meisie het   gepraat   die hele   tyd.*

the girl   have spoke.PART the whole time

"The girl spoke the entire time"

(I.10)   *In Durban dit reën voortdurend.*

in Durban it rain   continuously

"In Durban, it's constantly raining."

(I.11)   *Sam het   gedruip   die laaste toets alweer.*

Sam have failed.PART the laast   test again

"Sam failed the last test again."

(I.12)   *Sy waarskynlik het   nie met haar gepraat   nie.*

she apparently have not with her   talk.PART POL

"She probably didn't talk to her."

Modern Spoken Afrikaans (verb early/wh-V2)

(I.13)   *Sy weet   dat daardie man is 'n skelm.*

she knows that that   man is a crook

"she knows that man is a sly character."

(I.14)   *Sy jok as sy sê   dat hulle moet dit doen; ek het   gesê   hulle hoef   nie.*

she lie if she say that they must it   do;   I   have said.PART they have.to POL

"She's lying if she says they must do it; I said they don't have to."

(I.15)   *Jan het   gesê   dat hulle het   altyd   poetse vir mekaar   gebak.*

Jan have said.PART that they have always pranks for each.other bake.PART

"Jan said that they always played pranks on one another."

(I.16)   *Sien hoe   kyk hy vir haar?*

see   how look he for her

"Can you see how he's looking at her?"

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Sentential negation

Standard Afrikaans (nie…nie)

(I.17) *Sy gaan nie werk toe nie.*

she go not work to POL

"She's not going to work."

(I.18) *Sy het nie gedoen   wat sy belowe het nie.*

she have not did.PART what she promise have POL

"She didn't do what she promised she would."

(I.19) *Hulle wil nie lyk   asof hulle nie weet wat   aangaan nie.*

they   wil not look as.if they not know what going.on POL

"They don't want to look like they don't know what's going on."

(I.20) *Sy het   gesê   dat sy   nie teleurgesteld is nie.*

she have said.PART that she not disappointed is POL

"She said that she wasn't disappointed."

(I.21) *Ek het   NIE dit gesê   nie.*

I   have not that say.PART POL

"I did NOT say that."

(I.22) *Sy   lieg. Sy het   NIE gevra   nie!*

she lie   she have not   ask.PART POL

"She is lying. She did NOT ask!"

(I.23) *Moenie dit sê nie!*

must.not that say POL

"Don't say that!"

(I.24) *Moenie so   met haar praat nie!*

must.not like with her   talk   POL

"Don't talk to her like that!"

(I.25) *Matt oefen   nie op die oomblik nie.*

Matt exercise not on the moment POL

"Matt's not exercising at the moment."

Modern Spoken Afrikaans (*nie*-drop)

(I.26)   *Hy ry   nie môre;   hy gaan eers Dinsdag ry.*

           he drive not tomorrow he go   first Thursday drive

           "He's not driving tomorrow, he's only driving on Tuesday."

(I.27)   *Liz sal   nie betyds   wees.*

           Liz will not on.time be

           "Liz won't be on time."

(I.28)   *Sam wou   nie erken   dat sy   nie besig was.*

           Sam want.PART not acknowledge that she not busy was

           "Sam didn't want to acknowledge that she wasn't busy."

(I.29)   *Hy het   gesê   dat hy nie siek is.*

           he have said.PART that he not sick is

           "He said that he wasn't sick."

(I.30)   *Sy kan NIE dit doen.*

           she can not that do

           "She CANNOT do that."

(I.31)   *Jy   gaan NIE môre   partyjie toe: dis   finaal.*

           you go   not tomorrow party   to   it.is final

           "You are NOT going to the party tomorrow: and that's final."

(I.32)   *Moenie dit   doen!*

           must.not that   do

           "Don't do that!"

(I.33)   *Moenie uit die klas loop - ek waarsku jou!*

           must.not out the class walk   I warn   you

           "Don't walk out the class – I am warning you!"

(I.34)   *Pa werk   nie môre   by die huis, maar by die kantoor.*

           dad work not tomorrow at the house but   at the office

           "Dad's not working at home tomorrow, but rather at the office."

Pronominal scrambling

BP scrambling: scrambled

(I.35) *Jan het hom gister   gehelp.*
        Jan have him yesterday help.PART
        "Jan helped him yesterday"

(I.36) *Frank wou   hom onmiddellik stop.*
        Frank wanted.PART him immediately stop
        "Frank wanted to stop them immediately."

(I.37) *Jana het   hulle nie gegroet   nie.*
        Jana have them not greet.PART POL
        "Jana didn't greet them."

BP scrambling: unscrambled

(I.38) *Sy   het gister   haar ontstel.*
        she have yesterday her   upset
        "She upset her yesterday."

(I.39) *Hulle het   gereeld   haar gesien.*
        they   have regularly her   saw.PART
        "The saw her regularly."

(I.40) *Ouma kan nie haar verstaan   nie.*
        ouma can not her   understand POL
        "Gran can't understand her."

OM scrambling: scrambled

(I.41) *Sy weet   dat sy   vir hom altyd   sal ondersteun.*
        she knows that she for him always will support
        "She knows that she will always support him."

(I.42) *Ma   het   vir hom per ongeluk raakgery.*
        mom have for her by accident run.over
        "Mom rode over him by accident."

(I.43) *Sy mag vir hom nie bel nie.*

she may for him not call POL

"She's not allowed to call him."

OM scrambling: unscrambled

(I.44)   *Sy onthou   dat sy altyd   vir hom gehelp   het.*
           she remember that she always for him help.PART have
           "She rememebers that she always helped him."

(I.45)   *Die hond het   gisteraand vir haar gebyt.*
           the dog   have yesterday for her   bit.PART
           "The dog bit her yesterday evening."

(I.46)   *Leon wou   nie vir hom ontmoet nie.*
           Leon want.PART not for him   meet   POL
           "Leon didn't want to meet him."

APPENDIX J

CAJT structures

Part I: Full DP scrambling (contextually appropriate option <u>underlined</u>)

Anaphoric/old information context

(J.1)   *Twee kollegas wonder oor wat van 'n verlore handboek geword het.*
         "Two colleagues wondered what happened to a lost textbook."

         Marie vra: *Maar wat het hy met die boek gedoen?*
                    "But what did he do with the book?"
         Anna antwoord:

         Hy het   gister   dit vir Susan gegee.   (unscrambled)
         he have yesterday it   for Susan gave.PART

         <u>*Hy het   dit gister   vir Susan gegee.*</u>   (scrambled)
         he have it yesterday for Susan gave.PART
         "He gave it to Susan yesterday."

(J.2)   *Twee dosente beplan die hantering van studente wat met siekverlof was.*
         "Two lecturers plan how to deal with students who were on sick leave."

         Dr Smith vra: *Maar wat van Jane? Sy moet nog seker die toets skryf, nie waar nie?*
                       "But what about Jane? She must still be writing the test, right?"
         Dr Nel antwoord:

         Die dosent   gaan môre   Jana die toets laat   doen.   (unscrambled)
         the lecturer go   tomorrow Jana the test   allow do

         <u>*Die dosent   gaan Jana môre   die toets laat   doen.*</u>   (scrambled)
         the lecturer go   Jana tomorrow the test   allow do
         "The lecturer is going to allow Jana to do the test tomorrow."

(J.3)   *Twee verpleegsters bespreek 'n kollega se behandeling van bejaarde pasiënte.*
         "Two nurses discuss a colleague's treatment of elderly patients."

         Suster Mary vra: *Hoe het Jana <u>hulle</u> hanteer? Was sy 'n bietjie ongeduldig?*
                        "How did Jana handle them? Was she a little impatient?"

Suster Lana antwoord:

Glad nie, Jana het   met geduld   die ou mense hanteer.   (unscrambled)
not.at.all Jana have with patience the old people handled

Glad nie, Jana het   die ou   mense met geduld   hanteer.   (scrambled)
not.at.all Jana have the old people with patience handled
"Not at all, Jana handled the old people with patience."

Non-anaphoric/new information context

(J.4)   *Twee vriende gesels oor verlede Vrydagaand se partytjie.*
          *"*Two friends chat about last Friday night's party."

          Catherine sê: *Het alles goed afgeloop?*
                    "Did everything go well."
          Jana antwoord:
          Ja, behalwe dat Jan heeltyd   die   musiek afgeskakel   het.   (unscrambled)
          yes except   that Jan constantly the   music   switched.off have

          Ja, behalwe dat Jan die musiek heeltyd   afgeskakel   het.   (scrambled)
          yes except   that Jan the music   constantly switched.off have
          "Yes, except that Jan turned the music off the whole time."

(J.5)   *'n Egpaar bespreek die werk wat hulle vriend, Kobus, rondom die huis moet kom doen.*
          *"*A couple discusses the work that their friend, Kobus, has to come and do around the house."

          Sam vra: *Wat doen hy môre?*
                    "What is he doing tomorrow?"
          Jan antwoord:
          Hy gaan môre   die hek regmaak.   (unscrambled)
          he go   tomorrow the gate fix

          Hy gaan die hek môre regmaak.   (scrambled)
          he go the gate tomorrow fix
          "He is going to fix the gate tomorrow."

(J.6).   *'n Broer en suster, Tom en Carol, bespreek 'n argument tussen hulle ma en hulle broer Piet.*
          *"*A brother and sister, Tom and Carol, discuss an argument between their mother and their brother
          Piet."

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Tom sê: *Miskien moet Pa met hulle praat. Hy kan dalk dinge tussen hulle uitsorteer.*

      "Maybe Dad should talk to them. He might be able to sort things out between them."

Carol reageer:

<u>*Ek twyfel, Pa   sal   altyd   vir Piet verdedig.*</u>   (unscrambled)

I   doubt dad will always for Piet defend

Ek twyfel, Pa sal vir Piet altyd   verdedig.   (scrambled)

I   doubt dad will for Piet always defend

"I doubt it, dad will always defend Piet."

Part II: Double negation/Negative concord

Double Negation

(J.7)   *Die Jacobson se huis was die meeste Sondae ontspanne, en niemand het enigiets gedoen nie. Hierdie Sondag, egter, het die ouers verskeie werkstake afgehandel en die kinders hul huiswerk.* **Niemand het niks gedoen nie.** *Hoe bevredigend!*

    "The Jacobson's home was relaxed most Sundays, and no one did anything. This Sunday, however, the parents completed several chores and the children their homework. **Nobody did nothing (everybody did something).** How satisfying!"

(J.8)   *Met 'n onlangse besoek aan die Kruger Wildtuin, was die meeste dae maar stil en niemand het enige wild kon sien nie. Die laste dag was egter fantasties: **niemand het niks gesien nie!***

    "With a recent visit to the Kruger National Park, most days were quiet and no one could see any game. The last day, however, was fantastic: **no one saw nothing (i.e. everybody saw something**)!"

(J.9)   *James se ouers het besluit om nie vir hom presente vir sy verjaarsdag te gee nie, want die res van die familie het hom so bederf. James sê: Dis nie regverdig nie**: ek het nooit vantevore niks gekry nie!***

    "James' parents decided not to give him presents for his birthday because the rest of the family spoiled him so much. James says: It's not fair: **I've never got nothing before (i.e. I've always gotten something)."**

(J.10) *Vir de eerste keer in haar lewe, het Mary niemand vergeet as dit by die koop van Kersgeskenke kom nie;* **sy het niemand niks gegee nie.**

"For the first time in her life, Mary has not forgotten anyone when it comes to buying Christmas presents; **there is no one whom she gave nothing to (i.e. She gave everybody something**)."

(J.11) *Judy se gesin is gewoonlik baie gesond. Hierdie winter, egter, is almal siek. Toe 'n vriendin verneem hoe dit met haar en haar gesin gaan, sê sy:* **Daar is met niemand niks verkeerd nie.** *Almal is siek!*

"Judy's family is usually very healthy. This winter, however, everyone is sick. When a friend heard about her and her family, she said: **No one has nothing wrong with them (i.e. everyone has something wrong with them).** Everyone is sick!"

(J.12) *Karel sê: Luke was teleurgesteld na sy afskeidspartytjie, want baie mense het nie die moete gedoen om vir hom 'n geskenk te koop nie.*
Mike antwoord: Dis net nie waar nie, want **niemand het niks vir hom gegee nie.**

"Karel says: Luke was disappointed after his farewell party, because many people did not bother to buy him a present.
Mike replies: It's just not true because **no one gave him nothing**."

Negative Concord

(J.13) *Kersfees was nie 'n gelukkige tyd in Jaco se huis nie:* **niemand het niks vir Kersfees gekry nie.**

"Christmas was not a happy time in Jaco's house: **no one got nothing for Christmas (i.e. no one got anything for Christmas)."**

(J.14) *Sue het gedink haar kongresvoordrag was hoogs suksesvol, maar daar was geen vrae oor haar navorsing nie. Toe haar man gevra het hoe die vraag-en-antwoordsessie verloop het, het sy gesê:* **Niemand het niks gevra nie; ek was heeltemal verbaas.**

"Sue thought her conference presentation was highly successful, but there were no questions about her research. When her husband asked how the question-and-answer session went, she said: **No one asked nothing (no one asked anything); I was completely amazed."**

(J.15) *Jana het die hele naweek vir haar seun se koekverkoping gebak, maar ongelukkig het die koek nie verkoop nie. Toe sy dit met haar vriendin Anna bespreek, het sy gesê:* **Niemand het niks gekoop nie; dit is so frustrerend!**

"Jana baked all weekend for her son's cake sale, but unfortunately the cake did not sell. When she discussed this with her friend Anna, she said: **No one bought nothing (no one bought anything)**; it's so frustrating!"

(J.16) *Voor die onderwyseres die klas verlaat, waarsku sy die kinders om in die klas te bly. Met haar terugkoms, lyk die studente skuldig en een student sê: Niemand het nêrens gegaan nie, ek belowe jou.*

*"*Before the teacher leaves the class, she warns the children to stay in the class. Upon her return, the students look guilty and one student says: **No one went nowhere (no one went anywhere)**, I promise you."

(J.17) *Terwyl Jan 'n verrassingspartytjie vir haar broer beplan, dink sy haar ouers kon hom dalk daarvan vertel het. Toe Jane haar ma vra, sê haar ma: Niemand het hom niks gesê nie!*

"While Jan is planning a surprise party for her brother, she thinks her parents might have told him about it. When Jane asked her mother, her mother said: **No one told him nothing (no one told him anything)!"**

(J.18) *Toe die skoolhoof met Piet praat oor hoekom een van die seuns geboelie is, vra hy: Wat het gebeur? En ek wil die waarheid hê!*
Piet antwoord: Niemand het niks aan hom gedoen nie, ek belowe!

"When the principal talks to Piet about why one of the boys was bullied, he asks: What happened? And I want the truth!
Piet answers: **Nobody did nothing to him, I promise (i.e. nobody did anything to him, I promise)**!"

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