## Conference on Multilingualism <br> (COM)

## COM 2021 2

## Book of Abstracts

Universität Konstanz


## Programme (CEST/UTC+2)

| DAY 1: 23 ${ }^{\text {rd }}$ June 2021 |  |
| :--- | :--- |
| $9.00-9.15$ | Welcome and opening of COM 2021 by Theodoros Marinis, Director of the <br> Centre for Multilingualism |
| $9.15-10.15$ | Keynote 1: Jeanine Treffers-Daller: Living apart together. A critical <br> review of the ways in bilinguals mix and separate their languages in <br> code-switching and translanguaging (Chair: Bernhard Brehmer) |
| $10.15-10.30$ | Break |
| SESSION 1: Vocabulary / Lexicon (Chair: Jeanine Treffers-Daller) |  |
| $10.30-11.00$ | Nina-Sophie Sczepurek and Josje Verhagen: The Role of Caregivers' <br> Language Input in Early Bilingual Learners: Relating Caregivers' Code- <br> switching and Proficiency to Children's Receptive Vocabulary |
| $11.00-11: 30$ | Roopa Leonard, Michael Daller and Holly Joseph: The Influence of the L1 <br> on L2 Collocation Processing of Tamil-English Bilingual Children |
| $11.30-12.00$ | Sophie Booton, Elizabeth Wonnacott, Alex Hodgkiss, Sandra Mathers and <br> Victoria Murphy: Children's knowledge of multiple word meanings: Which <br> factors count for first and second language learners? |
| $12.00-12.30$ | Eliane Lorenz, Yevheniia Hasai and Peter Siemund: Multilingual lexical <br> transfer breaks monolingual educational norms: Not quite! |
| $12.30-14.30$ | Lunch break and Interactive Session 1 for asynchronous talks and posters |


| Interactive Session 1 for asynchronous talks and posters |  |  |  |  |
| :--- | :--- | :--- | :--- | :---: |
|  |  <br> Vocabulary (Chair: <br> Michal Korenar) |  <br> Health \& Brain (Chair: <br> Natalia Meir) |  <br> Syntax (Chair: <br> Angelika Golegos) |  |
| 12:45-12:55 | Margaret Deuchar, Wiljo <br> Bovekerk, Anna Somsen <br> and M. Carmen Parafita <br> Couto: Comparing code- <br> switching patterns in two <br> bilingual communities <br> with the same minority <br> language (poster) | Maren Eikerling, Andrea <br> Bigagli and Maria Luisa <br> Lorusso: Computerized <br> reading screening to <br> identify dyslexia risk in <br> Italian-Mandarin <br> bilingual children <br> (poster) | Elisa Di Domenico, Ioli <br> Baroncini and Diletta <br> Comunello: Outward <br> over-explicitness and <br> the over-use of overt <br> subject pronouns by <br> L2ers |  |
| 12:55-13:05 | Sheikha Majid, Jeanine <br> Treffers-Daller and <br> Naomi Flynn: Mixing <br> two unrelated languages: <br> Congruent lexicalization <br> in Malay-English code- <br> switching | Eva Knopp, Fleur de <br> Mulder, Mirjam <br> Broersma and Roeland <br> van Hout: Crosslinguistic <br> influence in bilingual <br> spelling: evidence from <br> two closely-related <br> languages Dutch and <br> German (poster) | Aldona Sopata and <br> Bernhard Brehmer: <br> Subject realization in <br> heritage Polish: A <br> comparison of different <br> age groups |  |

$\left.\begin{array}{|l|l|l|l|}\hline \text { 13:05-13:15 } & \begin{array}{l}\text { Carla Contreras- } \\ \text { Saavedra, Klaus } \\ \text { Willmes, Iring Koch and } \\ \text { Andrea Philipp: The } \\ \text { interplay of language } \\ \text { switching and } \\ \text { morphological } \\ \text { configuration switching }\end{array} & \begin{array}{l}\text { Francesca Costa and } \\ \text { Maria Teresa Guasti: } \\ \text { Monoliteracy or } \\ \text { biliteracy in second } \\ \text { language learners of } \\ \text { Italian (poster) }\end{array} & \begin{array}{l}\text { Grazia Di Pisa and } \\ \text { Theodoros Marinis: } \\ \text { Grammatical gender } \\ \text { agreement in Italian as a } \\ \text { Heritage Language }\end{array} \\ \hline \text { 13:15-13:25 } & \begin{array}{l}\text { Mathieu Declerck and } \\ \text { Andrea Philipp: } \\ \text { Voluntary language } \\ \text { switching while typing } \\ \text { (poster) }\end{array} & \begin{array}{l}\text { Anastasia Kaprielova, } \\ \text { Anna Laurinavichute and } \\ \text { Anastasiya Lopukhina: } \\ \text { Eye-movements during } \\ \text { Reading in Children with } \\ \text { Hearing Loss (poster) }\end{array} & \begin{array}{l}\text { Juana Liceras and } \\ \text { Nelson Mendez: } \\ \text { Crosslinguistic } \\ \text { influence: Is the } \\ \text { distribution of null and } \\ \text { overt subjects in Guajiro } \\ \text { Spanish permeable to } \\ \text { the existence of two } \\ \text { different conjugations } \\ \text { (analytical and } \\ \text { synthetic) in } \\ \text { Wayuunaiki (poster) }\end{array} \\ \hline \text { 13:25-13:35 } & \begin{array}{l}\text { Amalia Merino: } \\ \text { Incorporating English } \\ \text { Verbs in the Spanish of } \\ \text { South Texas (poster) }\end{array} & \begin{array}{l}\text { Iris Hindi and Natalia } \\ \text { Meir: Theory of Mind } \\ \text { and Language Skills of } \\ \text { Bilingual Children with } \\ \text { Autism Spectrum } \\ \text { Disorder (ASD) }\end{array} & \begin{array}{l}\text { Alexander Cairncross, } \\ \text { Margreet Vogelzang } \\ \text { and Ianthi Tsimpli: } \\ \text { Pseudorelatives, } \\ \text { Relatives and L1- } \\ \text { Attrition: Resilience and } \\ \text { vulnerability in } \\ \text { attachment ambiguities }\end{array} \\ \hline \text { 13:45-13:55 } & \begin{array}{l}\text { Eihab Abu-Rabiah: } \\ \text { Assessing the } \\ \text { Vocabulary of Arabic } \\ \text { Bilingual Speakers in } \\ \text { Israel }\end{array} & \begin{array}{l}\text { Elena Soare, Alexandru } \\ \text { Mardale and Larisa }\end{array} \\ \text { Avram: Relative clauses } \\ \text { in heritage Romanian in } \\ \text { a French-dominant } \\ \text { context (poster) }\end{array}\right\}$

| 13:55-14:05 | Pamela Toassi and <br> Mailce Mota: Lexical <br> access of trilingual <br> speakers of Brazilian <br> Portuguese, German and <br> English in language <br> comprehension and <br> production (poster) |  | Carla Contemori and <br> Alma L. Armendariz <br> Galaviz: The use of <br> pronoun interpretation <br> biases in unbalanced <br> Spanish-English <br> bilinguals: the role of <br> language experience <br> (poster) |
| :--- | :--- | :--- | :--- |
| 14:05-14:15 | Erin Quirk and Cathy <br> Cohen: The cognate <br> advantage in picture- <br> identification in bilingual <br> children from elementary <br> into middle school years <br> (poster) |  |  |


|  | SESSION 2: Pronouns (Chair: Georg Kaiser) |
| :--- | :--- |
| $14.30-15.00$ | Chantal van Dijk, Anna Aumeistere, Susanne Brouwer, Ton Dijkstra and <br> Sharon Unsworth: Cross-linguistic influence on pronoun resolution in <br> simultaneous bilingual Turkish-Dutch children: An eye-tracking study |
| $15.00-15.30$ | Carla Contemori and Natalia Irene Minjarez Oppenheimer: Changing <br> pronoun interpretations across-languages: discourse priming in Spanish- <br> English bilingual speakers |
| $15.30-16.00$ | Roberta Spelorzi, Giuditta Smith, Antonella Sorace and Maria Garraffa: <br> Optionality in generational attrition: Italian clitics pronouns in first <br> language attriters and heritage speakers |
| $16.00-16.30$ | Break |
| $16.30-17.30$ | Panel: Family literacy (Chair: Theodoros Marinis) |
| $17.30-18.00$ | SESSION 3: Health (Chair: Teresa Guasti) |
| $18.00-18.30$ | Natalia Meir and Rama Novogrodsky: Language-universal and language- <br> specific properties of referential use: evidence from bilingual children with <br> and without Autism Spectrum Disorder |
| $18.30-19.00$ | Anastasia Kromina and Anna Laurinavichyute: Eye-movement Comparison <br> in Reading in Deaf and Hard-of-hearing Russian Sign Language Speakers |
| 19.00 | Maria Vender, Mirta Vernice and Chiara Melloni: Rapid naming skills in <br> monolingual and bilingual children with and without developmental <br> dyslexia |
|  | Social get-together |
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| DAY 2: 24 |  |
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|  | June 2021 |
|  | SESSION 4: Neurolinguistics (Chair: Tanja Rinker) |
| $9.00-9.30$ | Sarah von Grebmer zu Wolfsthurn, Leticia Pablos and Niels O. Schiller: <br> Non-native noun phrase production in multilingual learners: An ERP study |
| $9.30-10.00$ | Michal Korenar, Jeanine Treffers-Daller and Christos Pliatsikas: Bilingual <br> experiences cause dynamic changes to the volumes of the basal ganglia: <br> evidence from interpreters and translators |
| $10.00-10.30$ | Sergio Miguel Pereira Soares, Maki Kubota, Eleonora Rossi and Jason <br> Rothman: Bilingualism as a Life Experience Induces Dynamic Changes in <br> Resting State EEG Oscillations |
| $10.30-11.00$ | Johanna Tomczak, Jean-Francois Delvenne and Ekaterini Klepousniotou: <br> Interhemispheric transfer in monolingual and bilingual young and older <br> adults in a divided-field Stroop task |
| $11.00-11.30$ | Break \& Yoga session with Muna Schönhuber |
|  | SESSION 5: Gender (Chair: Grazia Di Pisa) |
| $11.30-12.00$ | Tanja Verkhovtceva and Natalia Meir: Integration of morphosyntactic <br> information in Heritage Russian: effects of cross-linguistic influence, <br> working memory and extralinguistic factors |
| $12.00-12.30$ | Kamil Długosz: The effect of non-native German on grammatical gender <br> retrieval in L1 Polish |
| $12.30-13.00$ | Rachel Klassen, Nadine Kolb, Holger Hopp and Marit Westergaard: <br> Interactions between syntactic and lexical gender congruency in L1 <br> Spanish-L2 German speakers |
| $13.00-15.00$ | Lunch break and Interactive Session 2 for asynchronous talks and posters |


| Interactive Session 2 for asynchronous talks and posters |  |  |  |
| :--- | :--- | :--- | :--- |
|  | $\begin{array}{l}\text { Panel 1: } \\ \text { Multilingualism in the } \\ \text { Classroom (Chair: } \\ \text { Federico Faloppa) }\end{array}$ | $\begin{array}{l}\text { Panel 2: } \\ \text { Sociolinguistics (Chair: } \\ \text { Bernhard Brehmer) }\end{array}$ | $\begin{array}{l}\text { Panel 3: Processing and } \\ \text { Cognition (Chair: } \\ \text { Anamaria Bentea) }\end{array}$ |
| 13:15-13:25 | $\begin{array}{l}\text { Colin Reilly, Hannah } \\ \text { Gibson, Nancy Kula } \\ \text { and Tracey Costley: } \\ \text { Multilingualism and } \\ \text { education: comparing } \\ \text { policy and practice in } \\ \text { Botswana \& Zambia } \\ \text { (poster) }\end{array}$ | $\begin{array}{l}\text { Elena Koulidobrova and } \\ \text { Liliana Sanchez: } \\ \text { Indigenous communities } \\ \text { in multilingual countries } \\ \text { in the time of the } \\ \text { pandemic... messages } \\ \text { (not) received: Quechua } \\ \text { and Shipibo in rural } \\ \text { Peru. }\end{array}$ | $\begin{array}{l}\text { Tanya Ivanova-Sullivan, } \\ \text { Davood Tofighi, Maria } \\ \text { Polinsky and Irina A. } \\ \text { Sekerina: Heritage } \\ \text { Speakers Do Not Differ } \\ \text { from Monolinguals in } \\ \text { Clitic Processing in } \\ \text { Bulgarian (poster) }\end{array}$ |
| $13: 25-13: 35$ | $\begin{array}{l}\text { Andreana Pastena: } \\ \text { Undergraduates’ } \\ \text { plurilingual repertoires } \\ \text { and in-class translingual } \\ \text { practices in a multi- } \\ \text { dimensionally } \\ \text { internationalized } \\ \text { classroom }\end{array}$ | $\begin{array}{l}\text { Ilias Vierendeels: } \\ \text { Turning back the } \\ \text { language clock: } \\ \text { constructing } \\ \text { multilingualism as } \\ \text { problem in the Dutch- } \\ \text { and French-medium } \\ \text { written press in Belgium } \\ \text { (1995-2018) }\end{array}$ | $\begin{array}{l}\text { Theresa Bloder, Valerie } \\ \text { Shafer and Tanja Rinker: } \\ \text { Processing of Voice }\end{array}$ |
| Onset Time Differences |  |  |  |
| in Monolingual German |  |  |  |
| versus Bilingual Italian- |  |  |  |
| German Preschoolers. |  |  |  |
| (poster) |  |  |  |$\}$


| 13:35-13:45 | Inmaculada Senra- <br> Silva, Rubén Chacón- <br> Beltrán and Diego <br> Ardura-Martínez: <br> BiMo: Bilingualism in <br> Monolingual Contexts | Sviatlana Karpava: <br> Multilingualism in <br> Cyprus: Perceptions of <br> Majority and <br> Minority/Immigrant <br> Speakers | Hiroko Tajika, Ryoko <br> Saito, Saeko Noda, <br> Natsumi Okuwaki, <br> Noriko Hoshino and <br> Saeko Toyoshima: <br> Connecting Top-down <br> and Bottom-up <br> Processing in Reading <br> Comprehension -- |
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|  |  |  | Lexical Inferencing and <br> Comprehension of Text <br> (poster) |
| 13:45-13:55 | Sugene Kim: Japanese <br> L2 learners and their <br> teachers' attitudes <br> toward translanguaging <br> in an EMI context: A <br> qualitative study | Steven Byrne, Aleida <br> Bertran and Anna <br> Tudela: Authentic or <br> Anonymous: Language <br> Ideologies of Catalan <br> University Students in a | Yun Wang and Jeanine <br> Treffers-Daller: <br> Individual differences <br> explaining second <br> language listening <br> comprehension: A study <br> of Chinese learners of <br> Enanging Political <br> Context. |
| English (poster) |  |  |  |


| 15.00-15.10 | Welcome address by the Rector of the University of Konstanz, Prof Dr <br> Katharina Holzinger |
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| $15.10-16.10$ | Keynote 2: Francis Hult: English in a Multilingual World (Chair: <br> Tanja Kupisch) |
| $16.10-16.30$ | Break |
| $16.30-17.00$ | SESSION 6: Applied Linguistics (Chair: Despoina Papadopoulou)Bianca Katharina Mohr: Emotional Salience in Minority Language <br> Transmission: How Minority Language-Speaking Parents are caught <br> between Emotional and Pragmatic Needs |
| $17.00-17.30$ | Gorka Basterretxea Santiso: The Linguistic Landscape in Rural Areas: The <br> Basque Country as a Case Study |
| $17.30-18.00$ | Solange Ariel Andrea Santarelli and Federico Faloppa: Linguistic <br> autobiography in multilingual classrooms of adult migrants: a case study at <br> CPIA PALERMO 1 |
| $18.00-18.30$ | Evgeniia Iurinok: Translanguaging in a multilingual classroom |
| 19.00 | Social get-together |

DAY 3: 25 ${ }^{\text {th }}$ June 2021

| $9.00-10.00$ | Keynote 3: Tanja Rinker: Fostering multilingual language <br> development in the mainstream classroom: Lessons learned from <br> bilingual education? (Chair: Theodoros Marinis) |
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| $10.00-10: 30$ | Break \& Yoga session with Muna Schönhuber |
|  | SESSSION 7: Processing (Chair: Holger Hopp) |
| $10.30-11.00$ | Sharon Unsworth and Chantal van Dijk: Cross-linguistic influence in <br> bilingual Spanish-Dutch and French-Dutch children: Evidence from cross- <br> language structural priming |
| $11.00-11.30$ | Jasmijn Bosch, Maria Teresa Guasti, Fabrizio Arosio and Francesca <br> Foppolo: The relation between reading and language in multilingual and <br> monolingual Italian children |
| $11.30-12.00$ | Margreet Vogelzang and Ianthi Tsimpli: Contextual influences on syntactic <br> attachment in L2 reading |
| $12.00-12.30$ | Kalliopi Katsika, Maria Lialiou and Shanley Allen: Bilingual processing of <br> complex structures: evidence from heritage Greek |
| $12.30-14.30$ | Lunch break and Interactive Session 3 for asynchronous talks and posters |


| Interactive Session 3 for asynchronous talks and posters |  |  |
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|  | Panel 1: Bilingual experience (Chair: <br> Cecile de Cat) | Panel 2: Transfer, CLI and L3 <br> acquisition (Chair: <br> Anika Lloyd-Smith) |
| 12:45-12:55 | Sofía Castro, Kalinka Timmer and <br> Zofia Wodniecka: Am I Really <br> Monolingual? The Importance of <br> Understanding Linguistic Experiences <br> in Monolinguals | Marie Barking, Maria Mos and Ad <br> Backus: Individual Differences in <br> Transfer and Entrenchment |
| 12:55-13:05 | Pearl Leung: Changes in language use <br> in inner speech during study abroad: a <br> longitudinal mixed methods study on <br> Chinese university students in the UK <br> (poster) | Zahra Hamadah, Fraibet Aveledo and <br> Jeanine Treffers-Daller: Bidirectional <br> Transfer in the Acquisition of English <br> Articles by Arabic-English Bilingual <br> Adults and Children |
| 13:05-13:15 | Alex Hodgkiss, Sandra Mathers, <br> Sonali Nag, Tania Choudhury, Julian <br> Grenier and Victoria Murphy: A <br> mixed-methods investigation into the <br> home language environment of <br> Bengali and Sylheti speaking children <br> in the UK. (poster) | Adel Chaouch-Orozco, Jorgeq <br> González Alonso and Jason Rothman: <br> L2 exposure/use, prime frequency and <br> the degree of semantic overlap <br> modulate cross-language priming <br> effects |
| 13:15-13:25 | Valeria Agostini, Ian Apperly and <br> Andrea Krott: Early second language <br> learning at school can boost creativity | Elena Tribushinina, Betül Boz and <br> Elma Blom: Bilingual advantages in <br> L3 learning: The role of informal L3 <br> exposure (poster) |


| 13:25-13:35 | Konstantina Olioumtsevits, Despina <br> Papadopoulou and Theodoros Marinis: <br> Refugee children in primary <br> education: outlining their profile and <br> aspects of their L2 Greek <br> development (poster) | Ronald Shabtaev, Joel Walters and <br> Sharon Armon-Lotem: Characterizing <br> code-switching in the context of <br> language shift and maintenance across <br> three generations of Mountain Jews in <br> Israel (poster) |
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| 13:35-13:45 | Aneta Bučková: Language biographies <br> as a tool for exploring bilingual speech <br> (poster) | Clara Fridman and Natalia Meir: A <br> Comparative Study of Heritage <br> Russian in Contact with Hebrew and <br> English |
| 13:45-13:55 |  | Eugenio Goria and Margherita Di <br> Salvo: Contact-related and input- <br> related factors in auxiliary selection: <br> evidence from Italo-Romance varieties <br> (poster) |


|  | SESSION 8: Syntax (Chair: Sharon Unsworth) |
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| $14.30-15.00$ | Mathieu Lecouvet: Broadening the spectrum of syntactic complexity <br> measures in relation to the typological specificities of the target language: <br> A corpus-based study of word order diversity in L2 German |
| $15.00-15.30$ | Rut Benito, Núria de Rocafiguera and Aurora Bel: Directionality and <br> intensity of cross-linguistic influence: Evidence from Differential Object <br> Marking in Catalan-Spanish bilinguals |
| $15.30-16.00$ | Robyn Berghoff, Marianne Gullberg and Gerrit Jan Kootstra: Non-shared <br> word order can be primed in code-switched utterances: Evidence from <br> Afrikaans-English bilingual production |
| $16.00-16.30$ | Tatiana Perevozchikova: Possessives in Russian as a foreign and a heritage <br> language: comprehension / production (a)symmetry |
| $16.30-17.00$ | Break |
| $17.00-17.30$ | SESSION 9: Bilingual Experience / Factors (Chair: Shanley Allen) |
| $17.30-18.00$ | Cecile De Cat, Drasko Kascelan, Philippe Prevost, Ludovica Serratrice, <br> Laurie Tuller and Sharon Unsworth: How to Quantify Bilingual <br> Experience? A Delphi Consensus Survey |
| $18-18.30$ | Christos Makrodimitris and Petra Schulz: Family input is to the heritage <br> language what formal instruction is to the second language: evidence from <br> Greek-German bilingual children |
| $18.30-18.50$ | Eliane Lorenz, Tugba Elif Toprak and Peter Siemund: Why are they so <br> similar? The impact of extra-linguistic variables on monolingual and <br> bilingual learners of English |
| 19.00 | Closing remarks by Tanja Kupisch |
| Social get-together |  |

# Assessing the Vocabulary of Arabic Bilingual Speakers in Israel 

Eihab Abu-Rabiah ${ }^{l}$<br>${ }^{1}$ Ben-Gurion University of the Negev, Hebrew Language Department aehab@post.bgu.ac.il

Introduction: In this talk I will present my research on the Hebrew vocabulary of Arabic-speaking bilinguals in Israel. Arabic speakers constitute about $21 \%$ of the total population in Israel. They are constantly exposed to Hebrew, the official and majority language in the country, prevailing in government offices, medical institutions, academic institutions and generally in the public space. As such, it is imperative for daily life (Amara, 2017). Currently, Israel has two parallel education systems: one conducted in Hebrew; and the other conducted in Arabic, with Hebrew taught as a required L2 starting from second grade. Methodology: This study examines the lexical density (LD) for the first time in expository essays of 23 intermediate Arabic-speaking public high school students over one year (tested in11th grade and 12th grade) and aims to adapt LD to better suit the morphosyntactic and orthographic properties of Hebrew. LD is one of the most common measures in evaluating progress in vocabulary acquisition in both L1 and L2 (Lauren, 2002). It measures the percentage of content words out of all words (content and function words) in spoken or written texts (Ure, 1971; Berman, 2008). This measure is an important indicator of textual richness because content words convey the bulk of the semantic content of the text (Berman et al., 2011). Testing LD in Hebrew, however, is somewhat challenging because of the orthographic characteristics of this synthetic language: one orthographic word in Hebrew may contain a content word and one or more function words. For example, the single orthographic word שבביתו (še-be-beto) 'which is in his house' parallels five orthographic words in English. To test LD in Hebrew I proposed an adapted approach which enables compatibility with the parallel measure, as used conventionally in analytic languages like English. I used both approaches in testing LD in Hebrew of the Arabic-speaking students, then compared the two results. The main two advantages of the adapted approach are an adequate representation of individual words in the text ,in terms of both functions and of frequency. Findings: The results show a statistically significant difference between the conventional approach and the adapted approach. No significant increase in LD over the tested period was found, but there was a small effect size. In addition, it was found that with age the students used more morphosyntactically complex parts of speech.

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## References

Amara, M. (2017). Arabic in Israel: Language, identity and conflict. Routledge.
Berman, R. A. (2008). The psycholinguistics of developing text construction. Journal of Child Language, 35(4), 735-771.
Berman, R., Nayditz, R., \& Ravid, D. (2011). Linguistic diagnostics of written texts in two school-age populations. Written Language \& Literacy, 14(2), 161-187.
Laurén, U. (2002). Some lexical features of immersion pupils' oral and written narration. Working Papers in Linguistics, 50, 63-78.
Ure, J. (1971). Lexical Density and Register Differentiation. In G.E. Perren, \& J .M. Trim (Eds.), Applications of Linguistics (pp. 443-452). Cambridge University Press, London.

# Early Second Language Learning at School Can Boost Creativity 

Valeria Agostini, Ian Apperly, Andrea Krott<br>University of Birmingham, United Kingdom<br>VXA675@student.bham.ac.uk; i.a.apperly@bham.ac.uk; a.krott@bham.ac.uk

An early start into second language learning is often considered important for a future mastery of the target language. But it has also other advantages. The presence of two languages in the mind has been shown to be beneficial to general cognitive skills. Children growing up bilingual display advantages in cognitive control measures, demonstrating superior abilities in control over attention (Yang et al., 2011) and switching between rules (Bialystok \& Martin, 2004). Young bilinguals have also shown enhanced fluency and flexibility of thinking during creative production (Leikin et al., 2014). We investigated the impact of early L2 learning at school on divergent thinking abilities. We recruited three groups of monolingual children aged 4-5 from reception classes in Primary schools in England. One group ( $\mathrm{N}=32$ ) attended bilingual schools, another group ( $\mathrm{N}=29$ ) had weekly L2 classes, and a third control group ( $\mathrm{N}=38$ ) did not have any L2 education. Groups were matched by SES, verbal ability, and non-verbal reasoning skills. We tested the children in a divergent thinking task, as well as selective attention and switching ability, in the first few months of the school year and 24 weeks later. Children in bilingual education outscored the control group in fluency and flexibility of creative thinking at the second (but not first) testing point. Weekly L2 learners showed a small advantage as well, but this was not significant. No differences were recorded in originality. In contrast, both groups of L2 learners showed enhanced development in switching skills compared to non-L2 learners. Although selective attention and switching skills were associated with divergent thinking scores, these could not explain bilingual school children's creativity advantage over non-L2 learners. These results suggest that even a limited weekly exposure to a L2 has an impact on children's switching abilities, but a more substantial immersion in a bilingual environment is needed to boost creative fluency and flexibility.

## References

Bialystok, E., \& Martin, M. M. (2004). Attention and inhibition in bilingual children: Evidence from the dimensional change card sort task. Developmental Science, 7(3), 325-339. https://doi.org/10.1111/j.1467-7687.2004.00351.x

Leikin, M., Tovli, E., \& Malykh, S. (2014). Bilingualism and Creative Abilities in Early Childhood. English Linguistics Research, 3(2), 217-231. https://doi.org/10.5430/elr.v3n2p54

Yang, S., Yang, H., \& Lust, B. (2011). Early childhood bilingualism leads to advances in executive attention: Dissociating culture and language. Bilingualism, 14(3), 412-422.
https://doi.org/10.1017/S1366728910000611

# The anti-duality inference: Implications for cross-linguistic variation and L2 acquisition 

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On the assumption that pragmatic reasoning contributes to the interpretation of plural nominals (Spector 2007; Sauerland 2008; Mayr 2015) we predict cross-linguistic variation in the interpretation of plural morphology. Languages like French associate plural with an at-least-two meaning as a result of pragmatic enrichment with an anti-singularity inference. In contrast, languages that morphologically differentiate among singular, dual and plural number, the morphological plural is predicted to correspond to an at-least-three meaning (Dvořak \& Sauerland 2006). In this study we consider a hypothesis that the meaning of the plural may be subject to negative transfer in the context of L2 acquisition with the speaker's L1 being a dual-featuring language and L2-not. The phenomenon reflects a (temporary) deficit in the acquisition of L2 (Paradis \& Genesee 1996; Serratrice et.al 2009). Method: 82 native speakers of Lebanese Arabic (LA, a dual featuring language) learning French ( 11 female; $\mathrm{M}=27.63$ ) were tested. Using the LSBQ comprehensive questionnaire (Luk \& Bialytstok 2013), they were assigned to intermediate or advanced proficiency groups. The experiment included a self-paced sentence-picture verification task using a 3-valued scale. Materials consisted of 30 items manipulating the number of objects on the picture ( 2 or 3 ) and relevant nominal morphology in the sentence (dual or plural), resulting in four conditions 'dual.2', 'dual3', 'plural.2', 'plural.3'. Participants received half of the stimuli in LA, the other half in French, all in pseudo-randomized order without duplication. 'Plural.2' and 'plural.3' were the conditions of interest; 'dual.2' and 'dual.3' were controls. Predictions: i) Participants' responses in LA to the target conditions will reflect sensitivity to the anti-duality inference by giving lower scores to condition "plural.2" than to "plural.3"; ii) under the negative transfer hypothesis, we predicted no difference between L1 and L2 responses to "plural.2" in at least the intermediate L2group. Results: a) within LA, the odds of giving a high score on the 'plural.2' condition were lower than on the 'plural.3' condition, b) the odds of giving a high score on 'plural.2' were higher in French than in Arabic with advanced French learners; c) predicted odds on the 'plural.2' condition did not differ in LA and French with intermediate French learners; d) predicted odds on 'plural.3' did not differ in both LA and French in either intermediate or advanced French learners; and e) the odds of giving a high score on 'plural.2' are higher in advanced compared to intermediate French learners. The difference in responses between 'plural.3' and 'plural.2' in LA support the predicted at-least-three meaning for plural in dual-featuring languages when an anti-duality inference is drawn. Our results provide an argument for negative transfer in L2 in the pragmatic domain. An at-least-three interpretation is unavailable in French since there is no trigger for the anti-duality inference. Yet the participants in the intermediate group did not distinguish between the interpretation of French and LA plural morphology, whereas our advanced French learners did.

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## References

Dvořák, B. \& Sauerland, U. (2006). The semantics of the Slovenian dual. In Proceedings of FASL 14, H. Filip, J. Lavine, S. Franks, \& M. Tasseva-Kurktchieva (eds.), 98-112.

Luk, G. \& Bialystok, E. (2013). Bilingualism is not a categorical variable: Interactionbetween language proficiency and usage. Journal of Cognitive Psychology, 25.5, 605-621.
Mayr, C. (2015). Plural definite NPs presuppose multiplicity via embedded exhaustification. In Proceedengs of Semantics and Linguistic Theory 25, 204-224, 2015.
Paradis, J. \& Genesee, F. (1996). Syntactic Acquisition in Bilingual Children: Autonomous or Inter dependent? Studies in Second Language Acquisition, 18(1), 1-25.
Sauerland, U. (2008). "Implicated presuppositions," in Sentence and context: Language, context, and cognition, A. Steube (ed.), Berlin: Mouton de Gruyter, 581-600.
Serratrice, L. Sorace, A., \& Baldo, M. (2009) Bilingual children's sensitivity to specificity and genericity: Evidence from metalinguistic awareness. Bilingualism: Language and cognition 12/ 2, 239-257.
Spector, B. (2007). "Aspects of the pragmatics of plural morphology: On higher-order implicatures," in Presupposition and implicature in compositional semantics, U. Sauerland and P. Stateva (eds), Palgrave, 243-281.

# Attrition in Collocational Knowledge among Bilingual Arabic-English Returnees 

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This study analyses the impact of the L1 on processing of L2 verb-noun collocations among returnees, which is a largely unexplored area in language attrition research. Participants are 30 child and 30 adult returnees who had lived in the US for an extended period of time and returned to their country of origin, Saudi Arabia, either in early childhood (RT1) or in adolescence (RT2). They are compared to 60 Saudi heritage speakers living in the US of the same age groups (HS1 and HS2). Receptive knowledge of English collocations is measured with a lexical decision task (LDT) consisting of English collocations which are either congruent or incongruent between Arabic and English, or belong to two types of nonexisting collocations half of which are L1-based. Furthermore, a picture description task and a gapfilling task focusing on noun-verb collocations are used to measure productive knowledge of collocations, and a range of baseline tests are administered to test vocabulary and grammar knowledge. This includes a semantic fluency task which measures participants' vocabulary size and lexical access in their L2. It was predicted that HS1 and HS2 would achieve higher scores and experience less influence from Arabic on all productive and receptive tasks and would process English collocations faster than RT1 and RT2, as the heritage speakers are exposed to more and a richer input in English, whereas Saudi returnees are rarely exposed to English input. However, preliminary results from a pilot study among 20 participants revealed significant differences in accuracy (but not reaction times) on the LDT (ANOVA, $\mathrm{F}(3,16)=14.1, p<.001$ ), with the HS1 obtaining the lowest score. Results on the gap filling task showed significant differences in accuracy (ANOVA, $\mathrm{F}(3,16)=21.07, p<.001$ ), and reaction times (ANOVA, $\mathrm{F}(3,16)=3.82, p=031$ ) with the HS1 obtaining the lowest score. On the semantic fluency test (fruit and vegetables), the RT2 were able to access significantly more words in total than the HS2: $t[8]=2.615, p=.031)$. The returnees also outperformed the heritage speakers on the number of semantic clusters $(F(3,16)=8.451, p=.001)$, and the number of switches between clusters $(F(3,16)=7.580, p=$ .002). Thus, the predictions were partially confirmed. The pilot study therefore reveals that returnees' collocational knowledge and lexical access are less affected by attrition than might be expected and that new insights into the differences between heritage speakers and returnees can be obtained with the above tasks, which can lead to a better understanding of the specific language competencies of each group. A relatively small sample size $\mathrm{N}=20$ ( $\mathrm{N}=5$ in each group) may affect the generalizability of the results. A large-sample size would yield a comprehensive and much clearer picture of returnees' and HSs' language competencies.

# Working memory capacity and structure in monolinguals and bilinguals 

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Working memory (WM) is defined as a limited capacity memory for keeping and processing information in mind for a short time. There have been debates on whether knowing more than one language leads to advantages in WM capacity. In the current study, we tested whether there are WM capacity or structure differences in monolingual, bilingual and multilingual adults. WM models often distinguish between verbal and visual stores. We predicted: 1) there would be greater working memory capacity for each additional language known and 2) bilinguals and multilinguals would show greater integration between verbal and visuospatial memory than monolinguals. 60 monolingual, 101 bilingual, and 28 multilingual adults were asked to complete verbal (Digit Span) and visuospatial WM (Corsi Block) tasks, both forward and backward. The results showed little difference in WM capacity between the three groups. Principal component analysis revealed two WM components for bilingual and multilingual groups: 1) visual WM (forward and backward) and 2) verbal WM (forward and backward). In contrast, only one WM component was observed among the monolinguals. These results suggest greater specialization in WM modality among speakers of multiple languages. Future research will test whether these differences are causally linked to the acquisition of multiple languages.

# The Speech Act of Requesting in Heritage Russian in Contact with Hebrew 

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Studies investigating requests in HL speakers are sparse (but see Dubinina \& Malamud, 2017, Pinto \& Raschio, 2007; Taguchi et al., 2013). HL speakers lack cultural references and have difficulties understanding registers and processing pragmatic subtlety (Polinsky 2018). The current study investigated request realization in HL-Russian in contact with Hebrew. Russian and Hebrew differ in request realization (Blum-Kulka et al. 1989), thus providing an excellent opportunity to study HL-grammar-formation mechanisms in the domain of pragmatics. We considered effects of cross-linguistic influence and Age of Onset (AoO) of the Majority language (here Hebrew) acquisition. For these purposes 4 groups ( $\mathrm{n}=97$ ) were recruited: three groups of adult Russian-Hebrew speakers of various Hebrew AoOs (before the age of 5 (HL-EARLY); between the ages of 5-13 (HL-LATE), after the age of 13 (BiControl)) and a control group of monolingual Russian speakers (MonoControl). The study elicited twenty requests in formal and informal contexts. The use of socially-differential forms of address (TY-VY "Tu-Vous"), the syntactic realizations of requests (Imperatives, Questions, Declarative), the use of politeness marker požalujsta "please" and the use of negative particle 'ne' were analyzed to tap into the transfer from Hebrew. The results showed group differences across the four measures of analysis. The HL-EARLY group overused TY forms and politeness marker požalujsta "please" in both contexts, while underusing negative particle 'ne'. With respect to syntactic realization, HL-EARLY group showed no differentiation between the two contexts and favored interrogatives, whereas the controls chose imperatives in informal and interrogatives in formal contexts. The findings unfold the emergence of new conventions in request formation under the influence of Hebrew, and these effects of transfer are amplified by lower AoOs.

## References

Dubinina, I. Y., \& Malamud, S. A. (2017). Emergent communicative norms in a contact language: Indirect requests in heritage Russian. Linguistics, 55(1), 67-116.
Pinto, D., \& R. Raschio. 2007. A comparative study of requests in heritage speaker Spanish, L1 Spanish, and L1 English. International Journal of Bilingualism 11, 135- 55. Grünert, M. (2018). Multilingualism in Switzerland. In W. Ayres-Bennett \& J. Carruthers (Eds.), Manual of Romance Sociolinguistics. (pp. 526-548). Berlin: de Gruyter.
Taguchi, N., Li, S., \& Liu, Y. (2013). Comprehension of conversational implicature in L2 Chinese. Pragmatics \& Cognition, 21(1), 139-157.
Polinsky, M. (2008). Relative clauses in heritage Russian: Fossilization or divergent grammar. In Formal Approaches to Slavic Linguistics, 16, 333-358.
Blum-Kulka, S., J. House, and G. Kasper (eds.). 1989. Cross-Cultural Pragmatics: Requests and Apologies. New York: Ablex Pub

# Individual Differences in Transfer and Entrenchment 

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Bilingual speakers living in an L2 environment oftentimes experience transfer from their second language to their native language. Research has shown that there is large individual variation in this regard, both in speakers' extent of transfer and in the constructions that are being transferred. In this study, we aim to explore this variation in detail by looking at native German speakers living in the Netherlands and their transfer from Dutch to German. Previous research has shown that these speakers experience transfer quite extensively, for instance regarding the placement of prepositional phrases, which are placed more often after the verb in Dutch than in German. Transfer of this Dutch placement preference is therefore likely to result in an increased use of this so-called postfield position in German. In this study, we test whether different speakers experience this transfer to the same extent and whether they differ in its lexical manifestations.

To do that, we first look at their language use in a bilingual corpus consisting of German e-mails written by native German speakers living in the Netherlands ( $\mathrm{N}=8$, word count: $1,370,708$ ) and then test whether variation between speakers in this corpus - both in terms of the extent and the lexical manifestations of their transfer - is linked to variation in the same speakers' responses (i.e., grammaticality judgments, reaction times) in an experimental task. Our results show that the bilingual speakers clearly differ in the extent to which they transfer the Dutch placement preference to their German, with percentages of postfield use ranging from $3.34 \%$ to $26.42 \%$, and that they also differ in the lexical items that they prefer to place in that Dutch-like position. The experimental study further builds on this lexical variation, by asking participants to judge the use of the postfield position in combination with exactly those lexical items that the participants frequently used and did not use in that position themselves. The results showed that speakers oftentimes rejected the Dutch-like postfield position, but less so in cases when they themselves used the lexical item in that position. Importantly, predictors based on speakers' own placement preferences for lexical items were better predictors in this regard than predictors based on amalgamated corpus data.

We discuss these results in terms of what they can tell us about bilingual speakers' language representations: first, they suggest that variation is usage-based, with speakers responding differently to transfer depending on their own language use. Secondly, their judgments seem to be based on the general pattern (i.e., the postfield position) and its lexical instances (i.e., individual preferences for certain lexical items), suggesting that speakers store and attend to both when making their grammaticality judgments. These conclusions are in line with a usage-based approach.

# The Linguistic Landscape in Rural Areas: <br> The Basque Country as a Case Study 

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This study examines the linguistic landscape (LL) (Landry \& Bourhis, 1997) of a small town in the north of the Basque Country (Ondarroa, Bizkaia) with the aim to illustrate the complex relation between language, identity, politics and the power relations that are created in these contexts. The multilingual LL has been studied both in cities (e.g., Aiestaran, Cenoz \& Gorter, 2010) and rural areas (e.g., Daveluy \& Ferguson, 2009; Kotze \& Du Plessis, 2010), but not many studies have analyzed the presence of the involved languages in an area where actually the language typically considered as the minority language is the most spoken language of a town. Therefore, this research aims to contribute to this gap by analyzing the LL of Ondarroa (Bizkaia): a town of almost 8.590 inhabitants where in 2016, around the $80 \%$ was Basque speaker, while in the rest of Bizkaia (the province where the aforementioned municipality belongs to) the percentage of Basque speakers was of $27,6 \%$ (Eustat, 2016).
The present investigation discovers the divergent presence of each language in this LL to analyze whether it is a predominantly monolingual or multilingual LL and the way in which multilingualism is displayed by intertwining quantitative and qualitative methods. Photos of each sign in the principal shopping street (similar to e.g., Aiestaran et al., 2010; Ben Rafael, Shohamy, Amara \& Trumper-Hetch, 2006) were taken in 2019 and each sign is considered as a single unit of analysis ( 63 pictures from 15 shops) to get a more robust understanding of the LL. In addition, other qualitative perspectives are taken into consideration for the analysis: topdown or bottom-up signs (Ben Rafael et al., 2006) and the way in which each language is presented in the signs (Bruyèl-Olmedo \& Juan-Garau, 2009). The results show that contrary to the situation of Basque in other LL (e.g., in Donostia by Cenoz \& Gorter, 2006), this is the language with the biggest presence in the LL of the analyzed area; although this particular LL could be considered as highly, but not predominantly, bilingual due to the presence of bilingual signs but not due to Spanish monolingual signs.

## References

Aiestaran, J., Cenoz, J., \& Gorter, D: (2010). Multilingual cityscapes: perceptions and preferences of the inhabitants of Donostia-San Sebastian. In P. E. Shohamy, P. E. Ben-Rafael \& M. Barni (Eds.), Linguistic landscape in the city (pp. 219-234). Bristol: Multilingual Matters.
Ben Rafael, E., Shohamy, E., Amara, M. H., \& Trumper-Hetch, N. (2006). Linguistic landscape as symbolic construction of the public space: The case of Israel. International Journal of Multilingualism, 3(1), 7-30.
Bruyèl-Olmedo, A., \& Juan-Garau, M. (2009). English as a lingua franca in the linguistic landscape of the multilingual resort of S'Arenal in Mallorca. International Journal of Multilingualism, 6(4), 386-411.

Cenoz, J., \& Gorter, D. (2006). Linguistic Landscape and Minority Languages. International Journal of Multilingualism, 3(1), 67-80.
Daveluy, M., \& Ferguson, J. (2009). Scripted urbanity in the Canadian north. Journal of Linguistic Anthropology, 19, 78-100.
Eustat - Euskal Estatistika Erakunea - Instituto Vasco de Estadística. (2016). Ondarroa: Know the current statistical situation and the historical evolution of your municipality. https://en.eustat.eus/municipal/datos_estadisticos/ondarroa.html
Kotze, C., \& du Plessis, T. (2010). Language vitality in the Xhariep - A comparison of the linguistic landscape of three neighbouring towns. Language Matters, 41, 72-96.
Landry, R., \& Bourhis, R. Y. (1997). Linguistic Landscape and Ethnolinguistic Vitality: An Empirical Study. Journal of Language and Social Psychology, 16(1), 23-49.

# Directionality and intensity of cross-linguistic influence: Evidence from Differential Object Marking in Catalan-Spanish bilinguals 

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The goal of this study is to explore the directionality and intensity of cross-linguistic influence in the Differential Object Marking (DOM) system of Catalan-Spanish bilinguals. These two languages are closely related and have experienced prolonged and intense contact in the society. However, DOM distribution is slightly different: whereas in Spanish [+human] objects are marked depending on the referential stability (high stability is DOM-triggering and low stability is DOM-inhibiting, Farkas \& von Heusinger 2003), in normative Catalan DOM is much more restrictive (only personal pronouns always show DOM). It has been suggested that extensive language contact can lead to crosslinguistic influence (Silva-Corvalán 2014), but its directionality is not exclusively related to language dominance (Yip \& Matthews 2007), but also to the degree of overlapping between languages (Fernández-Fuertes \& Liceras 2018). Although DOM in Catalan-Spanish bilingualism has received little attention, cross-linguistic effects in both ways have been attested (Guijarro-Fuentes \& Marinis 2009; Perpiñán 2018; PuigMayenco et al. 2018). Nevertheless, the intensity of the influence depending on the language dominance in bilinguals and on the referential stability degree of objects in each language has not been studied yet.

Two equivalent Acceptability Judgement Tasks in Catalan and Spanish were conducted by three groups of Catalan-Spanish bilinguals with different language dominance (33 Catalan-dominant, 32 balanced, 29 Spanish-dominant). A $4 \times 2$ factorial design was used, which included the within-subject manipulation of two factors: four referential stability degrees (proper names, [+definite] NPs, [-definite, + specific] NPs, [-definite, -specific] NPs) and two DOM levels (marked, unmarked). An example is given in (1).
(1) Las detectives buscan a Victoria para investigarla. (proper name, [+DOM])
'The detectives look for DOM Victoria to investigate her.'
GLMMs revealed that cross-linguistic effects have a different degree of intensity in each language. In Spanish, cross-linguistic influence only shows up in the higher referential stable levels (proper names and [+definite] NPs) within the most Catalan-dominant group, which accept more the unmarked objects than the other two groups (Spanish-dominant and balanced bilinguals). However, in Catalan, the three bilingual groups (regardless of their language dominance) accept all referential stability levels with and without DOM above $50 \%$, which suggests that Catalan language is in a transitional stage in which both options are accepted maybe, or partially, due to the Spanish influence. Our discussion focuses on the idea that the more dominant language can affect the less dominant one, but that the general role of dominance is modulated by the extension of the phenomenon under scrutiny: when a given phenomenon (DOM in the current case) has a higher amplitude in one language, the influence from that language occurs regardless of the relative language dominance.

## References

Farkas, D. F. \& von Heusinger, K. (2003). Stability of reference and object marking in Romanian. Vienna.

Fernández-Fuertes, R. \& Liceras, J. (2018). Bilingualism as a first language: language dominance and crosslinguistic influence. Language Acquisition and Contact in the Iberian Peninsula
Guijarro-Fuentes, P. i Marinis, T. (2009). The Acquisition of the Personal Preposition a by CatalanSpanish and English-Spanish Bilinguals. Selected Proceedings of the 11th Hispanic Linguistics Symposium, (2000), 81-92.
Perpiñán, S. (2018). On Convergence, Ongoing Language Change, and Crosslinguistic Influence in Direct Object Expression in Catalan-Spanish Bilingualism. Languages, 3(14), 1-23.
Puig-Mayenco, E., Cunnings, I., Bayram, F., Miller, D., Tubau, S. i Rothman, J. (2018). Language Dominance Affects Bilingual Performance and Processing Outcomes in Adulthood. Frontiers in Psychology, 9, 1-16.
Silva-Corvalán, C. (2014). Bilingual language acquisition: Spanish and English in the first six years. New York State, New York: Cambridge University Press.
Yip, V., \& Matthews, S. (2007). The bilingual child: Early development and language contact. Cambridge: Cambridge University Press.

# Non-shared word order can be primed in code-switched utterances: Evidence from Afrikaans-English bilingual production 

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In code-switching (CS), a speaker mixes two languages within one utterance. A classic finding in CS studies is that bilinguals tend not to code-switch at points where word order differs across their languages (Poplack, 1980). Kootstra et al. $(2010,2012)$ have also shown that bilinguals tend to reuse the word order and switch location of a sentence just heard, which suggests that CS can be primed. However, it remains unclear whether priming of shared and non-shared word orders is modulated in speech production by the repetition of lexical items across the prime and target sentences, a factor known to strengthen structural priming effects in monolingual production (see Mahowald et al., 2016). We examine this question in an understudied population in which CS is habitual: L1 Afrikaans-L2 English bilinguals ( $n=46$ ).

To establish a baseline of syntactic preferences, participants first completed a sentence completion task. They read a lead-in fragment cueing either shared word order (SVO; English=Afrikaans) or non-shared
 languages only once. Then, in a structural priming task, the same participants listened to a code-switched sentence before describing a picture, following the same procedure as in the baseline. We manipulated the word order primed by the lead-in fragment (SVO/SOV), the switch position in the prime (between verb/object or not), and lexical repetition (LR) (present/absent). Example (1) illustrates the stimuli (word order SVO; switch between verb/object; LR present; lead-in fragment in square brackets).
(1) PRIME: Hierdie is ' $n$ snaakse prentjie want die ridder roep the pig.
"This is a funny picture because the knight calls the pig."
TARGET: [Hierdie is ' $n$ snaakse prentjie want... ] die meisie roep the pig.
"This is a funny picture because the girl calls the pig."
Results indicate a priming effect on word order choice: the preference for the shared (SVO) word order weakens when SOV is primed. The primed switch position is more likely to be used when LR is present; this effect is stronger in the non-shared-word-order condition.

The results replicate CS priming effects in a new population and extend findings from monolingual to bilingual production. They suggest that cognitive and interactive mechanisms of monolingual language use (lexical and syntactic priming) also apply to CS and interact with crosslinguistic similarity. The results further our understanding of what constrains multiple language use in production.

## References

Kootstra, G. J., van Hell, J. G., \& Dijkstra, T. (2010). Syntactic alignment and shared word order in code-switched sentence production: Evidence from bilingual monologue and dialogue. Journal of Memory and Language, 63(2), 210-231. doi:10.1016/j.jml.2010.03.006

Kootstra, G. J., van Hell, J. G., \& Dijkstra, T. (2012). Priming of code-switches in sentences: The role of lexical repetition, cognates, and language proficiency. Bilingualism: Language and Cognition, 15(04), 797-819. doi:10.1017/S136672891100068X

Mahowald, K., James, A., Futrell, R., \& Gibson, E. (2016). A meta-analysis of syntactic priming in language production. Journal of Memory and Language, 91, 5-27. doi:10.1016/j.jml.2016.03.009
Poplack, S (1980). Sometimes I'll start a sentence in Spanish Y TERMINO EN ESPAÑOL: Toward a typology of code-switching. Linguistics, 18(7-8), 581-618. doi:10.1515/ling.1980.18.7-8.581

# Bilingual children's answering strategies to New Information Subject questions: new evidence 

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With the aim of investigating if bilingual children answer subject questions using the preferred strategy in each language they master, we analysed the production of 4 bilingual children ( 3 Italian-English, $6 ; 1$, $5 ; 8,9 ; 0$ and 1 Italian-Spanish, $6 ; 3$ ). Following the cartographic assumptions made by Belletti (2004), we assume that in both Italian and Spanish (both Null Subject Languages) the clause internal vP periphery is activated, hosting the New Information Subject (NIS) and, in combination with Vmovement, yielding the order VS when answering NIS questions ("Chi è arrivato?" who has arrived? "È arrivato Gianni" has arrived Gianni).


In a Non-Null Subject Language like English, the preferred answering strategy displays the SV order, a form of focalization in situ accompanied by a dedicated prosody (Belletti, 2008).

Although these strategies are the preferred ones by monolingual adults, previous studies have shown that the VS order is not the preferred answering strategy neither of non-advanced nor of near-native L2 adult speakers of Italian (Belletti et al., 2007; Belletti \& Leonini, 2004). Similar results have also been found in Italian heritage adult speakers (Caloi et al., 2018): when an appropriate NIS discourse context was presented, participants mostly produced the answering strategy of their majority language. Results from three Italian-Finnish speaking children (Dal Pozzo, 2011) showed that also bilingual children tend to prefer the SV Finnish prevalent strategy when answering NIS questions in Italian. Both strategies appear thus to be active, although to a different extent in different populations, in multilingual speakers' grammar(s). This is also consistent with the Interface Hypothesis (Sorace, 2011), according to which, when syntax and discourse information are integrated, multilingual speakers show optionality and instability.

In our study we checked whether Italian-English simultaneous bilingual children have a preference for either SV or VS order in Italian and how their behaviour compares with that of bilingual children speaking two languages that both have the VS order as the preferred strategy (Italian-Spanish). We administered our task also to 4 monolingual Italian children (mean age: 6;0). The task consisted of 25 videos ( 5 warm-up), each followed by 2 questions in Italian and 2 questions in the other L1 (Appendix1). Overall, we asked them 22 NIS questions per language. Our results (Appendix2) showed that the ItalianSpanish child produced nearly as many VS answers as monolingual children (around $60 \%$ of VS in both languages). When both languages have the same preferred structure, production reached monolinguallike performance (Kraš, 2008). Conversely, the 3 Italian-English children produced the VS order only around $23 \%$ of the times in Italian. Similarly to the populations referred to above, they preferred the SV order both when answering in Italian and when answering in English (where VS would yield
ungrammaticality). These findings indicate that, irrespective of different environmental conditions and linguistic contexts, parallel results characterize multilingual speakers' production in different ages.

## Appendix 1



Example of a video from the task.

## Dialogue in the video:

Frame $1 \rightarrow$ Mum: "Che bella cena che stiamo preparando oggi!" - what a nice dinner we are preparing today
Frame $2 \rightarrow$ Dad: "Sì, io cucino la pizza." - yes, I'm cooking pizza
Frame $3 \rightarrow$ Mum: "Io invece ho preparato le ciambelle." - I have prepared donuts instead
Questions asked after the video to all the participants (both bilinguals and controls):

| ITA | Di che colore ha i capelli papà? | Random Question / Filler |
| :--- | :--- | :--- |
| ITA | Le ciambelle, chi le ha preparate? | NI Subject Question |

Additional questions asked to bilingual children (in English or Spanish):

| ENG | What's the colour of Dad's hair? | Random Question / Filler |
| :--- | :--- | :--- |
| ENG | Who made the donuts? | NI Subject Question |
| SPA | ¿De qué color tiene el pelo el padre? | Random Question / Filler |
| SPA | ¿Las rosquillas, quién las preparó? | NI Subject Question |

## Appendix 2

Results' graph showing percentages of VS, SV, and Invalid/Other answers to Italian questions given by the different participants (controls, Italian-English bilinguals, and the Italian-Spanish bilingual) in the critical items (without warm-up).


## References

Belletti, A. (2004) Aspects of the low IP area. In L. Rizzi (Ed.), The structure of CP and IP. The cartography of syntactic structures, Vol. 2 (pp. 16-51). New York: Oxford University Press.
Belletti, A. (2008) Answering strategies: New information subjects and the nature of clefts. In A. Belletti, Structures and Strategies, London/New York: Routledge.
Belletti, A., Bennati, E., \& Sorace, A. (2007) Theoretical and developmental issues in the syntax of subjects: evidence from near-native Italian. Natural Language and Linguistic Theory, 25:4.
Belletti, A., \& Leonini, C. (2004) Subject inversion in L2 Italian. In S. Foster-Cohen et al. (Eds.), Eurosla Yearkbook 4 (pp. 95-118). Amsterdam: John Benjamins.
Caloi, I., Belletti, A., \& Poletto, C. (2018) Multilingual Competence Influences Answering Strategies in Italian-German Speakers. Front. Psychol. 9:1971. doi:10.3389/fpsyg.2018.01971
Dal Pozzo, L. (2011) Testing the acquisition of new information subjects: evidence from Italian and Finnish. Ph.D. dissertation, University of Siena.
Sorace, A. (2011) Pinning down the concept of "interface" in bilingualism. Linguist. Approaches Biling. 1, 1-33. doi: 10.1075/lab.1.1.01sor
Kraš, T. (2008) Anaphora resolution in near-native Italian grammars: Evidence from native speakers of Croatian. Eurosla Yearbook 8: 107-34.

# Processing of Voice Onset Time Differences in Monolingual German versus Bilingual Italian-German Preschoolers. 

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Behavioral and neurophysiological evidence suggest that bilingual children's neural commitment to their two languages and hence their phoneme processing abilities vary in accordance with the relative amount of exposure to each language (Sebastián-Gallés \& Bosch, 2002). Mismatch Responses (MMRs) are known to index automatic neural discrimination of speech contrasts (Yu et al., 2020). We explore the following question: How does monolingual versus bilingual experience modulate the neural commitment to the laryngeal feature voice onset time (VOT), that defines the voicing categories of stop consonants? Some languages, like German and Italian, differ in terms of how they use this feature to determine phonemic category.

We hypothesized that simultaneous bilingual Italian-German preschoolers would show good neural discrimination for both the Italian prevoiced and the German aspirated contrast. We further predicted that their monolingual German peers would show robust discrimination of the aspirated contrast but no mismatch response (MMR) to the prevoiced stimulus. Finally, we hypothesized that acoustic difference between the standard and the deviant would also modulate children's discriminatory performance.

Twenty-two children ( 12 monolingual German and 10 bilingual Italian-German, mean age 5;1years) were tested with an oddball paradigm. Stimuli consisted of naturally produced bilabial stop consonants. The short lag /b/, common to both languages was used as the standard. For German, two aspirated deviants were selected: ASPeasy ( 92 ms VOT) and ASPdifficult (36ms VOT). For Italian, two prevoiced deviants were selected: PREVeasy ( -112 ms VOT) and PREVdifficult ( -36 ms VOT). Event related potentials (ERPs) were recorded from 32 scalp sites. MMRs were derived by subtracting the standard from the deviant.

MMRs were greater for the easy compared to the difficult condition. Preliminary analysis revealed that both groups of children showed MMRs of an initial positivity followed by a negativity, similar to Shafer and colleagues (2010). Mixed ANOVAs revealed a significant group difference for ASPeasy. The monolinguals showed a greater positive MMR at $100-150 \mathrm{~ms}$ but no difference was observed for the negative MMR 200-300ms. For ASPdifficult a greater negative MMR was observed for the monolingual group around $200-250 \mathrm{~ms}$. No group difference was observed for neither of the prevoiced stimuli. Examination of the means show that generally bilinguals showed a greater negativity compared to the monolinguals.

Our data show that a greater acoustic difference between the standard and the deviant enhances the MMR. Further, our findings are consistent with Yu and colleagues (2020) suggesting that bilinguals may pay more attention to the speech signal thereby enhancing their negative MMR. It an unexpected result that we did not find a significant advantage for the bilingual children when processing the prevoiced contrast. Explanations for this will be discussed.

## References

Kuhl, P. K. (2004). Early language acquisition: Cracking the speech code. Nature Reviews Neuroscience, 5(11), 831-843. https://doi.org/10.1038/nrn1533

Sebastián-Gallés, N., \& Bosch, L. (2002). Building phonotactic knowledge in bilinguals: Role of early exposure. Journal of Experimental Psychology: Human Perception and Performance, 28(4), 974-989. https://doi.org/10.1037/0096-1523.28.4.974

Shafer, Valerie \& Yu, Yan \& Datta, Hia. (2010). Maturation of Speech Discrimination in 4- to 7-YrOld Children as Indexed by Event-Related Potential Mismatch Responses. Ear and hearing. 31. 735-45. 10.1097/AUD.0b013e3181e5d1a7

Werker, J. F., \& Tees, R. C. (2002). Cross-language speech perception : Evidence for perceptual reorganization during the first year of life. Infant Behavior \& Development, 25, 121-133.
Yu, Y. H., Tesse, C., Han, X., Campanelli, L., Vidal, N., Gerometta, J., ... Shafer, V. L. (2020). Neural Indices of Vowel Discrimination in Monolingual and Bilingual Infants and Children. Ear and Hearing, 40(6), 1376-1390. https://doi.org/10.1097/AUD.0000000000000726.Neural

# Children's Knowledge of Multiple Word Meanings: Which Factors Count for First and Second Language Learners? 

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Many words in English and other languages have multiple different meanings, but little is known about why children acquire knowledge of some word meanings before others. This is especially true for children learning English as an additional language (EAL), who have been shown to struggle with this kind of vocabulary (Booton, Hodgkiss, Mathers, \& Murphy, 2021). This study explored how factors at the child-level, wordform-level, and meaning-level affect knowledge of words with multiple meanings. Participants in the study were 174 children in the UK aged from 5- to 9-years-old. Approximately half ( $\mathrm{n}=78$ ) of the children had EAL, whereas the rest of the sample were native English speakers (EL1). Children completed a test of knowledge of 32 homonyms, and measures of non-verbal intelligence and language background were also collected. Psycholinguistic features of the homonym wordforms tested were collected through adult ratings, corpus coding, and using existing databases. The psycholinguistic features assessed were, at the wordform-level, frequency, relatedness of the two meanings tested, total number of word senses, semantic density and phonological density, and, at the meaning-level, dominance, imageability, and part of speech. Logistic mixed effects models were run with participant and wordform as random effects, and fixed effects of all psycholinguistic factors, and three individual difference factors (age, non-verbal ability, and language group). These models confirmed that age, nonverbal ability, and language group were all significant predictors of homonym knowledge ( p 's $<.001$ ), with EAL children performing lower than EL1. The frequency of wordforms contributed to children's knowledge of homonyms ( $\mathrm{OR}=1.72, \mathrm{p}=.004$ ) and so also did dominance $(\mathrm{OR}=2.17, \mathrm{p}<.001)$ and imageability $(\mathrm{OR}=2.11, \mathrm{p}=.001)$ of the separate meanings of the word. A second model including interactions between language group and psycholinguistic factors found no significant interactions, implying that predictors were approximately similar for children with EAL and EL1. This study contributes to our understanding of why some word meanings are known better than others which has implications for vocabulary teaching and learning. In particular, it suggests strategies for improving knowledge of homonyms (e.g., greater exposure to both word meanings) which should support both EL1 and EAL learners.

## References

Booton, S. A., Hodgkiss, A., Mathers, S., \& Murphy, V. A. (2021). Measuring knowledge of multiple word meanings in children with English as a first and an additional language and the relationship to reading comprehension. Journal of Child Language, First View, 1-33. https://doi.org/https://doi.org/10.1017/S0305000921000052

# The relation between reading and language in multilingual and monolingual Italian children 

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As an increasing number of children learn to read in a non-native language, it is crucial to gain more insight in the relation between reading and (second) language development. The present study investigated how multilingual children compare to monolingual children in terms of their reading development, and how this relates to oral language skills. We considered three factors that have previously been found to correlate with reading, namely vocabulary knowledge (Ouelette, 2006; Verhoeven et al. 2011), phonological skills (Goswami \& Bryant, 2016; Nation \& Hulme, 2011) and predictive language processing (Huettig \& Pickering 2019; Mani \& Huettig 2014).

We tested 55 multilingual children speaking Italian as their second or third language ( $M=9 ; 11$, $S D=1 ; 0)$ and 38 monolingual Italian children $(M=9 ; 08, S D=1 ; 1)$, aged eight to twelve. Standardized tests were used to assess productive vocabulary, nonword repetition, and word-, nonword- and passage reading speed and accuracy. Predictive language processing was assessed in a visual world eye-tracking experiment testing children's ability to anticipate nouns on the basis of gender- and number-marked articles ( $N=73 ; 42$ multilinguals and 31 monolinguals). We expected that monolingual children would outperform multilingual children in reading, and that reading abilities would be positively related to Italian vocabulary knowledge, nonword repetition and predictive processing.

A principle components analysis extracted a reading score that explained the maximum amount of variance in the data, composed of all six reading measures, with word and passage reading speed contributing most. Multiple linear regression was used to predict reading ability (i.e., the first principle component) based on group (multilinguals versus monolinguals), grade, vocabulary and nonword repetition. Reading scores were predicted by vocabulary knowledge (Est. $=.057, p=.038$ ), nonword repetition scores (Est. $=.085, p=.043$ ), and by grade (Est. $=1.50, p=.003$ ), but not by group. The eyetracking data were analyzed with generalized linear mixed models on the odds of looking at the target. We found that both monolinguals and multilinguals anticipated (Est. odds ratio $=1.13, p<.001$ ), older children more so than younger children (Est. odds ratio $=1.19, p<.001$ ), with no significant difference between monolinguals and multilinguals (Est. odds ratio $=1.04, p=.266$ ). The prediction effect was significantly modulated by reading skills for monolingual children (Est. odds ratio $=1.15, p<.001$ ) but not for multilingual children (Est. odds ratio $=1.01, p=.581$ ).

Taken together, these findings suggest that reading and spoken language are interrelated, and they highlight the importance of supporting oral language skills for literacy development. More research is needed to investigate the relation between reading and predictive processing and how it may differ between multilingual and monolingual children.

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## References

Goswami, U., \& Bryant, P. (2016). Phonological skills and learning to read. London: Psychology Press.
Huettig, F., \& Pickering, M. J. (2019). Literacy advantages beyond reading: Prediction of spoken language. Trends in cognitive sciences, 23(6), 464-475.
Mani, N., \& Huettig, F. (2014). Word reading skill predicts anticipation of upcoming spoken language input: A study of children developing proficiency in reading. Journal of experimental child psychology, 126, 264-279.
Nation, K., \& Hulme, C. (2011). Learning to read changes children's phonological skills: Evidence from a latent variable longitudinal study of reading and nonword repetition. Developmental science, 14(4), 649-659.
Ouellette, G. P. (2006). What's meaning got to do with it: The role of vocabulary in word reading and reading comprehension. Journal of Educational Psychology, 98(3), 554-566.
Verhoeven, L., van Leeuwe, J., \& Vermeer, A. (2011). Vocabulary growth and reading development across the elementary school years. Scientific Studies of Reading, 15(1), 8-25.

# Monolingual versus Multilingual Classroom Practices in English for Academic Purposes: Learning Outcomes, Student Attitudes, and Instructor Observations 

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The critical importance of L2 input, output and interaction in language teaching and learning notwithstanding, the decision between immersive (monolingual, target-language only) versus nonimmersive (multilingual, code-switching) approaches has been considered "probably the most fundamental question facing second language acquisition (SLA) researchers, language teachers, and policymakers" (Macaro, 2014:10). This intervention-based study examined both approaches monolingual versus multilingual - from the perspectives of learning outcomes, learner preferences, and instructor views.

Two teacher-researchers and English language learners ( $\mathrm{n}>50$ ) in four English for Academic Purposes courses at a CEFR-B2 level of proficiency participated in a longitudinal, 4-month study. The teacherresearchers contrasted the standard, monolingual, target language-only pedagogy with a non-immersive, multilingual pedagogy, where students were encouraged to use their full linguistic repertoire (target, native, or other languages) for in-class discussion, project preparation, and pre-writing activities. All students experienced both pedagogical approaches in counter-balanced fashion. Analyses included (1) quantitative analyses of assignment scores (paragraph and genre writing and presentational speaking), (2) qualitative analyses of student preferences for approach, and (3) qualitative analyses of comparative teacher-researcher views of the pedagogical implementation.

Quantitative analyses of assignment scores showed no statistically significant differences between multilingual and monolingual conditions throughout the study. Qualitative analyses of student preferences revealed somewhat mixed views, but generally positive attitudes towards multilingual classroom language practices. Qualitative analyses of teacher-researcher observations revealed parallel themes between both instructors and generally supported fidelity-to-condition in classroom language use, with evaluative comments in some cases favoring the multilingual condition. These results are in line with additional research using a comparable methodology in eight other classrooms across languages and proficiency levels (French and Arabic at pre-CEFR-A1 levels - Brown; 2021; and English at CEFR-B1 versus C1 levels - Brown \& Lally, 2019). Taken together, these studies suggest either no differences or facilitative effects of a multilingual approach across languages, across proficiency levels, across instructors, and across and within student groups. Findings are discussed in relation to "target-language-only" policies implemented in some language education contexts, translanguaging (e.g. García, 2009; García \& Wei, 2014) and codeswitching pedagogies, especially beyond vocabulary teaching (e.g. Tian \& Macaro, 2012; Zhao \& Macaro, 2016), and the construct of 'multicompetence' (Cook, 1992; Cook \& Wei, 2016).

## References

Brown, A. (2021). Monolingual versus multilingual FLT: French and Arabic at beginning levels. Language Teaching Research. Online FirstView: https://doi.org/10.1177/1362168821990347
Brown, A. \& Lally, R. (2019). Immersive versus non-immersive approaches to TESOL: A classroombased intervention study. TESOL Quarterly, 53(3): 603-629.

Cook, V. J. (1992). Evidence for multicompetence. Language Learning, 42, 557-591.
Cook, V. \& Wei, L. (eds) (2016). Cambridge Handbook of Linguistic Multi-competence. Cambridge: Cambridge University Press.
García, O. (2009). Bilingual Education in the 21st Century: A Global Perspective. West Sussex: Wiley-Blackwell.
García, O., \& Wei, L. (2014). Translanguaging: Language, bilingualism, and education. New York: Palgrave Macmillan.
Macaro, E (2014) Overview: Where should we be going with classroom codeswitching research? In R. Barnard and J. McLellan (Eds.), Codeswitching in university English-medium classes, (p. 1023). Bristol: Multilingual Matters.

Tian, L. \& Macaro, E. (2012). Comparing the effect of teacher codeswitching with English-only explanations on the vocabulary acquisition of Chinese university students: A Lexical Focus-on-Form study. Language Teaching Research, 16, 361-385.
Zhao, T \& Macaro, E. (2016). What works better for the learning of concrete and abstract words: Teachers' L1 use or L2-only explanations? International Journal of Applied Linguistics, 26, 75-98.

# Language biographies as a tool for exploring bilingual speech 

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In order to explain language change within a usage-based approach, it is not sufficient to argue purely linguistically, because social and cognitive factors always shape the language processing too (Schmid 2020). This also holds true for a multilingual settings where especially social pressure can play a decisive role for language maintenance or language shift. In empirical research, it is therefore beneficial to collect as precise metadata about the investigated speakers as possible. I argue that a language biography approach (Nekvapil 2003) is a useful tool for examining the outcome of language contact linked to the social and cognitive factores at play.

I have collected my data within the project Language across generations: contact induced change in morphosyntax in German-Polish bilingual speech funded by the German Research Foundation (Kościołek 2019). The corpus consists of narrative interviews (Küsters 2006) with Czech-German bilinguals born in the 1950s in the former Czechoslovakia who emigrated to West Germany between 1968 and 1989. Half of the sample are descendants of Sudeten Germans, who could stay in their homeland despite the expulsion of Germans from Czechoslovakia ("Spätaussiedler*innen", SP); the other half has no German family background ("Migrant*innen", MI). Based on their narrations, it was possible not only to compile the language biography for each speaker, but also to capture their language ideologies (Silverstein 1979; Kroskrity 2004) and to find out about their language management (Neustupný 2002; Nekvapil 2009).

Both concepts are included in (1) and (2). In (1), a speaker from the SP group mentions that her family wanted to resettle to Germany in order to preserve German identity. The consequence of this attitude was the renunciation of the Czech language after the resettlement (2).
(1) \# meine Mutter hat immer gesagt sie wollte dass ihre Kinder deutsch aufwachsen
\# my mother always said she wanted her children to grow up German
(2) aber \# in diesem Zeitpunkt wo wir hier am fünfzehnten sechsten achtundsechzig sind wir ausgesiedelt und dann habe ich die Sprache in der Tschechei gelassen
but \# at that time when we were here on the fifteenth sixth sixty-eight we were resettled and then I left the language in Czechia
(IL_BLA_SP_DE)

The talk aims at introducing a typical language biography of a speaker of both groups under investigation. The type of language acquisition and the particularities of the use of Czech and German are related to the sociolinguistic factors language ideologies and language management, and can account for the deviations from the homeland varieties found in the interviewees' speech production. The first results already suggest greater language attrition (Schmid et al. 2019) in the Czech speech of the "Spätaussiedler*innen" group and more stabilization phenomena (Long 2003: 521) in the German of the "Migrant*innen" group.

## References

Kościołek, I. (2019). DFG Projekt - Language across generations - Universität Regensburg. https://www.uni-regensburg.de/forschung/language-across-generations/startseite/index.html (20.02.2020).

Kroskrity, P. (2004). Language Ideologies. In A. Duranti (Ed.) A companion to linguistic anthropology. Blackwell companions to anthropology. (pp. 496-517). Malden, Mass., Oxford: Blackwell.
Küsters, I. (2006). Narrative Interviews. Grundlagen und Anwendungen. Wiesbaden: VS Verlag für Sozialwissenschaften \| GWV Fachverlage GmbH Wiesbaden.
Long, M. (2003). Stabilization and Fossilization in Interlanguage Development. In C. Doughty \& M. Long (Eds.) The handbook of second language acquisition. (pp. 487-537). Malden MA: Blackwell Pub.
Matras, Y. (2009). Language contact. Cambridge textbooks in linguistics. Cambridge: Cambridge University Press.
Nekvapil, J. (2003). Language biographies and the analysis of language situations: on the life of the German community in the Czech Republic. International Journal of the Sociology of Language 2003, (162), 63-83.
Nekvapil, J. (Ed.) (2009). Language management in contact situations. Perspectives from three continents. Prague papers on language, society and interaction. Vol. 1. Frankfurt am Main: Lang.
Neustupný, J. (2002). Sociolingvistika a jazykový management. Sociologický časopis / Czech Sociological Review 38 (4), 429-442.
Schmid, H. (2020). The dynamics of the linguistic system. Usage, conventionalization, and entrenchment. Oxford linguistics. Oxford, United Kingdom: Oxford University Press.
Schmid, M., Köpke, B. \& Cherciov, M. (Eds.) (2019). The Oxford handbook of language attrition. Oxford handbooks in linguistics: Oxford University Press.
Silverstein, M. (1979). Language Structure and Linguistic Ideology. In Cline, P. et al. (Eds.) The elements. Parasession on Linguistic Units and Levels. Papers from the ... regional meeting / Chicago Linguistic Society. (pp. 193-247). Chicago: Chicago Linguistic Soc.

# Authentic or Anonymous: Language Ideologies of Catalan University Students in a Changing Political Context 

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Since the turn of the $21^{\text {st }}$ century, Europe has been immersed in a situation of socio-political and social upheaval marked by processes such as Brexit, the growth of left- and right-wing populist parties and the strengthening of sub-state nationalisms. These developments have seen scenarios of polarisation and a deep crisis of political legitimation across Europe, where language is frequently a point of contention in territorial disputes. This paper focuses on Catalonia, a key political and economic European region. In October 2017, the territory attempted to stage a referendum on its independence from Spain. This ongoing issue represents one of Spain's worst political crises in 40 years and the effects of the referendum still loom over the political and social milieu in both Catalonia and Spain today.

As a European territory where nationalism and the search for independence are most prevalent, this struggle for self-government is often articulated in terms of linguistic rights. Thus, investigating public debates on the co-officiality of languages in Catalonia is of considerable importance. The most recent scholarly work, conducted in various settings among varying groups in Catalonia, has found that not only the linguistic practices of many residents in the region but also the ideological grounding of these practices has shifted noticeably in the opening decades of the $21^{\text {st }}$ century, with a reduction in both ingroup solidarity and out-group rejection. However, as political change is one of the most significant features for the creation of new sociolinguistic meanings, the concern is that the ongoing political conflict in the region may have triggered changes in previous language ideologies found in Catalonia. As such, this paper aims to answer the calls for more research to assess the impact of the Catalan independence movement (el Procés) and the 2017 unilateral referendum on the language ideologies present in the territory. The metapragmatic comments of the respondents are viewed through the theoretical lens of linguistic authority, specifically the distinct ideological complexes of authenticity and anonymity.

This working paper reports on a research project that set out to explore the language ideologies of highly educated undergraduate students in the Barcelona region. Through adopting a purposive sampling strategy, will recruited students from the University of Barcelona (UB), the Autonomous University of Barcelona (UAB) and University Pompeu Fabra (UPF). Using the semi-structured interview method, this research provides a snapshot of the ideologies held by a group of thirty undergraduate students towards the languages which they come into contact with in their daily lives, in particular, Catalan and Spanish. Through giving a voice to these individuals this investigation illustrates the relationship between the respondents' level of support for the Catalan and Spanish languages and how this has been (re)framed by the ongoing political conflict in the territory.

# Pseudorelatives, Relatives and L1-Attrition: Resilience and vulnerability in attachment ambiguities 

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Given ambiguous strings as in (1), speakers of Spanish (or Italian) resolve this ambiguity by preferentially attaching the non-matrix clause to the first DP ('high attachment') while speakers of English preferentially attach it to the second DP ('low attachment'; Cuetos \& Mitchell, 1988).
(1) Pedro se enamoró de la hija $a_{1}$ del psicólogo ${ }_{2}$ que estudió en California.
'Peter fell in love with the daughter ${ }_{1}$ of the psychologist ${ }_{2}$ who studied in California.'
Following Grillo and Costa (2014), the difference in biases owes to a structural difference. Namely, Spanish and Italian admit pseudorelatives (PR) but English does not. PRs, while string identical to relative clauses, are a type of small clause and force attachment to the first DP (Grillo \& Costa, 2014). When PRs are locally blocked, Italian display a low attachment bias (Grillo \& Costa, 2014). Under L2English immersion, L1-Spanish speakers have been observed to exhibit a low attachment bias (Dussias, 2003). However, as previous studies have not divided items by PR availability, it is unclear whether their attrition results indicate an across-the-board effect or a change only in PRs.

In response, a sentence interpretation task was conducted in Italian. Sentences were presented written alone and followed by a who-question with the possible DP responses. Critical items like (2) consisted of 24 sentence pairs from Grillo and Costa (2014) in which PR availability is manipulated by the matrix predicate (PR Condition: perceptive; RC-Only Condition: stative).
(2) Gianni (ha visto / vive con) il figlio del medico che correva.
'Gianni (saw / lives with) the son of the doctor who was running.'
Participants consisted of a control group (Italians in Italy, $\mathrm{N}=33$ ) and an experimental group $(\mathrm{N}=29)$. The experimental group had lived in an English-speaking country for a minimum of 6 years (average $=14.27$ years) and were proficient L2-English speakers.

Global attachment preferences are presented in Table 1. Responses were coded as $\pm$ high attachment and entered in a mixed effect logistic regression as the dependent variable with condition and group as predictors and item and participant as random effects. This model indicated a significant group by condition interaction ( $p<0.01$ ). Follow-up pairwise comparisons indicated both groups exhibited an effect of condition ( $p \mathrm{~s}<0.01$ ), but a group effect (i.e. attrition) surfaced only in the RC-only condition ( $p=0.02$ ) with the experimental group exhibiting a stronger low attachment bias. As such, the present study (i) extends Dussias's (2003) findings to a new language pair (ii) suggests PR availability is stable under L1-attrition, (iii) and suggests attrition in attachment biases is driven by a change in the processing of bona fide relative clauses.

| Group | PR | RC-Only |
| :--- | :--- | :--- |
| Control | $71.91 \%$ | $29.57 \%$ |
| Experimental | $67.18 \%$ | $16.38 \%$ |

Table 1: High Attachment Rates

## References

Cuetos, F., \& Mitchell, D. C. (1988). Cross-Linguistic Differences in Parsing: Restrictions on the use of the Late Closure strategy in Spanish. Cognition, 30(1), 73-105.
Dussias, P. E. (2003). Syntactic Ambiguity Resolution in L2 Learners. Studies in Second Language Acquisition, 25(4), 529-557.
Grillo, N., \& Costa, J. (2014). A Novel Argument for the Universality of Parsing Principles. Cognition, 133(1), 156-187.

# Am I Really Monolingual? The Importance of Understanding Linguistic Experiences in Monolinguals 

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Monolingualism, in contrast to bilingualism, has been usually understood as a homogeneous phenomenon. The linguistic experiences of monolinguals tend to be overlooked when analysing the impact of current and prior foreign language experience on language processing and domain-general cognitive functioning. Nevertheless, recent studies with monolinguals have found that short-term second language learning, as well as foreign language exposure, can influence other cognitive processes. To understand how different language experiences in monolinguals might impact other cognitive functions, it is necessary to grasp the diversity of these experiences within the monolingual population. To better understand monolinguals' linguistic experiences, we analyse and describe the linguistic and communicative experiences of a large group of English-speaking monolinguals $(\mathrm{n}=962)$ from the United Kingdom (UK) through an online survey.

We found that, despite considering themselves monolinguals and declaring the knowledge of only English, more than $80 \%$ of respondents learned at least one foreign language, dialect, or jargon at some point in their lives. Although their reported proficiency was overall low, around $53 \%$ of the monolinguals that learned at least one foreign language actively used these languages (or dialects and jargons) at some point in their lives. Regarding foreign language exposure, nearly $40 \%$ of participants confirmed the present and/or past exposure to foreign languages or dialects in their environment. Moreover, approximately $24 \%$ of participants who declared exposure to foreign languages (or dialects) confirmed the active use of at least one of them in the course of their lives. Furthermore, the majority of activities that involved passive use of languages (e.g., listening to music or watching TV) were carried out in English, but not always exclusively, and other languages were occasionally reported. Lastly, around $58 \%$ of participants who lived in one or more non-English speaking countries declared the active use of languages during their stay, although the percentage of monolinguals who lived abroad was small.

Taken together, these results suggest that the linguistic and communicative experiences of Englishspeaking monolinguals from the UK often include the presence and use of foreign languages. This presents a challenge to the assumption of homogeneity that surrounds the monolingual population and highlights the importance of considering the details of the monolingual language experience when analysing the impact of foreign languages on cognitive functioning. Moreover, these results show the need for developing questionnaires that target the specific linguistic and communicative experiences of monolinguals, as it is typically done in the case of bilinguals.

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# L2 exposure/use, prime frequency and the degree of semantic overlap modulate cross-language priming effects 

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Studies examining non-cognate translation priming with lexical decision tasks (LDT) report a priming asymmetry (larger L1 prime-L2 target priming compared to L2-L1). This potentially reflects (qualitative and/or quantitative) differences in representation and processing of L1 and L2 words. For the Revised Hierarchical Model (Kroll et al., 2010), the asymmetry, at least at earlier stages of L2 development, occurs due to differential access to conceptual information by L1 vs. L2 words. Multilink (Dijkstra et al., 2019) explains the asymmetry as a result of slower L2 word processing. For both models, (first/second) language use and (L1/L2) prime frequency would have a crucial role on the representation and processing of cross-language word pairs (translation equivalents) in the bilingual lexicon. Both factors would serve as proxies of either stronger lexico-semantic connections (RHM), or the baseline degree of activation of words (Multilink), both resulting in larger cross-language priming. Importantly, both models assume holistic, largely overlapping conceptual representations between translation equivalents. Thus, potential effects of differential semantic overlap between translation equivalents would have consequences under both models (e.g., van Hell \& de Groot, 1998).

The present study explores the role of L2 use, word frequency, and the degree of semantic overlap on cross-language priming. We tested 200 late Spanish-English bilinguals in two groups (L2-immersed vs. non-immersed) in an LDT with overt priming. Their L1/L2 use was assessed through the Language and Social Background Questionnaire (Anderson et al., 2018). All participants were similarly (highly) proficient in the L2. We employed 300 non-cognate, concrete (highest semantic overlap condition) and abstract (medium overlap) translation equivalent pairs, and 110 cross-language semantic associative pairs (lowest overlap) with various frequencies. The large number of observations reflects our effort to draw robust conclusions supported by large statistical power (Brysbaert, 2020). We expected priming to be modulated by L1/L2 use, prime frequency, and semantic overlap.

We employed linear mixed-effects models and a conservative model selection method aimed at minimising Type I errors (e.g., the significance threshold was set at .01 , following Scandola \& Tidoni, 2020). Our results show (1) priming in all overlap conditions, but, crucially, larger for concrete words. (2) Overall slower RTs with more L2 use, suggesting increased cross-language competition. (3) Larger L1-L2 priming with less L2 use. (4) Larger priming with more frequent related primes, especially with less L2 use and concrete words.

These results highlight the importance of L2 exposure/use and prime frequency in the study of crosslanguage lexical priming. Also, they suggest that future research should further explore the degree of conceptual overlap between cross-language related words, which could imply a step forward in our current understanding of lexico-semantic effects in bilingual visual word recognition.

## References

Anderson, J. A., Mak, L., Chahi, A. K., \& Bialystok, E. (2018). The language and social background questionnaire: Assessing degree of bilingualism in a diverse population. Behavior research methods, 50(1), 250-263.
Brysbaert, M. (2020). Power considerations in bilingualism research: Time to step up our game. Bilingualism: Language and Cognition, 1-6.
Dijkstra, T., Wahl, A., Buytenhuijs, F., Van Halem, N., Al-Jibouri, Z., De Korte, M., \& Rekké, S. (2019). Multilink: a computational model for bilingual word recognition and word translation. Bilingualism: Language and Cognition, 22(4), 657-679.
Kroll, J. F., Van Hell, J. G., Tokowicz, N., \& Green, D. W. (2010). The Revised Hierarchical Model: A critical review and assessment. Bilingualism: Language and Cognition (Cambridge, England), 13(3), 373.
Scandola, M., \& Tidoni, E. (2021). The development of a standard procedure for the optimal reliability-feasibility trade-off in Multilevel Linear Models analyses in Psychology and Neuroscience.

# The use of pronoun interpretation biases in Spanish Heritage Speakers: the role of language experience 

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In null subject languages like Spanish, while null pronouns refer to topic antecedents, overt pronouns refer to non-subject antecedents (1):
(1) Pedroi saludó $^{\text {a Carlos }}{ }_{j}$ cuando él $/ p r o_{i}$ cruzaba la calle Pedro greeted Carlos when he crossed the street

Heritage speakers (HSs) of a null subject language (e.g., Spanish) whose second language is a non-null subject language (e.g., English) can show some optionality in the interpretation of subject pronouns in the heritage language. Previous online and offline comprehension research has shown mixed findings (e.g., Keating et al., 2011; 2016), and it is still unclear which underlying mechanisms explain the differences between HS and monolingual speakers in this domain (incomplete acquisition vs. lack of exposure). In the present study, we address this debate by testing a large group of HSs and by analyzing the role of language experience on pronoun interpretation (i.e., language proficiency, reading exposure). Furthermore, while previous studies did not control for cross-linguistic/dialectal variation of the monolinguals and HSs, we address this limitation by testing participants exposed to the same dialectal variety of Mexican Spanish.
Seventy-four HSs of Mexican Spanish with different levels of proficiency and seventy-three monolingual speakers participated in a sentence comprehension task where they had to choose the referent of an ambiguous null/explicit pronoun in anaphoric or cataphoric position (Table 1).
The results showed that HSs chose the subject antecedent significantly more often than monolingual speakers for anaphoric and cataphoric pronouns ( $\mathrm{p}<.0001$ ), and for null and explicit pronouns ( $\mathrm{p}<.0001$ ). The strong subject preference for all pronoun types is a new result for Spanish HSs, indicating high variability in pronoun preferences in this population. We interpret the subject preference for all pronoun types as a manifestation of cross-linguistic interference from English.
The analysis of individual differences in the HS participants showed a significant main effect of reading exposure ( $\mathrm{p}<.03$ ): HSs who read more in Spanish chose overall fewer subject-antecedent interpretations (Reading Exposure $0-50 \%=0.78 ; 51-100 \%=0.67$ ). In addition, HSs who read more in Spanish chose fewer subject-antecedent interpretations for overt (ReadingExposure*AnaphoraPosition: $\mathrm{p}<.03$ ) and cataphoric pronouns (Reading Exposure*AnaphoraType: $\mathrm{p}<.009$ ), approaching the monolingual preferences.
The significant effect of reading exposure confirms recent results showing that pronoun interpretation biases correlate with comprehenders' print exposure in monolingual individuals (e.g., Langlois \& Arnold, 2020). Thus, our results from HSs contribute to demonstrate that pronoun comprehension preferences are acquired by language experience. While we cannot completely exclude a deficit at the syntaxpragmatic interface resulting from incomplete acquisition (Sorace, 2011), our study demonstrates that lack of exposure is a contributing factor to HSs' optionality in pronoun comprehension. Thus, our results support models of pronoun biases learning stressing the importance of language exposure to explain differences observed between different bilingual populations and monolinguals (Contemori, 2019).

Table 1. Average pronoun interpretation in Heritage Speakers and Monolinguals (SD)

|  | Heritage Speakers |  |  | Monolinguals |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Subject <br> Anteceden <br> t <br> (=Pedro) | Object <br> Anteceden <br> t (=Carlos) | External referent <br> (=Someon <br> e Else) | Subject <br> Anteceden <br> t (=Pedro) | Object Antecedent (=Carlos) | External referent <br> (=Someone Else) |
| Anaphora Null Pronoun <br> Pedro saludó a Carlos cuando pro cruzaba la calle <br> (Pedro greeted Carlos when (he) crossed the street) | 0.73(0.45) | 0.26(0.44) | 0.01(0.12) | 0.62(0.49) | 0.37(0.48) | 0.02(0.12) |
| Anaphora Explicit Pronoun <br> Pedro saludó a Carlos cuando él cruzaba la calle <br> (Pedro greeted Carlos when he crossed the street) | 0.57(0.50) | 0.41(0.49) | 0.02(0.13) | 0.37(0.49) | 0.60(0.49) | 0.04(0.19) |
| Cataphora Null Pronoun <br> Cuando pro cruzaba la calle, Pedro saludó a Carlos <br> (When (he) crossed the street, Pedro greeted Carlos) | 0.88(0.32) | 0.05(0.23) | 0.06(0.24) | 0.65(0.48) | 0.06(0.24) | 0.29(0.45) |
| Cataphora Explicit Pronoun <br> Cuando él cruzaba la calle, Pedro saludó a Carlos <br> (When he crossed the street, Pedro greeted Carlos) | 0.86(0.35) | 0.07(0.25) | 0.07(0.26) | 0.47(0.50) | 0.12(0.32) | 0.42(0.49) |

## References

Contemori, C. (2019). Changing comprehenders' pronoun interpretations: immediate and cumulative priming at the discourse level in L2 and native speakers of English. Second Language Research. DOI: https://doi.org/10.1177/0267658319886644.
Keating, G., VanPatten, B., \& Jegerski, J. (2011). Who was walking on the beach: Anaphora resolution in Spanish heritage speakers and adult second language learners. Studies in Second Language Acquisition, 33, 193-221.
Keating, G., VanPatten, B., \& Jegerski, J. (2016). Online processing of subject pronouns in monolingual and heritage bilingual speakers of Mexican Spanish. Bilingualism: Language and Cognition 19 (1), 36-49.

Langlois, V., \& Arnold, J. E. (2020). Print exposure explains individual differences in using syntactic but not semantic cues for pronoun comprehension. Cognition, 197:104-155.

Sorace, A. (2011). Pinning down the concept of 'interface' in bilingualism. Linguistic Approaches to Bilingualism, 1, 1-33. DOI: https://doi.org/10.1075/lab.1.1.01sor.

# Changing pronoun interpretations across-languages: discourse priming in Spanish-English bilingual speakers 

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In English, pronouns often refer to a subject/first-mentioned referent, which is usually the most salient in the previous discourse:
(1) $\mathrm{John}_{\mathrm{i}}$ met Paul while he ${ }_{i}$ was in high school

In Spanish, native speakers show a preference for interpreting the null pronoun as referring to the subject antecedent (i.e., John in (1)), while explicit pronouns are more likely to refer to a non-subject antecedent (i.e., an explicit pronoun is usually interpreted towards the preceding object in (1)).

Recent research has demonstrated that pronoun resolution biases are sensitive to immediate priming and adaptation in monolingual and bilingual individuals (e.g., Contemori, 2019). While pronoun interpretations can be primed in bilingual speakers using a single-language priming task, it is not clear if pronoun interpretation biases can be primed cross-linguistically. The goal of the present study is to understand if (i) bilingual speakers' statistics about likely referents are independent in the two languages or if (ii) probabilistic inference in tracking referents in one language (Spanish, the L1) can affect how referential expressions are resolved in the other language (English, the L2).

Here we used a sentence comprehension experiment that implements the priming technique, where unambiguous pronouns referring to the second mentioned-referent are presented in Spanish (2) with the aim of decreasing first noun phrase (NP1) interpretations in English (John in (1)) in sentences with an ambiguous pronoun like (3).
(2) Spanish priming: Ana invitó a Alvaro al cine porque él era un buen chavo.

Ana invited Alvaro to the movies because he was a good kid.
(3) Target English sentence/ambiguous pronoun: John met Paul while he was in high school

In a sentence comprehension task, sixty-three sequential Spanish-English bilinguals read thirty English sentences containing an ambiguous pronoun ((3) and answered comprehension questions (in (3), Who was in high school?). Fifteen of the sentences were preceded by a Spanish sentence that did not contain a pronoun (=baseline condition). Fifteen ambiguous stimuli were preceded by a Spanish sentence with an unambiguous pronoun referring to the second-mentioned entity ((2) NP2 priming).
The results of the comprehension questions did not show a significant effect of immediate priming ( $\mathrm{p}=.1$ ). However, an interaction between Priming Condition and Order of the Items emerged ( $\mathrm{p}<0.02$ ), indicating that throughout the course of the experiment, bilinguals were adapting to the higher occurrence of Spanish NP2 interpretations when comprehending ambiguous English pronouns (Figure1).
The results shows that English pronoun interpretation bias is susceptible to cross-linguistic priming, suggesting that Spanish-English bilinguals do not keep separate statistics about probability of pronominal forms interpretations occurring in the two linguistic environments. This result demonstrate that cross-linguistic influence may occur in pronoun comprehension in bilinguals, which may explain
the well-known divergence between bilingual and monolingual's pronoun interpretation patterns (Sorace, 2011).

Table 1. Proportion of NP1 choices (he=John) for the English sentences with ambiguous pronouns by priming type (SD in parenthesis)

|  | Spanish-English bilinguals |
| :--- | :--- |
| Baseline condition | $0.7(0.45)$ |
| (NP2) Priming condition | $0.65(0.47)$ |
| Total average NP1 choices | $0.67(0.46)$ |

Figure 1. Effect of item number on priming condition


## References

Contemori C. (2019). Changing comprehenders' pronoun interpretations: immediate and cumulative priming at the discourse level in L2 and native speakers of English. Second Language Research. DOI: https://doi.org/10.1177/0267658319886644.
Sorace, A. (2011). Pinning down the concept of "interface" in bilingualism. Linguistic Approaches to Bilingualism, 1(1), 1-33.

# The interplay of language switching and morphological configuration switching 

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When people switch between two languages in language production or language comprehension, both the specific semantic meaning and the specific morpho-syntactic form of the word are important. Word formation hereby includes a morphological configuration whenever a word contains more than one free morpheme. The morphological configuration is variable both within and between languages for example in two-digit number names (is the decade named first as in twenty-one or the unit named first as in seventeen) and in compound words (is the modifier or the head named first). The aim of the present study was to examine the interplay of language switching and morphological configuration switching. In four experiments, multilingual participants had to switch between three languages (e.g., German, English and Spanish) and between morphological configurations in either number processing or compound word processing. Language-switch costs were measured as the performance difference between language-switch and language-repetition trials. In two experiments, participants performed a language-comprehension task on two-digit number word, and in two experiments participants performed a language-production task (producing either a two-digit number word or a compound word). All four experiments revealed an under-additive switchcost pattern in which a larger language-switch cost occurred in morphological-configuration repetition trials than in morphological-configuration switch trials. More specifically, a benefit of repeating the same language in two successive trials was mainly observed when also the morphological configuration was repeated. Thus, the present data indicate an integration of the language into one language-related schema - irrespective of the language task (comprehension vs. production) and the type of stimuli (number words vs. compound nouns). Further, our results suggest that the morphological configuration order played a critical role in the comprehension, representation, and the production of two-digit numbers and compounds words and needs to be taken into account in models of language switching with complex words (or even phrases and sentences).

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# Monoliteracy or biliteracy in second language learners of Italian 

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This study aimed to establish whether (1) biliteracy negatively affects literacy education in L2 Italian children and (2) biliterates with an alphabetic script differ from biliterates with a logographic script in Italian. We recruited 95 monoliterate and 86 biliterate bilingual children, attending Grade $1^{\text {st }}, 3^{\text {rd }}$, and $5^{\text {th }}$ They were administered Raven, an expressive vocabulary task and reading tasks (words, non-words and text). Analyses revealed that biliterates had a higher Raven score than monoliterates (Biliterates: $\mathrm{M}=28.2 \mathrm{SD}=4.6$; monoliterates: $\mathrm{M}=22.4, \mathrm{SD}=6.4$ ); the two groups did not differ in expressive vocabulary. From $3^{\text {rd }}$ Grade, both groups read words faster than pseudowords, proving that reading had started to be automatized as in monolingual development. In general, we did not find penalty in reading in biliterate. Some advantages in text comprehension was found among biliterate. Then, the group of biliterates was split with 36 children belonging to the Group with an alphabetic script (A_BL) and 50 children to the logographic script ( $L_{-}$BL). We found that A_BL children obtained a higher score in expressive vocabulary ( $\mathrm{F}(1,80)=8.84, \eta^{2}=0.10, p<0.05$ ). Both groups read the word faster than pseudowords from $3^{\text {rd }}$ Grade; L_BL improved faster than A_BL, as indicated by the Group by Grade interaction $\left(\mathrm{F}(2,80)=5.15, \eta^{2}=0.1, p<0.05\right)$. Small differences were found, due mostly to grades. Our results indicate that biliteracy may provide some advantages for text comprehension. This may be due to biliterates' higher experience with written texts in two languages (see also Rolstad et al. 2005) or to their higher non-verbal reasoning ability. The comprehension of a text is a complex ability that involves different skills. No consistent difference between A_BL and L_BL was found, likely due to the fact that literacy in the L1 is not well-advance, as these children attend L1 classes only on the weekend and in summer.

# Longitudinal relations between students' motivation for English, French and German in multilingual Switzerland 

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Switzerland is a historically multilingual country that encourages multiple language learning (EDK, 2004). Still, this learning almost always occurs in conjunction with English, which is believed to lead to negative interferences with students' motivation to learn other languages (Ushioda, 2017). This appears to be a general European phenomenon (Duff, 2017), as cross-sectional research from several countries has shown that students usually report lower motivation to learn other languages than English (Busse, 2017; Dörnyei et al., 2006; Henry, 2010; Lasagabaster, 2017). However, less is known about longitudinal relations between students' motivation for several languages, therefore, it is unclear whether students' motivation for English is indeed interacting with the development of motivation for other languages. Moreover, this motivational development might not be the same for all students. Previous studies indicate systematic individual differences in students' motivation depending, for instance, on their gender, their language background or their experience with learning several languages (Brühwiler \& Le Pape Racine, 2017; Lanvers et al., 2019; Rjosk et al., 2015). The present study focuses on upper-secondary students in the German-speaking part of Switzerland and uses multivariate latent growth modeling to analyze data gathered from 850 students ( $M_{\text {age }}=15.61$ years, $S D=0.62 ; 54.5 \%$ female) in the spring of 2012 (Grade 9), 2013 (Grade 10), and 2014 (Grade 11). First, we explore the longitudinal relations between students' motivation for English (foreign language), French (foreign but national language), and German (national language), drawing on the concept of intrinsic value beliefs, which refers to the motivation that is driven by the activity itself, regardless of external incentives (Wigfield \& Eccles, 2002; Ryan \& Deci, 2000). Second, we explore potential relations between students' development of intrinsic value beliefs in the three language subjects and their linguistic background (i.e., whether they grew up with more than one home language). Results indicate significant longitudinal relations in the development of intrinsic value beliefs between the three language subjects. Analyses suggested that students who reported higher intrinsic value beliefs in English in Grade 9 showed steeper decreases in their intrinsic value beliefs for French from Grade 9 to 11. However, stronger increases in English intrinsic value beliefs over time were associated with stronger increases in French and German value beliefs. While multilingual students reported higher initial levels of intrinsic value beliefs for French, they also showed steeper decreases in their levels of intrinsic value for French and English over time compared to their monolingual peers. These findings indicate that students' motivation for several language subjects might interact with each other over time and underline the importance for more collaboration between language educators and language teachers to find solutions to minimize the potentially growing imbalance between languages in educational settings (Busse, 2017; Ushioda, 2017).

## References

Brühwiler, C., \& Le Pape Racine, C. (2017). Entwicklung motivationaler Orientierungen beim multiplen Erwerb von Französisch und Englisch als Fremdsprachen am Übergang von der Primarstufe in die Sekundarstufe I [Development of motivational orientations in the multiple
acquisition of French and English as foreign languages at the transition from primary to lower secondary education]. Zeitschrift für Interkulturellen Fremdsprachenunterricht, 22(1), 167181.

Busse, V. (2017). Plurilingualism in Europe: Exploring attitudes toward English and other European languages among adolescents in Bulgaria, Germany, the Netherlands, and Spain. The Modern Language Journal, 101(3), 566-582.
Dincer, A. (2018). Motivational Factors in Multilingual Students' Learning Additional Languages: The Case of English and Turkish. Eurasian Journal of Applied Linguistics, 4(2), 275-299.
Dörnyei, Z., Csizér, K., \& Németh, N. (2006). Motivation, language attitudes and globalisation: A Hungarian perspective. Clevedon: Multilingual Matters.
Duff, P. A. (2017). Commentary: Motivation for learning languages other than English in an Englishdominant world. The Modern Language Journal, 101(3), 597-607.
EDK (2004). Sprachenunterricht in der obligatorischen Schule: Strategie der EDK und Arbeitsplan für die Gesamtschweizerische Koordination [Language teaching in compulsory schooling: EDK strategy and work plan for nationwide coordination]. Retrieved from http://edudoc.ch/record/30008/files/Sprachen_d.pdf, Accessed date: 25.02.2021.
Henry, A. (2010). Contexts of possibility in simultaneous language learning: Using the L2
Motivational Self System to assess the impact of global English. Journal of Multilingual and Multicultural development, 31(2), 149-162.
Lanvers, U., Hultgren, K., \& Gayton, A. M. (2019). 'People can be smarter with two languages': changing anglophone students' attitudes to language learning through teaching linguistics. The Language Learning Journal, 47(1), 88-104.
Lasagabaster, D. (2017). Language learning motivation and language attitudes in multilingual Spain from an international perspective. The Modern Language Journal, 101(3), 583-596.
Rjosk, C., Richter, D., Hochweber, J., Lüdtke, O., \& Stanat, P. (2015). Classroom Composition and Language Minority Students' Motivation in Language Lessons. Journal of Educational Psychology, 107(4), 1171-1185.
Ryan, R. M., \& Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. Contemporary Educational Psychology, 25(1), 54-67.
Ushioda, E. (2017). The impact of global English on motivation to learn other languages: Toward an ideal multilingual self. The Modern Language Journal, 101(3), 469-482.
Walter, O., \& Taskinen, P. (2008). Naturwissenschaftsbezogene Motivationen und Kompetenzen von Schülerinnen und Schülern mit Migrationshintergrund in Deutschland: Der Einfluss der Generation, der Herkunft und des Elternhauses [Science-related motivation and competencies of students with a migration background in Germany: The influence of generation, origin and family characteristics]. Zeitschrift für Erziehungswissenschaft-Sonderheft, 10, 185-203.
Wigfield, A., \& Eccles, J. S. (2002). The development of competence beliefs, expectancies for success, and achievement values from childhood through adolescence. Development of Achievement Motivation, 91-120.

# How to Quantify Bilingual Experience? A Delphi Consensus Survey 

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While most investigations of bilingualism rely on the documentation of language background, there is substantial variability within the field regarding how bilingual experience is documented and quantified. The absence of methodological agreement on how to quantify bilingualism is reflected in the variety of language background questionnaires and resulting measures. Profiling bilingualism is also key to informing practice (i.e., teaching and speech \& language therapy), where different tools are also used. This variability jeopardises comparability across studies and cross-pollination between research and practice. Recent discussions have suggested a need for consensus on which aspects of bilingualism to document and how (e.g., Marian \& Hayakawa 2020).

To establish how children's bilingual experience should be documented and measured, we carried out a consensus survey by using the Delphi method (see Iqbal \& Pipon-Young 2009). The survey was distributed online in two rounds, in which 132 panelists (researchers, speech and language therapists, teachers) from 29 countries rated a total of 124 statements (informed by an international, cross-sector scoping workshop). The statements related to various aspects of bilingual experience to be documented and the ways of doing it. Agreement or disagreement with each statement was rated on a 5-point scale (strongly disagree, disagree, I don't know, agree, strongly agree). Consensus was pre-defined as 75\% agreement threshold.

After two rounds of the online survey, $79 \%$ of statements (i.e., 98/124) reached consensus, revealing near-unanimity regarding the need for common methods to document bilingual experience. Thematically, agreement was reached regarding the need to document the following aspects of bilingual experience: language exposure and use, language difficulties experienced, proficiency (when it cannot be assessed directly), child's education and literacy practices, indicators of input quality, language mixing practices, and attitudes (towards each language and towards language mixing). Consensus levels were the highest in relation to language exposure and use, and the need to document them in detail (i.e., across interlocutors, in different contexts, over time). The variability observed with respect to other aspects is likely a reflection of the fact that they have hitherto been researched less systematically. This is particularly the case with language mixing and input quality. We discuss the implications of these findings for the next step of our project: the creation of a new tool to quantify bilingual experience. Apart from being informative on which aspects of bilingualism to document and how, the level of consensus reached may provide some guidance in distinguishing the "core" aspects of bilingualism that should always be documented from other optional aspects.

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## References

Iqbal, S., \& Pipon-Young, L. (2009). The Delphi method. Methods, 22(7), 598-601.
Marian, V., \& Hayakawa, S. (2020). Measuring bilingualism: the quest for a "bilingualism quotient". Applied Psycholinguistics, 1-22.

# Voluntary language switching while typing 

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A longstanding issue in psycholinguistic research on bilingualism concerns the nature of language control, which is the process used to select words in the appropriate language and to minimize crosslanguage interference during bilingual language processing. This is a necessity for bilinguals, since words from the non-target language are also activated during language processing, and sometimes even selected by mistake. The most common paradigm to investigate language control is the language switching paradigm, in which participants typically name pictures in mixed language blocks. While the majority of production-based language switching studies have relied on vocal responses, we set out to investigate if switching languages, relative to staying in the same language across trials, would still be costly with typed responses. The results of this study, with 79 German-English bilinguals, showed language switch costs. Interestingly, these switch costs were larger for the second (L2) than the first (L1) language, which could be due to the overall better L2 than L1 performance. Another interesting aspect was that this asymmetrical switch cost pattern was not just found for the first key stroke, but larger L2 than L1 switch costs were also found for the second key stroke. These findings indicate that language control is implemented in the context of typing. Furthermore, the control processes implemented during lexical selection seem to spill over into the following stages of typing, as not only the first but also the second keystrokes were affected by language switching.

# How do bilinguals use discourse and syntactic cues when interpreting ambiguous subject pronouns? 

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Testing the Position of the Antecedent Hypothesis (PAH; Carminati, 2002), Bel \& García-Alcaraz (2018) showed that, in Catalan, like Italian, null pronouns are biased towards subject antecedents and overt pronouns towards object antecedents, whereas in Spanish overt pronouns show no significant biases. However, beyond the syntactic function of the plausible antecedents, ambiguous pronominal anaphora resolution has been demonstrated to be sensitive to discourse cues such as information status (de la Fuente, 2015). At the same time, integrating information from different linguistic domains has been claimed to be cognitively taxing for bilinguals, what can lead to an overextension of overt pronouns' strategy (Sorace, 2011, 2016). First, this study aims at assessing the impact of marked information structures on anaphora resolution to discern how discourse factors (topicality) and syntactic factors (subjecthood) are used to assign an antecedent to ambiguous null and overt subject pronouns in Catalan, two factors that often overlap in previous research. Second, it aims at analyzing how bilingualism influences these patterns depending on language dominance, since Catalan and Spanish are systematically in contact and microvariation has been attested between languages.

Three groups of adult early Catalan-Spanish bilinguals, based on language dominance (34 Catalandominant, 31 balanced and 29 Spanish-dominant, mean age 22.09), completed a two-alternative forced choice task in Catalan. In a $4 \times 2$ within-subjects design, two factors were manipulated: information structure (unmarked, subject focalization via it-cleft, object focalization via it-cleft, object topicalization via clitic-left dislocation), and type of pronoun (null, overt). Participants had to interpret an ambiguous subject pronoun by choosing between two potential antecedents (subject, object) (e.g., "La Maria va espantar la Laura quan va entrar a l'habitació. Qui va entrar a l'habitació?"; unmarked structure, null pronoun condition).

GLMMs reveal that Catalan-dominants show a stronger preference of overt pronouns towards object antecedents than balanced bilinguals - who unspecify overt pronouns- and Spanish-dominant bilinguals. Taking Catalan-dominants as a reference, marked information structures affect differently null and overt pronouns: no significant effects are attested for null pronouns, and both clefted and dislocated objects decrease overt pronouns' object preferences, with respect to baseline. These findings challenge the view that null pronouns convey topic maintenance and overt pronouns topic shift: null pronouns may show more flexible patterns and overt pronouns may be guided by syntactic configurations (object choices decrease when the object antecedent moves to higher syntactic positions than subject antecedents). Balanced bilinguals, unlike Catalan-dominants, show sensitivity of null pronouns to information status of the antecedent, showing higher preferences to link null pronouns to topic antecedents. Different behaviors depending on language dominance are discussed in light of resource competition and coactivation in bilinguals (Sorace, 2016; Kroll and Navarro-Torres, 2018).

## References

Bel, A. \& García-Alcaraz, E. (2018). Pronoun interpretation and processing in Catalan and Spanish bilingual and monolingual speakers. In A. Cuza \& P. Guijarro (eds.), Language Acquisition and Contact in the Iberian Peninsula. Berlin/New York: Mouton de Gruyter.

Carminati, M. N. (2002). Processing of Italian Subject Pronouns (unpublished doctoral thesis). University of Massachusetts at Amherst.
de la Fuente, Israel. (2015). Putting pronoun resolution in context: The role of syntax, semantics, and pragmatics in pronoun interpretation. Paris: Université Sorbonne-Paris Cité, Université Paris Diderot-Paris 7 dissertation.
Kroll, J. F., \& Navarro-Torres, C. A. (2018). Bilingualism. Stevens' Handbook of Experimental Psychology and Cognitive Neuroscience, 3, 1-29.
Sorace, A. (2011). Pinning down the concept of "interface" in bilingualism. Linguistic Approaches to Bilingualism, 1(1), 1-33.
Sorace, A. (2016). Referring expressions and executive functions in bilingualism. Linguistic Approaches to Bilingualism, 6(5), 669-684.

# Comparing code-switching patterns in two bilingual communities with the same minority language 

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Recent work analysing the distribution of code-switching patterns in bilingual communities has made fruitful use of the Matrix Language Frame approach (see Myers-Scotton 2002). According to this approach, the matrix language (ML) provides the morphosyntactic frame of a clause containing codeswitching. The ML can alternate between clauses. However, many bilingual communities show a preference of using one language more frequently as the ML. For example, Deuchar et al. (2018: 90) found that in 66,428 clauses from 69 Welsh/English conversations, $98 \%$ of the monolingual clauses and $97 \%$ of the bilingual clauses had Welsh as ML.

Hebblethwaite (2010) suggested that where one of the two languages has minority status, the minority language will tend to provide the matrix language more frequently than the majority language. This pattern was found to apply to Swahili/English code-switching, for example, by Myers-Scotton (1993) and applies to Welsh/English in Wales, where only $20 \%$ of the population is able to speak Welsh.

This paper reports on a new analysis of data collected in a bilingual community speaking Welsh and Spanish, instead of English. The community is based in Patagonia, Argentina, and was settled in the 19 th century by Welsh emigrants from Wales. Spanish is the official language of Argentina, and Welsh is spoken by a very small percentage of the population, even lower than in Wales.

Data were collected from 89 speakers from communities in eastern and western Chubut, using a similar approach to that used in Wales (Deuchar et al. 2018). The transcripts and original recordings are available at www.bangortalk.org.uk.

The question we posed was whether we would find a similar asymmetry between Welsh and Spanish in this Argentinian community to the asymmetry we found in Wales, where Welsh was the most frequent ML. In order to identify the ML of each clause, we adapted a method used previously by Deuchar et al. (2018). We used CLAN (MacWhinney 2000) to search for items automatically glossed as verbs in each line, and code the line as a clause with either (1) Welsh matrix language; or (2) Spanish matrix language. We then searched for Welsh and Spanish words within these categories to determine the classification of the clauses as either bilingual or monolingual. This coding allowed us to compare the results with the previous findings for Welsh/English.

Our results were superficially similar to those found for Welsh/English in that Welsh was most frequently the ML in both monolingual and bilingual clauses. However, the Patagonia data were less uniform across conversations, and Spanish provided the ML more often than English in Wales. Interestingly, code-switching was far less frequent in Patagonia. We will discuss the community-specific factors that may account for this result.

# Outward over-explicitness and the over-use of overt subject pronouns by L2ers 

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Several works have highlighted that advanced L2 speakers of a null subject language over-use overt subject pronouns (OSPs) with respect to native speakers, using them also in topic continuity, even when their L1 is also a null subject language (Bini 1993; Margaza \& Bel 2006; Lozano 2006 a. o.). Crosslinguistic influence may play a role if there is micro-variation between the two null subject languages of the speakers (Filiaci et al. 2014). Other proposals suggest that properties at the syntax-discourse interface (such as topicality) are complex to compute for L2ers, whose processing resources are more taxed (Sorace 2011, 2016): OSPs appear thus as a convenient default option. Finally, some authors argue that L2ers simply tend to be over-explicit (Ryan 2015 a. o.), violating pragmatic principles banning redundancy more than pragmatic principles banning ambiguity (Lozano 2016). In this work we propose that L2ers' over-explicitness is just outward, and that OSPs are the necessarily explicit devices for L2ers in the contexts where they occur. Analyzing the oral productions (collected through a Story Telling task) of three group of speakers ( 15 Greek native speakers [GN], 15 Italian native speakers [IN] and 15 L2ers of Italian with L1 Greek) in terms of topicality and number and kind of active referents, we found:
a) no GN/IN differences in the use of OSPs
b) significantly higher use of OSPs by L2ers in topic continuity with respect to $\mathrm{GN}(\mathrm{p}=0.012$ ) and IN ( $\mathrm{p}=0.023$ )
c) significantly higher use of OSPs in contexts with two active referents differing for gender and/or number (2rgn) by all speakers' groups (IN $\mathrm{p}=0.013$; L2ers $\mathrm{p}<0.001$; $\mathrm{GN} \mathrm{p}<0.001$ )
d) significantly higher use of OSPs by L2ers in the 2 rgn context with respect to the other groups ( $\mathrm{p}=0.030$ )
e) use of OSPs in topic continuity by L2ers mostly attested in 2 rgn
f) significantly higher use of pro in topic continuity by GN with respect to the other two groups (IN $\mathrm{p}=0.031$; L2ers $\mathrm{p}=0.004$ )
The use of OSPs in topic continuity by L2ers cannot be due to cross-linguistic influence given a), nor to general difficulties to deal with topicality since they do not transfer into Italian the properties of the Greek pro (f)). Given e), we argue that L2ers have difficulties in computing topicality when the presence of an additional character decreases referents' prominence (Arnold \& Griffin 2007), making the topic/non-topic distinction unclear. In this situation, the OSP is the necessarily explicit (not overexplicit) device to employ.
We finally analyze comparable data from a group of 12 L2ers of Italian with L1 Serbo-Croatian, where we observe a similar pattern in the distribution of OSPs: the related explanation can be thus extended to speakers with a different null subject L1.

## References

Arnold, Jennifer E. \& Zenzi M. Griffin. 2007. The effect of additional characters on choice of referring expression: Everyone counts. Journal of Memory and Language 56.521-536.
Bini, Milena. 1993. La adquisicíon del italiano: mas allá de las propiedades sintácticas del parámetro pro-drop. In Juana Liceras (ed.), La Linguistica y el Analisis de los Sistemas no Natives, 126139. Ottawa: Doverhouse.

Filiaci, Francesca, Antonella Sorace \& Manuel Carreiras. 2014. Anaphoric biases of null and overt subjects in Italian and Spanish: a cross-linguistic comparison. Language and Cognitive processes 28. 825-843. doi: 10.1080/01690965.2013.801502.
Lozano, Cristóbal. 2006. The development of the syntax-information structure interface: Greek learners of Spanish. In Vincent Torrens \& Linda Escobar (eds.), The acquisition of syntax in Romance languages, 371-399. Amsterdam: John Benjamins.
Lozano, Cristóbal. 2016. Pragmatic principles in anaphora resolution at the syntax-discourse interface: advanced English learners of Spanish in the CEDEL2 corpus. In Margarita Alonso-Ramos (ed.), Spanish Learner Corpus Research: Current Trends and Future Perspectives, 236-265. Amsterdam: John Benjamins. doi: 10.1075/scl.78.09loz.
Margaza, Panagiota \& Aurora Bel. 2006. Null subjects at the syntax-pragmatics interface: Evidence from Spanish interlanguage of Greek speakers. In Mary Grantham O'Brien, Christine Shea \& John Archibald (eds.), Proceedings of GASLA 2006, 88-97. Somerville, MA: Cascadilla Press.
Ryan, Jonathon. 2015. Overexplicit referent tracking in L2 English: Strategy, avoidance or mith? Language Learning 65/4. 824-859. doi: 10.1111/lang. 12139.
Sorace, Antonella. 2011. Pinning down the concept of interface in bilingualism. Linguistic Approaches to Bilingualism 1. 1-33. doi: 10.1075/lab.1.1.01sor.
Sorace, Antonella. 2016. Referring expressions and executive functions in bilingualism. Linguistic Approaches to Bilingualism 6/5. 669-684. doi: 10.1075/lab.15055.sor.

# Grammatical Gender Agreement in Italian as a Heritage Language: 

# A Self-Paced Reading Study 

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Grammatical gender is acquired early by monolingual children but it shows variability in heritage speakers (HSs) related to proficiency and linguistic difference between the minority and majority languages; it is vulnerable in populations with low proficiency and with a majority language without gender (e.g., Polinsky, 2008), while it seems to be fully acquired in populations with high proficiency and with both languages with gender (e.g., Bianchi, 2013). We examined sources of morphological variability in Italian HSs living in Germany, with a focus on morphological markedness and task type (explicit vs. implicit knowledge).
Fifty-four adult Italian HSs living in Germany and 40 native speakers of Italian living in Italy participated in two experiments. Experiment 1 examined HSs' gender agreement in an offline grammaticality judgement task (GJT) (tapping explicit knowledge) involving sentences with grammatical and ungrammatical noun-adjective sequences with masculine (unmarked) and feminine (marked) nouns in the singular (unmarked) and plural (marked). Gender violations were realised on the adjective. This examined HSs' potential overreliance on unmarked forms or "defaults" (masculine/singular). Experiment 2 examined the same conditions in an online self-paced reading (SPR) task (tapping implicit knowledge) to address how HSs process gender agreement violations. A language history questionnaire and a vocabulary test addressed relationships between gender agreement, language exposure/use and language proficiency.
In both tasks, participants living in Italy performed at ceiling and showed faster reading times (RTs) compared to HSs (see Figures 1 and 2). In the GJT, HSs showed high accuracy and were more sensitive to violations realised on marked adjectives; they showed an effect of markedness for number (more accurate with singular vs. plural in the feminine) and for gender (more accurate with masculine vs. feminine in the plural). In the SPR, both groups showed sensitivity to violations realised on marked vs. unmarked adjectives but only in the masculine (longer RTs in the critical region 'antica' in Figure 2). A significant correlation between the results of the GJT and proficiency suggests that proficiency and having a majority language with grammatical gender facilitate the acquisition of gender agreement in HSs.
These results suggest that despite the differences between the groups in the GJT, there are no qualitative differences in the processing of grammatical gender between high proficient HSs with a majority language that has grammatical gender and native speakers who are not HSs. Importantly, markedness impacts grammatical gender in both explicit and implicit tasks in HSs but in different ways. This stresses the importance of combining methods of empirical testing to gauge competence and processing at the same time in the same groups of participants.

## References

Polinsky, M. (2008). Gender under incomplete acquisition: Heritage speakers' knowledge of noun categorization. Heritage Language Journal 6(1): 40-71.

Bianchi, G. (2013). Gender in Italian-German bilinguals: A comparison with German L2 learners of Italian. Bilingualism: Language and Cognition, 16(3), 538-557.


Figure 1. Mean accuracy (\%) for grammaticality judgement task



Figure 2. Raw RTs (ms) for self-paced reading task

# Contact-related and input-related factors in auxiliary selection Evidence from Italo-Romance varieties 

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In this paper we provide a comparative account of auxiliary selection in two heritage language (HL) communities of Italian origin, in Argentina and in the UK. We use the term Italo-Romance heritage languages (IRHLs) as a cover term to refer to both standard Italian and primary dialects spoken in Italy.

Most Italo-Romance varieties are characterized by split intransitivity in the selection of the perfective auxiliary: intransitive verbs select 'be' or 'have' in the formation of the analytical past tense according to syntactic and semantic properties (Cennamo 2001, Sorace 2000). As a general rule, inergative verbs select 'have'; unaccusative, passive and reflexive verbs select 'be'; see standard Italian in ex. (1)-(2):

| Maria è | caduta |
| :--- | :--- |
| Maria be:AUX.3SG | fallen |
| 'Maria has fallen/fell' |  |


| Maria ha | dormito |
| :--- | :--- |
| Maria have:AUX.3SG | slept |
| 'Maria has slept/slept' |  |

Split intransitivity is hardly maintained as it is in IRHL communities: several HL settings show a greater variation in auxiliary selection with respect to homeland varieties. To gain a deeper understanding of this phenomenon we compare data from two different HL settings: Piedmontese communities in Argentina and the Campanian community in Bedford (UK). The two settings allow us to compare Piedmontese and Campanian Italo-Romance dialects, in contact respectively with Spanish and English, two languages that do not have auxiliary selection.

In the Piedmontese HL variety, split intransitivity tends to be lost, as 'have' is generalized as a perfective auxiliary with verbs of any class; see ex. (3)

| (3) | l'ha <br> have.3SG | stait been | lì there | l'ha <br> have.3SG | fait done | la the | cosecha harvest | e tut. and all |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | dòpo | l'ha |  | andait |  |  |  |  |
|  | afterwards | have. 3 |  | gone |  |  |  |  |

'he has been there, I has done the harvest and afterwards he went there'

However, variation is still present in the data, and will be described in relation with social and acquisitional features of the speakers.

A different picture is offered by the data from the UK: here, the analysis shows that 'be' may be selected instead of 'have' with inergative verbs and with specific persons, namely $1 \mathrm{pl}, 1 \mathrm{sg}$, and 3 sg . The selection of 'be' is also sensitive of the language used by the speakers: it is higher when they speak dialect and
but absent if they speak Italian. When migrants speak Italian, they select 'have' with this kind of verbs as in Standard Italian.

Based on the framework by Benmamoun et al. (2013), Polinsky \& Scontras (2020), we provide a comparison between the two case studies, aimed at highlighting the dynamics to which IRHL varieties are subject. We make a distinction between contact-related innovations, depending on grammatical features of the dominant language, and input-related innovations, depending on acquisitional factors characterizing specific HL scenarios, as well as on inherent patterns of variation in the input.

## References

Benmamoun E., Montrul, S. \& Polinsky, M. (2013). Heritage languages and their speakers: Opportunities and challenges for linguistics. Theoretical Linguistics 39, 129-81.
Cennamo M. (2001). L'Inaccusativita` in alcune varieta` campane: teorie e dati a confronto. In R. Sornicola, E. Stenta Krosbakken, and C. Stromboli (Eds.), Dati empirici e teorie linguistiche: Atti del XXXIII Congresso della Societa` di Linguistica Italiana, Napoli, 28-30 ottobre 1999, 427-453. Rome: Bulzoni.
Polinsky M. \& Scontras G. (2020). Understanding heritage languages. Bilingualism: Language and Cognition 23, 4-20.
Sorace, A. (2000). Gradients in auxiliary selection with intransitive verbs. Language 76, 859-890.

# Computerized reading screening to identify dyslexia risk in ItalianMandarin bilingual children 

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With increasing migration across the globe, it becomes more and more difficult for clinicians to distinguish language problems due to unbalanced, bilingual exposure from language and reading disorders, such as Developmental Dyslexia (DD). Clinicians may not be able to examine children's L1, but without a clear picture of language and reading abilities in both languages, it is difficult to provide adequate interventions. The present project aims to implement clinical markers to identify the risk of DD in a multilingual population through bilingual computerized language and reading tests.

In Bigagli \& Lorusso's (2014) preliminary study, Chinese-Italian primary schoolers' performance in language and reading tasks in both languages/scripts correlated with results in Italian standardized reading tests. Similarly, in the current project 28 successive bilingual children (L1: Mandarin, L2: Italian) attending Italian public primary schools (grades 3 and 4), living in Prato (Tuscany, Italy) were tested. All children spoke Mandarin at home, in their free time and furthermore received formal reading instruction in Mandarin.

Besides the Italian standardized word and nonword reading subtests (Batteria per la Valutazione della Dislessia e della Disortografia Evolutiva 2, DDE 2, Sartori et al, 2007), they were administered an informal Mandarin reading screening, containing characters from Mandarin reading instruction books for heritage speakers (Hu, 2019, unpublished).

The computerized screening consisted of phonological awareness, morphosyntactic processing and reading subtests. While reading subtests in Italian, a transparent orthography, assessed (non)word identification which relies on phoneme-grapheme conversion (audio-word-matching), Mandarin characters, of which some were manipulated, had to be recognized (judgement task).

For all tasks, accuracy and reaction time were measured automatically, using E-Prime 2.0. Preliminary results suggest that computer-based reading and language tests can reliably assess reading performance in L2 speakers of Italian, appear to capture also a part of general reading abilities (in L1) and to be reliable tools for early detection of at-risk cases for DD.

The collection of more data as well as follow-up-testing of the children tested to determine the predictive value of the screening was interrupted due to the Covid-19 pandemic, data collection and analyses are ongoing.

The most reliable tasks and items are now implemented in the web-based screening platform MuLiMi, to allow for easy access of the screenings across devices and operating systems. Integrating recent research findings in user-friendly soft- and hardware, such fully computerized could be administered by professionals who do not speak the children's L1. Early risk DD identification contributes to reducing the number of misdiagnoses and encourages timely interventions where needed.

## References

Bigagli, A. \& Lorusso, M. L., (2014). Predittori della lettura in italiano L2 in bambini di madrelingua cinese. Lucca, Italy: XXIII Congresso Nazionale AIRIPA.
Sartori G., Job R., \& Tressoldi P. E. (2007). DDE-2 Batteria per la valutazione della Dislessia e della Disortografia Evolutiva - 2. Florenz: Giunti O.S.

# A Comparative Study of Heritage Russian in Contact with Hebrew and English 

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The present study compares the performance of adult heritage language (HL) Russian speakers in Israel and the United States on a variety of morphosyntactic phenomena. This is among the first studies comparing early bilingual adults to each other, rather than to monolinguals. Heritage speakers grow up speaking a language at home that is different from the dominant societal language (SL) (Benmamoun et al, 2013; Polinsky, 2018; Montrul, 2016; Rothman, 2009). Their bilingual language development becomes unbalanced and their SL, although it is their second language, becomes their stronger one. HL grammar is affected by various internal and external factors, most notably cross-linguistic influence (CLI) and diminished input (Ortega, 2020; Polinsky \& Scontras, 2019). CLI refers to transfer and imposition of one language's features onto the other, suggesting that features of the HL which are similar to those of the SL will be maintained better than those that are different. Diminished input posits that speakers with greater exposure to the HL, and later onset of the SL, will be more proficient. We focus on HL Russian in contact with two SLs, Hebrew and English, chosen for their morphosyntactic differences both from each other and from Standard Russian.

A total of 65 participants were sampled: 36 from the US and 29 from Israel. All participants were born in their country of residence or immigrated from the former USSR prior to age 5 . The two groups were matched for age and sex and did not differ on background measures (ie. SL age of onset, etc). The two groups exhibited comparable performance on an objective vocabulary baseline derived through a pic-ture-naming task. Vocabulary size was found to be highly correlated with Russian use at home and at work. Participants were then tested on three experimental tasks assessing production accuracy of adjec-tive-noun agreement, the accusative case, and numeral-noun phrases.

Our results found that the SL-Hebrew group performed significantly better on adjective-noun agreement and numeral-noun expressions, with no notable group differences on the accusative case. A series of stepwise regressions showed vocabulary to be the greatest predictor for each task, pointing to the effects of input, as vocabulary measures are considered highly sensitive to input quantity and quality. This may be attributed to an Israeli sociolinguistic advantage, as Russian is the top HL in Israel and is much less common in the US. An additional Group effect was found for adjective-noun agreement, indicating presence of CLI: unlike English, Hebrew and Russian both mark grammatical gender. Our findings paint a complex picture of the interactions between CLI and input, with both playing a key role in HL proficiency. The next stage of this study will include a detailed qualitative analysis at the individual level.

## References

Benmamoun, Elabbas, Silvina Montrul, and Maria Polinsky. 2013. Heritage Languages and Their Speakers: Opportunities and Challenges for Linguistics. Theoretical Linguistics 39(3-4), 129- 181.
Montrul, S. (2016). The acquisition of heritage languages. Cambridge University Press.

Ortega, L. (2020). The study of heritage language development from a bilingualism and social justice perspective. Language Learning, 70, 15-53.
Polinsky, M. (2018a). Heritage languages and their speakers (Vol. 159). Cambridge University Press.
Polinsky M, Scontras G (2019). Understanding heritage languages. Bilingualism: Language and Cognition 1-17.
Rothman, J. (2009). Understanding the nature and outcomes of early bilingualism:
Romance languages as heritage languages. International Journal of Bilingualism, 13(2), 155163.

# Bidirectional Transfer in the Acquisition of English Articles by Ara-bic-English Bilingual Adults and Children 

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Acquiring English articles is difficult for second language (L2) learners of English. This difficulty seemsto be mainly linked to two aspects: i) the complexity of the rules for using English articles; and ii) the influence of the first language (L1) of the speaker (transfer or cross-linguistic influence). Reasons for these difficulties are often sought in the lack of articles in the L1 or differences between the L1 and L2rules for their use. However, age of onset is of L2 acquisition also impacts on learners' ability to use English articles in target-like ways, in that L1 influence is often more prominent in late and adult learners' use of L2 (Ionin, Zubizarreta, \& Philippov, 2009). Most of the current studies in the acquisitionof English articles involve adult speakers and only focused on examining the impact of L1-Arabic on L2-English. Much less is known about crosslinguistic influence in the opposite direction (from Englishonto Arabic) and about bilingual children's knowledge and use of English and Arabic articles.

The current study focuses on bidirectional crosslinguistic influence in the use of Arabic/English articlesin Arabic-English bilingual adults $(\mathrm{N}=40)$ and children between the ages of 7 and $12(\mathrm{~N}=$ 13), and a group of monolingual Arabic controls $(\mathrm{N}=39)$ and monolingual English controls $(\mathrm{N}=30)$. Article use was analysed with two tasks: a (semi-spontaneous) story-telling and a sentence repetition task (SRT) inboth languages. In the SRT the different semantic and linguistic conditions for the use of articles were carefully controlled. In addition, tests of receptive grammar (TROG=2 for English and the Arabic sentence comprehension test (Shaalan, 2010)) were used to control for overall grammatical knowledge. In the narrative task, among adults, omission of "a/an" was the most common issue ( $53 \%$ ), while for children it was use of "the" in indefinite contexts where "a/an" would be expected $(46 \%)$. In the SRT, significant differences were found for overall accuracy in the use of "the", " $\mathrm{a} / \mathrm{an}$ " and zero, as well as for accuracy in generic, [definite, specific], [indefinite, specific] and [indefinite, nonspecific] contexts. Finally, for the bilingual adults, Age of Onset of L2 was negatively related to accuracy in generic and [indefinite, non-specific] contexts and the general accuracy of using " $\mathrm{a} / \mathrm{an}$ " and zero. For the bilingual children, however, Age of Onset of L2 was negatively related to accuracy of using " $\mathrm{a} / \mathrm{an}$ " only within [indefinite, specific] contexts. Some errors made by the participants were related to problems with mastering plural forms in English. The Arabic sentence repetition task revealed no significant differences between the bilingual adults and the control group. No evidence was found for crosslinguistic influence from L2-English on the use of L1-Arabic articles.

## References

Ionin, T., Zubizarreta, M. L., \& Philippov, V. (2009). Acquisition of article semantics by child andadult L2-English learners. Bilingualism: Language and Cognition, 12(3), 337-361.
Shaalan, S. (2010). Investigating grammatical complexity in Gulf Arabic speaking children withspecific language impairment (SLI) (Doctoral dissertation, UCL (University College London)).

# Theory of Mind and Language Skills of Bilingual Children with Autism Spectrum Disorder (ASD) 

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Numerous studies have shown that limited Theory of Mind (ToM) is a core deficit in individuals with Autism Spectrum Disorder (ASD) (e.g., Baron-Cohen, Leslie, \& Frith, 1985). Very few studies have assessed ToM skills in bilingual children with ASD (but see Andreu et al., 2020). Recent studies, including a meta-analysis study of 1,1283 children, have indicated that there is a bilingual advantage on ToM skills among children with typical language development (TLD), yet this advantage is only apparent upon adjusting for language proficiency (Buac \& Kaushanskaya, 2019; Schroeder, 2018). It is well-documented that in bilingual children, language skills are un-evenly distributed across their two languages (Konhert, 2010). The current study aimed to assess ToM and language skills of bilingual children with and without ASD in both of their languages.

A total of 32 bilingual English-Hebrew speaking children (ages 4;10-10;08) participated: 16 children with ASD (hereafter biASD) and 16 children with TLD (hereafter biTLD). The two groups were matched for age, non-verbal IQ (as measured by Raven, 1998), length of exposure to Hebrew. Children`s morpho-syntax was assessed using sentence repetition tasks: Hebrew and English versions of LITMUS Sentence Repetition (Marinis \& Armon-Lotem, 2015). Verbal ToM battery included 5 subtasks: Diverse Desires, Diverse Beliefs, Content False-Belief, First-Order False-Belief, SecondOrder False-Belief). The nonverbal ToM was evaluated using a picture-sequencing task (Baron-Cohen et al., 1986) which included stories manipulating causal-mechanical, descriptive-behavioral, and psychological-intentional conditions. All children were tested in Hebrew and in English. Due to the COVID-19 pandemic, some sessions were provided online via Zoom: the testing modes were counterbalanced across the two groups.

The results indicated no differences between the two groups on morpho-syntax: the biASD group showed similar performance to their biTLD peers in both languages. Furthermore, there were no differences between the two groups in terms of non-verbal ToM scores. However, there were group differences on verbal ToM with the ASD group performing lower. On verbal ToM and sentence repetition tasks, an asymmetry in the performance across the two languages was observed: some children performed significantly higher in English, while some performed significantly higher in Hebrew. Additionally, we found strong correlations between morpho-syntactical scores and verbal-ToM scores only in the biASD group. The findings suggest that children with ASD may rely more on their linguistic skills to compensate for their deficient ToM competencies.

As for assessment of bilinguals, the study confirms that ToM skills and morpho-syntax should be assessed in both languages. As for intervention, the findings of the study highlight the importance of expanding morpho-syntactical skills to enhance ToM skills.

## References

Andreou, M., Tsimpli, I. M., Durrleman, S., \& Peristeri, E. (2020). Theory of Mind, Executive Functions, and Syntax in Bilingual Children with Autism Spectrum Disorder. Languages, 5(4), 67.

Baron-Cohen, S., Leslie, A. M., \& Frith, U. (1985). Does the autistic child have a "theory of mind"?. Cognition, 21(1), 37-46.
Baron-Cohen, S., Leslie, A. M., \& Frith, U. (1986). Mechanical, behavioural and intentional understanding of picture stories in autistic children. British Journal of Developmental Psychology, 4, 113-125.
Buac, M. and Kaushanskaya (2019). Predictors of Theory of Mind performance in bilingual and monolingual children. International Journal of Bilingualism, 1-21.
Kohnert, K. (2010). Bilingual children with primary language impairment: Issues, evidence and implications for clinical actions. Journal of communication disorders, 43(6), 456-473.
Marinis, T., \& Armon-Lotem, S. (2015). Sentence repetition. In S. Armon-Lotem, J. de Jong, \& N. Meir (Eds.), Assessing multilingual children: Disentangling bilingualism from language impairment (pp. 95-124). Bristol, UK: Multilingual Matters.
Raven, J. (1998). Raven's Coloured Progressive Matrices. San Antonio, TX: Psychological Association.
Schroeder, S. R. (2018). Do bilinguals have an advantage in Theory of Mind? A meta-analysis. Frontiers in Communication, 3, 36.Martin-Jones, M., Blackledge, A., \& Crees, A. (Eds.). (2012). The Routledge Handbook of Multilingualism. Oxon: Routledge.

Westergaard, M., Mitrofanova, N., Mykhaylyk, R., \& Rodina, Y. (2017). Crosslinguistic influence in the acquisition of a third language: The Linguistic Proximity Model. International Journal of Bilingualism, 21(6), 666-682.
Grünert, M. (2018). Multilingualism in Switzerland. In W. Ayres-Bennett \& J. Carruthers (Eds.), Manual of Romance Sociolinguistics. (pp. 526-548). Berlin: de Gruyter.

# A mixed-methods investigation into the home language environment of Bengali and Sylheti speaking children in the UK. 

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#### Abstract

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Language skills in early childhood are among the strongest predictors of academic achievement at 11 years (Pace et al. 2018). The quality of linguistic input parents provide is critical for the development of these skills. For the one-fifth of children in UK primary schools who speak a language other than English at home (Department for Education, 2018), the amount of linguistic input they are exposed to is divided between a heritage language and English. It is consequently important that they receive the highest quality linguistic input in each language. Bengali and Sylheti are the fifth most reported main languages spoken in the UK (Office for National Statistics, 2011). However, little is currently known about the home language environment for Bengali children speaking EAL in the early years. Learning more about the current home language environment has the potential to inform the development of future programmes to guide parents in supporting their children's language development before school entry.

This mixed-methods study is currently in the data collection phase. We plan to recruit 30 families with 3-4 year old children who speak either Bengali or Sylheti at home. All parents will participate in an interview, which will first include a structured questionnaire about language use at home. Following this, a semi-structured interview will focus on parent's views, attitudes and beliefs about the importance of their heritage language and English, and the factors that may influence their language practices at home. The primary caregiver in each family will then be invited to complete a detailed language diary for four days. The diary will include a record, in 30 -minute time blocks, of each activity the child engages in, the sources of language input during that activity (e.g., mother), and the language of that input. Finally, 15 of these families will also take two, day-long home audio recordings using LENA devices, audio recorders worn within specially designed clothing by the child at home. Segments of the recordings will be sampled and then coded for factors aligned with those collected in the diary. Preliminary findings from the diaries of three families (total 98, 30-minute blocks) indicate that input during play, household activities and media was weighted more towards being mixed Bengali/Sylheti and English, and English only. Input during other activities (e.g., mealtimes, reading) was weighted more towards being Bengali/Sylheti only, or mixed Bengali/Sylheti and English. Five semi-structured interviews revealed that increased Bengali/Sylheti use was often motivated by the desire to strengthen and maintain relationships, and this was sometimes influenced by family members outside of the household (e.g. family members living abroad). Children were sometimes a motivating factor for parents using English, particularly in cases where children preferred to speak English compared with Bengali/Sylheti.

## References

Department for Education. (2019). Schools, pupils and their characteristics: January 2019.
Office for National Statistics (2016): 2011 Census aggregate data. UK Data Service (Edition: June 2016).

Pace, A., Alper, R., Burchinal, M. R., Golinkoff, R. M., \& Hirsh-Pasek, K. (2018). Measuring success: Within and cross-domain predictors of academic and social trajectories in elementary school. Early Childhood Research Quarterly, 46, 112-125.
http://doi.org/10.1016/j.ecresq.2018.04.001

# English in a Multilingual World 

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English is often axiomatically indexed with globalization. Many school systems emphasize the learning of English with the aim of preparing students for employment, mobility, and English-medium tertiary education. Universities, in turn, increasingly focus on the English proficiency of students, staff, instructors, and researchers. English continues to be, as Bamgbose (2003) puts it, a "recurring decimal" in language planning and policy. But how all-encompassing is it? In this talk, I situate English in the world's ecology of languages. I begin by problematizing the notion of English as a global language. I then consider how we can view English-medium instruction (EMI) and English as a lingua franca (ELF) through a multilingual lens (e.g., Jenkins, 2015; Kirkpatrick, 2014; Ou, Gu \& Hult, 2020) in order to look beyond the ' $E$ ' to see how English can be positioned vis-à-vis the many guises of multilingualism (e.g., Blackledge \& Creese, 2014; Canagarajah, 2013). Finally, I argue for renewed attention to language ecology (e.g., Hult, 2013; Li, Steffensen \& Huang, 2020) in the study of multilingualism as a way to avoid a fragmented view of English in the world.

## References

Bamgbose, A. (2003). A Recurring Decimal: English in language policy and planning. World Englishes, 22(4), 419-431.
Blackledge, A., \& Creese, A. (Eds.)(2014). Heteroglossia as practice and pedagogy. Cham, Switzerland: Springer.
Canagarajah, S. (2013). Translingual practice: Global Englishes and cosmopolitan relations. London: Routledge.
Hult, F.M. (2013). Ecology and multilingual education. In C. Chapelle (Ed.), Encyclopedia of applied linguistics (Vol. 3, pp. 1835-1840). Malden, MA: Wiley-Blackwell.
Jenkins, J. (2015). Repositioning English and multilingualism in English as a lingua franca. Englishes in Practice, 2(3), 49-85.
Kirkpatrick, A. (2014). The language (s) of HE: EMI and/or ELF and/or multilingualism? The Asian Journal of Applied Linguistics, 1(1), 4-15.
Li, J., Steffensen, S., \& Huang, G. (2020). Rethinking ecolinguistics from a distributed language perspective. Language Sciences, 80, 1-12.
Ou, W.A., Gu, M.M., \& Hult, F.M. (2020). Translanguaging for intercultural communication in international higher education: Transcending English as a lingua franca. International Journal of Multilingualism. https://doi.org/10.1080/14790718.2020.1856113

# Translanguaging in a multilingual classroom 

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Poststructural and postmodern viewpoints triggered a new era in applied linguistics which is characterized by the emergence of novice approaches making their way into classrooms. One such approach is translanguaging, widely debated in literature by its proponents and critics. Translanguaging re-conceptualizes bi/multilingual practices by disrupting borders between languages and going beyond the artificial language separation usually adopted in educational programmes. The inclusion of translingual practices is especially promising in a multilingual classroom, where a special social space is established by bringing together learners' and teachers' different linguistic backgrounds.
Recent research in translanguaging focusing on its implementation and use in a multilingual classroom demonstrates positive outcomes for young bilinguals acquiring a third language. For example, translanguaging practices applied in a bi/multilingual classroom help young learners construct meaning (Otheguy et al., 2019), develop metalinguistic awareness (Leonet et al., 2017), deepen knowledge (García \& Wei, 2015) and shape experiences (Baker, 2011). Although there is growing research interest in translanguaging as implemented in schools, progressively showing its efficacy for young learners, it is still unclear if multilingual adult learners benefit from translanguaging.
This ongoing study aims to fill this gap by examining the use of translanguaging in a Russian language classroom for adults. The participants are Catalan/Spanish bilinguals and Russian language teachers. Each participant possesses more than 1 additional language in their linguistic repertoire so that all of them can deploy at least three languages in the classroom. The study adopts a qualitative approach paradigm which is widely approved in research on translanguaging. The data will be collected through classroom observations permitting to gather information about participants' behavior in naturalistic settings. Fieldwork will provide useful insights into processes taking place in the classroom, addressing the questions of whether (a) translingual practices are applied in a classroom, (b) the whole linguistic repertoire is used by participants or solely part of it, (c) translanguaging is used naturally or teacherdirected, (d) there is a correlation between the use of translanguaging and progress in a target language. Additionally, classroom observations will shed light on purposes translingual practices serve in a classroom (e.g. meaning-constructing, experience sharing, etc.).

## References

Baker, C. (2011). Foundations of bilingual education and bilingualism (5th ed.). Multilingual Matters. García, O., \& Wei, L. (2015). Translanguaging, Bilingualism, and Bilingual Education. In W. E. Wright, S. Boun, \& O. García. (Eds). The In Handbook of Bilingual and Multilingual Education, (1st ed.) (pp. 223-240). John Wiley \& Sons.
Leonet, O., Cenoz, J., \& Gorter, D. (2017). Challenging minority language isolation: Translanguaging in a trilingual school in the Basque country. Journal of Language, Identity and Education, 16(4), 216-227. http://doi:10.1080/15348458.2017.1328281
Otheguy, R., García, O., \& Reid, W. (2019). A translanguaging view of the linguistic system of bilinguals. Applied Linguistics Review, 10(4), 625-651. https://doi.org/10.1515/applirev-2018-0020

# Heritage speakers do not differ from monolinguals in clitic processing in Bulgarian 

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While object clitics (OCs) are well maintained in heritage languages (Polinsky \& Scontras, 2020), their placement in some heritage languages (HLs), such as European Portuguese, is unstable. Rinke \& Flores (2014) show that compared to the baseline, HL speakers overgeneralized enclitics in various syntactic contexts, regardless of the different syntactic triggers of clitics placement. They attribute this result to protracted acquisition, related to HL speakers' reduced experience with the formal register. In other clitic languages, such as Bulgarian, clitic placement is subject to the Strong-Start prosodic constraint, which prohibits OCs at the absolute start of an utterance (Harizanov, 2014). Little is known about OCs and their real-time processing in those HLs where syntactic and prosodic factors of clitics placement interact. To address this gap, we conducted a pilot self-paced listening experiment on OCs in Bulgarian. Design: The target placement of clitics him in Bulgarian is before the verb (CL V) unless clitics are in the absolute initial position, violating Strong Start. The CL conditions (1) and (4) are contrasted with the control NP conditions (2) and (3), with the ?N V order being pragmatically infelicitous. 16 targets and 16 fillers were preceded by context that introduced relevant antecedents for the object clitics.

| Condition | Pre1 | Pre2 | Subject | Pre-V Obj | Verb | Post-V Obj | Post1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| (1) CL V |  |  |  | go (him.CL) |  | -- |  |
| (2) ?N V | Vchera | sluchajno | Ivan | Petar (N) | vidja | - | vetar (N) |
| (3) V N parka. |  |  |  |  |  |  |  |
| (4) *V CL |  |  |  | -- |  |  |  |
|  |  |  |  | -- |  | go (him.CL) |  |

22 monolingual and 13 English-dominant highly proficient Bulgarian speakers listened to the sentences (1)-(4) word-by-word on an online platform for behavioral research and their RTs were recorded. Based on the overall resilience of clitics in HLs, we predicted no difference in their processing by the two groups but expected lack of sensitivity by the HL speakers to the ungrammatical clitic condition, (4), given the findings from European Portuguese (Rinke \& Flores, 2014).
Results: Follow-up comprehension questions revealed lower accuracy in HL speakers compared to monolinguals ( $79 \%$ vs. $90 \%$ ). LMM analysis did not show any effects in RTs: no group, position, or condition differences for CL-object conditions (Fig. 1). This is in contrast to NP-object conditions, where HSs were significantly slower in processing postverbal objects (3) at the Postl position (Fig.2), which suggests that they entertain fewer word order options than the baseline. Thus, Bulgarian HL speakers showed processing routines, similar to the baseline, which lends support to the resilience of clitics in HLs and the language-internal mechanisms of HL acquisition of cliticization.

## References

Harizanov, B. (2014). The role of prosody in the linearization of clitics: Evidence from Bulgarian and Macedonian. In C. Chapman, O. Kit \& I. Kučerova (Eds.), Formal Approaches to Slavic Linguistics 22 (pp. 109-130).
Polinsky, M. \& Scontras, G. (2020). Understanding heritage languages. Bilingualism: Language and Cognition, 23 (1), 4-20.
Rinke, E. \& Flores, C. (2014). Morphosyntactic knowledge of clitics by Portuguese heritage bilinguals. Bilingualism: Languages and Cognition, 17(4), 681-699.


Fig. 1. HS vs. Mono: Mean RTs for Clitics (1),(4)


Fig. 2. HS vs. Mono: Mean RTs for NPs (2), (3)

# The effect of non-native German on grammatical gender retrieval in L1 Polish 

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A number of studies have demonstrated that the processing of grammatical gender in L2 is affected by the grammatical gender distinctions acquired in L1 (for an overview, see Sá-Leite, Fraga \& Comesaña 2019). However, still little is known about reverse interactions in this domain.

Hence, the aim of this study is to explore the effect of an L2 learned in instructed settings on the retrieval of grammatical gender in L1 in the case of Polish-German bilinguals. The study also seeks to determine the role of some noun characteristics, such as frequency and L1-L2 similarity (cognateness), on gender retrieval among bilinguals in their L1.

Two groups of adult Polish speakers of L2 German participated in an online gender decision task: (i) 20 highly proficient learners and teachers of German (C2 level), and (ii) 20 advanced learners of L2 German ( B 1 level). Different conditions with altogether 90 nouns were created, in which gender-congruency was manipulated between L1 Polish and L2 German. Nouns in each condition were controlled for length, similarity (Levenshtein distance), and frequency in both languages (corpus data). Half of them were Polish-German cognates.

Repeated measures analyses of variance were run on reaction times. The factors were Congruency (congruent vs congruent cognate vs incongruent) and Gender (masculine vs feminine vs neuter). The Bonferroni test was applied as a post-hoc test when significant effects were found. To access the role of the noun characteristics, a linear regression analysis was conducted, in which all nouns were analysed together.

The analyses revealed a significant interaction between Congruency and Gender, but only in the group of highly proficient learners ( C 1 ). The reaction times for gender-congruent nouns were significantly shorter than the reaction times for gender-incongruent nouns. Importantly, this effect was found with respect to all three gender values. Cognateness turned out to have no effect on reaction time. The regression analysis showed no significant associations between the variables and the reaction times. Gender decisions were thus not made faster when the nouns were more frequent in Polish and German, or more similar between these languages.

These data thus show that the retrieval of grammatical gender in L1 can be affected by L2 learned in instructed settings, at least if the two gender systems are symmetrical. However, a high level of L2 proficiency seems to be required in order for cross-linguistic activation to occur. Moreover, the noun characteristics that have been found to be influential in bare noun recognition in previous research, i.e., frequency and cognateness (e.g., Dijkstra 2005), do not have any impact on gender assignment to bare nouns in L1.

## References

Dijkstra, T. (2005). Bilingual visual word recognition and lexical access. In J. F. Kroll \& A. M. de Groot (Eds.), Handbook of bilingualism: Psycholinguistic approaches. (pp. 179-201). Oxford: Oxford University Press.
Sá-Leite A. R., Fraga I., \& Comesaña M. (2019). Grammatical gender processing in bilinguals: An analytic review. Psychonomic Bulletin \& Review, 26(4), 1148-1173.

# Eye-movements during Reading in Children with Hearing Loss 

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Learning to read is difficult for children with hearing loss. Being native speakers of a sign language, they effectively read in a foreign language. Moreover, they cannot rely on the phonological codes and must rely exclusively on spelling (Bélanger 2013). At the same time, deaf readers also exhibit some eye movement patterns typical for proficient readers: developed peripheral vision allows them to discern more characters to the right of the current fixation compared to hearing readers (Bélanger 2015). Because of that, children with hearing loss might be able to catch up in reading speed with typically developing hearing children.

This study compares reading patterns between children with hearing loss and typically developing children. We analyzed eye movements while reading in Russian primary school children with ( $\mathrm{N}=7$, Mage $=8.86$; data collection is ongoing, target $\mathrm{N}=20$ ) and without hearing loss $(\mathrm{N}=38$, Mage $=8)$. Children with hearing loss communicate in Russian Sign Language (RSL) on the daily basis from birth or early age. All children read 33 sentences comprising the child version of the Russian Sentence Corpus (Korneev et al. 2017) and answered two-choice comprehension questions after 10 sentences. Children with hearing loss additionally took part in a vocabulary test and solved Raven's Colored Progressive Matrices.

Children with hearing loss demonstrated significantly lower results in a vocabulary test than their peers without hearing loss. As for Raven's Colored Progressive Matrices, five participants who completed the test had the results within the normative range for their age. In the eye-tracking task, children with hearing loss exhibited many characteristics of more efficient readers most likely due to the more developed peripheral vision and greater parafoveal preview: they had a saccade landing position closer to the center of the word, higher probability of skipping a word and lower probability of fixating a word more than once. They slowed down on longer words less than hearing participants and had shorter single fixation durations and gaze durations (no difference in other duration measures). They also had comparatively high comprehension question response accuracy ( $87 \%$, compared to $92 \%$ in typically developing children).

Eye-tracking results seem to suggest that developed peripheral vision and greater parafoveal preview allow children with hearing loss to catch up in reading speed and even outperform typically developing children. Higher probability of skipping a word and a lower probability of fixating a word more than once characterize children with hearing loss as proficient readers. Low vocabulary level in children with hearing loss may be due to the fact that they read in a foreign language, but low vocabulary does not seem to significantly impair reading in this population.

## References

Bélanger, N. N., Mayberry, R. I., \& Rayner, K. (2013). Orthographic and phonological preview benefits: Parafoveal processing in skilled and less-skilled deaf readers. Quarterly Journal of Experimental Psychology, 66(11), 2237-2252.
Bélanger, N. N., \& Rayner, K. (2015). What eye movements reveal about deaf readers. Current directions in psychological science, 24(3), 220-226.

Korneev, A. A., Matveeva, E. Y. U., \& Akhutina, T. V. (2017). Silent reading in Russian primary schoolchildren: an eye tracking study. Psychology, 14(2), 219-235.

# Multilingualism in Cyprus: Perceptions of Majority and Minority/Immigrant Speakers 

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Language ideologies, attitudes, emotions, beliefs, linguistic behaviour, ethnic markers, community membership and identities in multilingual settings are intertwined (Cummins, 2015; Heller and McLaughlin, 2017; Pérez-Izaguirre and Cenoz, 2020). Successful societal membership is associated with psychosocial adaptation, hybrid identity, selective acculturation or biculturalism, the adjustment of an individual to new psychological and social conditions (Schwartz et al., 2014; Leszczensky et al., 2019; Boland, 2020). Individual's identity is related to the sense of belonging, integration, engagement in the current space (Chimienti et al., 2019). Self-identity is fluid and flexible, it comprises individual and collective identity, habitus, or unconscious identity, agency and reflexivity, which is re-evaluated and adjusted throughout the life trajectory of a migrant and is connected to citizenship and solidarity (Lizardo, 2017). According to Portes et al. (2016), there are culturalist and structuralist approaches to the integration of the immigrant/minority groups into the mainstream society, which focus on cultural, linguistic and socioeconomic assimilation.

This study investigated the perceptions of majority and minority/immigrant speakers of multilingualism in Cyprus. The participants of our study were 30 Cypriot Greek speakers and 30 second-generation immigrants in Cyprus with various L1 background: Russian, Georgian, Ukrainian, Bulgarian, Romanian, English, Arabic and minority speakers of Armenian (age range: 18-27). The data was collected via written questionnaires and in-depth oral semi-structured interviews as well as observations with a focus on linguistic interaction patterns and material culture at home. We also implemented an indepth ethnographic landscape analysis of visible semiotic signs in public space, trying to interpret their indexicality and deeper layers of meaning (Blommaert, 2013; Blommaert and Maly, 2014) in relation to multilingualism situation in the country.

The analysis of the data showed that minority speakers and second-generation immigrants have hybrid language and cultural identity, perceptions regarding citizenship, inclusion and belonging. They try to assimilate to the target society, but at the same time they have a strong link the community of residence, with their L1 country, their heritage or home language. The participants also have hybrid language practice as they use mixed/multiple languages at home and outside. Overall, they have a positive attitude towards multilingualism and multilingual landscape in Cyprus.

The majority speakers also have a favourable view on multilingualism in Cyprus, though they admit that there is a difference between younger and older generation of CG population regarding the acceptance/discrimination of ''foreign' influence in Cyprus as the former tend to be 'more openminded'. Their attitudes depend on immigrant/minority language(s) status, socio-economic factors, level of the majority language proficiency. English as an international language and lingua franca has an important role in their linguistic repertoires. English-CG code-switching/mixing is a common phenomenon, especially in on-line and off-line communication of young generation of Cypriots.

## References

Blommaert, J. (2013). Ethnography, Superdiversity and Linguistic Landscapes: Chronicles of Complexity. Bristol, UK: Multilingual Matters.
Blommaert, J., \& Maly, I. (2014). Ethnographic linguistic landscape analysis and social change: A case study. Tilburg Papers in Culture Studies, 100.
Boland, C. (2020). Hybrid identity and practices to negotiate belonging: Madrid's Muslim youth of migrant origin. Comparative Migration Studies, 8, 26. https://doi.org/10.1186/s40878-020-00185-2
Chimienti, M., Bloch, A., Ossipow, L., et al. (2019). Second generation from refugee backgrounds in Europe. Comparative Migration Studies, 7(40). https://doi.org/10.1186/s40878-019-0138-2
Cummins, J. (2015). How to reverse a legacy of exclusion? Identifying high-impact educational responses. Language and Education, 29(3), 272-279.
Heller, M., \& McLaughlin, M. (2017). Language choice and symbolic domination. In S. May (Ed.), Encyclopedia of Language and Education. Volume Language Choice and Symbolic Domination. (pp. 87-95). Berlin: Springer.
Leszczensky, L., Maxwell, R., \& Bleich, E. (2019). What factors best explain national identification among Muslim adolescents? Evidence from four European countries. Journal of Ethnic and Migration Studies, 46(1), 260-276.
Lizardo, O. (2017). Improving cultural analysis: Considering personal culture in its declarative and nondeclarative modes. American Sociological Review, 82(1), 88-115.
Pérez-Izaguirre, E. \& Cenoz, J. (2020). Immigrant students' minority language learning: An analysis of language ideologies. Ethnography and Education. https://doi.org/10.1080/17457823.2020.1818598
Portes, A., Aparicio, R., \& Haller, W. (2016). Spanish Legacies: The Coming of Age of the Second Generation. Oakland: University of California Press.
Schwartz, S., Vignoles, V., Brown, R., \& Zagefka, H. (2014). The identity dynamics of acculturation and multiculturalism: Situating acculturation in context. In V. Benet-Martínez, \& Y. Hong (Eds.), The Oxford Handbook of Multicultural Identity (pp. 57-93). New York: Oxford University Press.

# Bilingual processing of complex structures: evidence from heritage Greek 

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The present study examines the online processing of subject and object relative clauses (RCs) in monolingually raised and bilingual Greek/German children and adults with Greek as heritage language. Although in recent years there is an increased interest in heritage speakers' online parsing, most studies focus on lexical processing while studies on morphosyntactic processing are up to date quite limited (e.g. Keating et al., 2016; Gračanin-Yuksek et al., 2020). The investigation of heritage speakers' morphosyntactic parsing can shed light on the question of whether or not heritage speakers employ the same parsing strategies as monolingually raised speakers, or employ L2 learners' processing strategies such as shallow processing (Felser \& Roberts,2007; Marinis et al., 2005).

We conducted a self-paced listening task in Greek in which we manipulated the type of relative clause (subject vs. object), and the RC internal word order (canonical vs. scrambled). The relative clauses were introduced with the complementizer $p u$ ('that'). In total there were four conditions:

1a. O majiras-NOM pu esprokse ton servitoro-ACC ekapse to fajito (Subject RC, canonical)
1b. O majiras-NOM pu ton servitoro-ACC esprokse ekapse to fajito (Subject RC, scrambled)
"The cook that pushed the waiter burned the food"
1c. O majiras-NOM pu o servitoros-NOM esprokse ekapse to fajito (Object RC, canonical)
1d. O majiras-NOM pu esprokse o servitoros-NOM ekapse to fajito (Object RC, scrambled)
"The cook that the waiter pushed burned the food"
Sentences were presented in a segment-by-segment fashion, and in the end of each sentence participants judged the grammaticality of the sentence by pressing one of two buttons. We have up to now recorded online listening times and grammaticality judgments from 40 11- to 13 -year-old children ( 22 monolinguals, 18 heritage), and 107 adults ( 100 monolinguals, 7 heritage (data collection in process)).

The statistical analysis of the listening times showed faster listening times for subject RCs than for object RCs on the RC verb segment for monolingual adults, no significant RC effect for monolingual children, and, interestingly, faster times for object RCs for heritage Greek children and adults (marginal significance for adults due to lack of power). Both monolingual and heritage children's listening times correlate with age. The younger the children the "shallower" they seem to process the relative clauses, a fact possibly linked to evidence that RCs are not fully mastered until adolescence MacWhinney and Pléh (1988). At around age 12, however, children pattern with adults, thus showing evidence for continuity of processing (Clahsen \& Felser, 2006). Importantly, the significant object RC effect in both groups of heritage speakers stems from heritage adult and children's processing nominative preverbal NPs faster than accusative ones (1c vs. 1b), a pattern that contrasts with monolingually raised speakers, and may constitute evidence of crosslinguistic transfer from German.

## References

Clahsen, H., \& Felser,C. (2006). Continuity and shallow structures in language processing. Applied Psycholinguistics 27, 107-126. doi:10.1017.S0142716406060206.
Felser, C., \& Roberts, L. (2007). Processing wh-dependencies in a second language: A cross-modal priming study. Second Language Research 23, 9-36. doi:10.1177/0267658307071600 .
Gračanin-Yuksek, M., Lago, S., Şafak, D.F., Demir, O., Kırkıcı, B. (2020). The interpretation of syntactically unconstrained anaphors in Turkish heritage speakers. Second Language Research 36(4), 475-501. doi: 10.1177/0267658319841403.
Keating, D., Jegersky, J., \& VanPatten, B. (2016). Online processing of subject pronouns in monolingual and heritage bilingual speakers of Mexican Spanish. Bilingualism: Language and Cognition 19, pp 36-49. doi:10.1017/S1366728914000418.
MacWhinney, B., \& Pleh, C. (1988). The processing of restrictive relative clauses in Hungarian. Cognition, 29(2), 95-141.
Marinis, T., Roberts, L., Felser C. \& Clahsen, H. (2005). Gaps in Second Language Sentence Processing. Studies in Second Language Acquisition 27, 53-78.

# Japanese L2 learners and their teachers' attitudes toward translanguaging in an EMI context: A qualitative study 

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English medium instruction (EMI) for teaching language courses is a growing global phenomenon, but the use of the learners' L1 - or translanguaging-as a verbal resource remains controversial. Cognitive SLA and communicative language teaching approaches view the practice as culpable as it demotivates learners from setting instrumental goals, whereas bilingual discourse and Vygotskian SLA studies suggest that judicious use of the L1 fosters classroom-based L2 development by leveraging the fluid languaging of learners. While teachers' attitudes toward translanguaging have been explored in numerous studies, fewer attempts have been made to examine learners' perspectives on their teachers' translanguaging in an EMI setting. To bridge the research gap, this study collected interview data from 67 Japanese EFL learners about their perspectives on L2 teachers' translanguaging in an EMI setting. For comparison purposes, data from eight English teachers were additionally collected from the same institution. Transcribed interview recordings were analysed using thematic analysis to identify salient themes related to the reasons for supporting or opposing the practice. The results indicate that while all faculty participants support and (wish to) implement translanguaging both in and out of the classroom, approximately two-thirds of the student participants hold a negative view of teachers' translanguaging. Students' attitudes are shown to correlate strongly with past experience of international communication using English as a lingua franca but not with target language proficiency. The findings are discussed in relation to why teachers' decision to translanguage needs to be context-driven and how translanguaging techniques can be put into practice in a way that helps maximise L2 learners' communicative potential.

# Japanese L2 student writers' translanguaging in written peer feedback 

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#### Abstract

Although peer review is widely adopted in tertiary L2 writing classes, the issue of learners' strategic use of different languages-or translanguaging-in written peer feedback remains underresearched. Previous studies have focused mostly on examining benefits or drawbacks of peer review in the writing process, and relatively fewer scholarly attempts have been made to analyze peer feedback comments generated in L1, L2, or both L1 and L2 and reasons underlying such translanguaging practices. Given that the deployment of learner's full linguistic repertoire is an invaluable resource that helps L2 learners overcome the differences in language, discourse, and idea inventory; the importance of investigating the function of the L1 in L2 peer feedback performance cannot be overstated. This study examined feedback comments produced by 24 Japanese college students. In addition to comparing feedback profiles according to language use, stimulated recall interviews were conducted to glean factors influencing L2 learners' translanguaging practices. The findings suggest a great deal of interindividual differences among the participants in terms of language use, with approximately $86 \%$ of the participants reporting that they make flexible language choices appropriate in a given context. The feedback analysis revealed that Japanese L2 learners opted for either L2 or editing symbols for providing corrective feedback, the combined use of which constituted $91 \%$ of all corrective feedback points. For feedback commentaries, L1 use composed a majority ( $51 \%$ ), followed by L2 ( $39 \%$ ), and both L1 and L2 ( $10 \%$ ) mixed at the intrasentential level. The thematic analysis of the interview accounts identified primary factors that affect Japanese L2 learners' language choices in providing written peer feedback. These factors include L2 proficiency of the reviewer and the writer, learner beliefs and learning goals, and task requirements. The findings of this study provide a further insight into L2 learners' language choices in providing written peer feedback.


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# Interactions between syntactic and lexical gender congruency in L1 Spanish-L2 German speakers 

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The non-selective nature of bilingual lexical access often results in cross-linguistic influence (CLI) in lexical processing; however, such effects are not as evident at the syntactic level. While research on L2 sentence production suggests a high degree of L1-L2 interactivity also at a structural level (e.g. Hartsuiker \& Bernolet, 2017), work on L2 sentence comprehension often reports uniform processing patterns despite L1 differences. These discrepancies in CLI have led to interest in the interaction between lexical and syntactic processing in bilinguals, with available evidence showing that interactive lexical processing can impede target syntactic processing (e.g. Hopp \& Lemmerth, 2018). Such findings have led to the Lexical Bottleneck Hypothesis (Hopp, 2018), according to which incomplete parsing partially arises from lexical processing (i.e. slowdowns and CLI) in bilinguals.

This empirical study extends previous work on lexical-syntactic interactions in L2 sentence processing by examining the detection of ungrammaticality and type of L1-L2 grammatical gender mapping. 145 adult L1 Spanish speakers with intermediate-advanced L2 German proficiency and 111 L1 German speakers completed a 64 -item German self-paced reading task focusing on noun gender congruency and word order with attributive adjectives. Target nouns were either congruent (same gender), incongruent (masculine-feminine mismatches) or L2 neuter (Spanish masculine/feminine). These nouns were paired with attributive adjectives appearing either prenominally (grammatical in German, ungrammatical in Spanish; see (1a)) or postnominally (ungrammatical in German, grammatical in Spanish; see (1b)).

Results showed that the detection of ungrammaticality in the L2 was influenced by L1-L2 gender congruency as well as L2 proficiency level. Only high-proficiency L2 adults detected ungrammaticality in target NPs where syntactic ungrammaticality interacted with grammatical gender. For these speakers, findings revealed earlier and stronger sensitivity to ungrammatical syntax with gender congruent nouns compared to delayed effects with gender incongruent ones ( $\mathrm{p}=.012$ ). With neuter nouns, the advanced group displayed earlier and more pronounced sensitivity to ungrammatical syntax than for incongruent nouns ( $\mathrm{p}<.001$ ), thus indicating that neuter nouns patterned with congruent ones.

This study shows cross-linguistic lexical gender effects in the detection of syntactic ungrammaticality, even when the latter is independent of gender information. Furthermore, it highlights the important role of the specific type of cross-linguistic lexical overlap in L2 sentence processing, illustrating that contrasts in L1-L2 features go beyond a mere binary same/different distinction. Though both incongruent and neuter noun NPs would be cross-linguistically different on a binary scale, these data clearly show significantly less interference at the level of lexical processing for L2 nouns belonging to a gender class without analogue in the L1 (neuter). The present findings further the need for an integrated and more nuanced study of the bilingual language system, encompassing both the bilingual mental lexicon and the L2 parser.

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## References

Hartsuiker, R. J., \& Bernolet, S. (2017). The development of shared syntax in second language learning. Bilingualism, 20(2), 219-234.
Hopp. H. (2018). The bilingual mental lexicon in L2 sentence processing. Second Language, 17, 5-27.
Hopp, H., \& Lemmerth, N. (2018). Lexical and syntactic congruency in L2 predictive gender processing. Studies in Second Language Acquisition, 40(1), 171-199.

## Examples

(1a) Attributive adjectives in prenominal position
Ich bin dankbar, denn eine neue Schule ist in dem Altbau am Marktplatz.
I am thankful, because a new school is in the old-building at-the market-square
'I am grateful because there is a new school in the old building on the market square.'
(1b) Attributive adjectives in postnominal position
*Ich bin dankbar, denn eine Schule neue ist in dem Altbau am Marktplatz.
I am thankful, because a school new is in the old-building at-the market-square
'I am grateful because there is a school new in the old building on the market square.'

# Crosslinguistic influence in bilingual spelling development: evidence from two closely related language Dutch and German 

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When bilingual children learn how to read and write in their two languages, the two developing systems may influence each other, also on their level of literacy (Genesee et al., 2006). There has been extensive research investigating crosslinguistic influence (CLI) in bilingual literacy development and factors that play a role in it (see ibid., Geva, 2014 for reviews). Many studies indicate that bilinguals share their literacy skills across their languages, particularly so when those skills apply to both writing systems (Bialystok et al., 2005; Koda, 2008). While CLI in literacy skills can be advantageous, it can also lead to negative transfer effects, particularly so, when the two writing systems differ, for instance in terms of the orthographic principles that underlie grapheme-phoneme correspondences.

Most studies investigating CLI in bilingual literacy development have focused on receptive skills, such as grapheme-decoding or word-reading (Genessee et al, 2006; Feinauer et al., 2013). They indicate that CLI in literacy skills is moderated by similarities and differences between the two linguistic and the two writing systems involved (Bialystok et al., 2005). Also child-internal factors, such oral language proficiency and dominance in oral language skills, play a role (Feinauer et al., 2013). In addition to this, it has been speculated that a bilingual advantage in metalinguistic abilities can compensate for reduced oral proficiency when bilinguals develop literacy in their weaker language (Bialystok, 2007)/ Few studies, however, have looked at CLI in bilingual spelling development and most of those focus on bilinguals with English as one of their languages (e.g. Howard et al., 2012; Savage et al., 2017). Howard et al. (2012), who investigated the spelling development of Spanish-English bilinguals in 2nd and 4th grade of primary school, found only little evidence of negative effects of crosslinguistic evidence, predominantly but not exclusively going from dominant to non-dominant language. They also found that negative transfer between the two systems considerably decreased from 2nd to 4 th grade.

In the current study, we investigate CLI in bilingual spelling by examining the development of DutchGerman bilingual primary school children, who learn how to read and write in both of their languages. We present results from a pilot study in which we tested the word-spelling of 2nd and 4th graders ( $\mathrm{N}=36$ ) focusing on features in which the two orthographic systems differ (Landerl \& Reitsma, 2005). Findings indicate that 2 nd and 4th graders show extensive evidence of CLI leading to spelling mistakes. This happens to a greater extent in the non-dominant school-language, Dutch. However, this differs significantly between more balanced early bilinguals and more German-dominant late bilinguals. We also find that not all CLI-prone features are difficult to the same degree for the bilinguals in our study. Spelling skills improve in both languages for all bilinguals in our study. In contrast to Howard et al. (2012), however, we see that CLI-prone features still cause difficulties for $4^{\text {th }}$ graders. We speculate that this might be related to the high degree of linguistic similarity between the two languages and writing systems, which may be a problem in the beginning. Interestingly, we see that in $2^{\text {nd }}$ grade the more balanced bilinguals score higher than the German-dominant bilinguals, also in German. This could be an effect of enhanced metalinguistic awareness in this group of bilinguals.

## References

Bialystok, E., Luk, G., \& Kwan, E. (2005). Bilingualism, biliteracy, and learning to read: Interactions among languages and writing systems. Scientific Studies of Reading, 9(1), 43-61. http://doi.org/10.1207/s1532799xssr0901_4
Bialystok, E. (2007). Acquisition of Literacy in Bilinguals. A framework for research. Language Learning, 57(suppl. 1), 45-77. http://doi.org/10.1111/j.1467-9922.2007.00412.x
Feinauer, E., Hall-Kenyon, K. M., \& Davison, K. C. (2013). Cross-language transfer of early literacy skills: An examination of young learners in a two-way bilingual immersion elementary school. Reading Psychology, 34(5), 436-460. https://doi.org/10.1080/02702711.2012.658142.
Genesee, F., Geva, E., Dressler, C., \& Kamil, M. L. (2006). Synthesis: Crosslinguistic relationships. In D. August \& T. Shanahan (Eds.), Developing literacy in second-language learners. Report of the national panel on language-minority children and youth. (pp. 153-174). Mahwah, NJ: Lawrence Erlbaum Associates.
Geva, E. (2014). Introduction the cross-language transfer journey - a guide to the perplexed. Written Language \& Literacy, 17(1), 1-15. http://doi.org/10.1075/wll.17.1.01 gev
Howard, E., Green, J., Arteagoitia, I. 2012. Can yu rid guat ay rot? A developmental investigatio nof cross-linguistic spelling errors among Spanish-English bilingual students. Bilingual Research Journal, 35(2), 164-178. https://doi.org/10.1080/15235882.2012.703637
Koda, K. (2008). Impacts of prior literacy experience on second language learning to read. In K. Koda \& A. M. Zehler (Eds.), Learning to read across languages: Crosslinguistic relationships in first- and second-language literacy development (pp. 68-96). New York: Routledge.
Landerl, K., \& Reitsma, P. (2005). Phonological and morphological consistency in the acquisition of vowel duration spelling in dutch and german. Journal of Experimental Child Psychology, 92(4), 322-344. https://doi.org/10.1016/j.jecp.2005.04.005
Savage, R., Kozakewich, M., Genesee, F., Erdos, C., \& Haigh, C. 2017. Predicting writing development in dual language instructional contexts: exploring cross-linguistic relationships. Developmental Science, 20. https://doi.org/10.1111/desc. 12406.

# A comparative case study of multilingualism in the northeastern Andean foothills 

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The area between the northeastern slopes of the Andes Mountains and the northwestern fringes of the Amazon Basin is the most linguistically diverse corner of South America. In these foothills, languages from over a dozen families are in close contact with each other, reinforced by tight socio-cultural and trading relationships between different communities and resulting in long-term multilingualism. However, the dynamics and effects of multilingualism are not the same across the board. In this paper, two multilingual zones will be compared: the Conambo river basin in Ecuador and the Sibundoy valley in Colombia. In both regions, three languages are spoken: a small local language, a northern Quechuan language and Spanish. Although the linguistic situation is at first sight comparable, different intercultural dynamics have led to very different language contact effects.

The Conambo river basin is at the heart of Shiwiar territory. Shiwiar people speak a Chicham language; they also speak Pastaza Kichwa (a northern Quechuan language) and Spanish. Shiwiar people have been in close contact with their Pastaza Kichwa neighbours for many generations but code-switching between the two languages is frowned upon. On the other hand, code-switching between Shiwiar and Spanish (brought there by missionaries in the 1970s) is common. These practices are reflected in the lexicon and grammar of Shiwiar: Pastaza Kichwa loanwords are rare due to the avoidance of codeswitching, whereas Spanish loanwords are plentiful. However, although there are virtually no grammatical contact effects from Spanish, Shiwiar shares many morphological and syntactic traits with Pastaza Kichwa, presumably as a result of long-term proficient bilingualism.

The Sibundoy valley in southern Colombia is in many ways analogous. It is the traditional territory of the Kamsá people, whose language is an isolate. The Kamsá traditionally also speak Inga (a northern Quechuan language closely related to Pastaza Kichwa) and Spanish. However, Spanish has been spoken in the Sibundoy valley for centuries, and there is no code-switching taboo between Kamsá and Inga. This has resulted in almost opposite effects to those described for the Conambo region. Kamsá exhibits a significant number of loanwords from both Spanish and Inga, but also syntactic influence from Spanish.

This paper will examine the different contact phenomena that are found in the two regions. Because many elements are the same - a multilingual rural Indigenous community setting involving virtually the same contact languages - this case study will help highlight how different social/interactional, cultural and historical subtleties can lead to drastically different contact effects. Taking into account language attitudes and interactional practices is central in understanding how a multilingual environment can shape a language. These insights will in turn be crucial in the endeavour to develop a typology of multilingualism and its effects on language change.

# Bilingual experiences cause dynamic changes to the volumes of the basal ganglia: evidence from interpreters and translators 

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#### Abstract

Bilingualism has been linked to structural brain adaptations related to selecting the appropriate language to facilitate successful communication. The location and extent of these adaptations have been shown to be associated with the intensity with which bilinguals use and switch between their languages (e.g., Pliatsikas, 2020). Less is known about similar effects in interpreters, a unique group of bilinguals who master several languages and must switch between them under immense time-pressure, with existing research reporting changes in different regions and effects in different directions (Hervais-Adelman \& Babcock, 2020). The reason for inconsistencies in results considered here is two-fold: (1) lack of information about respondents' bilingual language use other than their professional experience (2); the assumption that the relationship between bilingualism and brain structure is linear despite existing evidence that both brain and bilingual experience are dynamic systems with distinct trajectories (Pliatsikas, 2020). Here, we aim to address the first point by teasing apart the professional and general bilingual experiences to identify which effects they yield on caudate nuclei and putamen. These subcortical structures are known to structurally adapt as a result of bilingual language use. These adaptations were also reported to differ among translators, interpreters and non-professional bilinguals (Hervais-Adelman \& Babcock, 2020). Second, we analyse the data using generalised additive models (GAMs), which have the power to identify non-linear patterns in brain volumes as a function of a continuous measure of bilingual experiences. We compared volumes of caudate nuclei and putamen between Czech-English interpreters ( $\mathrm{n}=29$ ), translators ( $\mathrm{n}=37$ ) and bilingual controls ( $\mathrm{n}=47$ ). We collected measures of language proficiency (LexTale), bilingual immersion (LSBQ) and IQ (WAIS-III). Bilingual controls showed smaller volumes of caudate nuclei and putamen compared to professional bilinguals. There were no significant volume differences between translators and interpreters. GAMs analyses run on the entire sample revealed that bilingual immersion is a significant non-linear predictor of caudate volumes beyond age. The results reveal that volumes plateau after a certain level of bilingual experience has been reached. For putamen, the bilingual experiences emerged as positive linear predictor. These results suggest that general bilingual experiences should be considered in studies of brain modifications induced by professional bilingual practices. Also, these findings offer support to existing theories on bilingualism-induced neuroplasticity, which postulate a decrease of volumes in caudate nuclei as a result of increasing efficiency in bilingual language control (Pliatsikas, 2020). We will discuss the current findings' potential to open a new horizon for investigation of experience-based structural modulations brought about by bilingual language use.


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## References

Hervais-Adelman, A., \& Babcock, L. (2020). The neurobiology of simultaneous interpreting: Where extreme language control and cognitive control intersect. Bilingualism: Language and Cognition, 1-12.
Pliatsikas, C. (2020). Understanding structural plasticity in the bilingual brain: The Dynamic Restructuring Model. Bilingualism: Language and Cognition, 23(2), 459-471.

# Indigenous communities in multilingual countries in the time of the pandemic... messages (not) received: Quechua and Shipibo in rural Peru 

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When the pandemic news and the related information became widely available via domestic and international structures, most of this information was delivered in the dominant languages, using avenues and norms consonant with the dominant language structures. This has had direct consequences for the indigenous communities, who have received limited information about the in their own language [1][2], and the method of delivery has not matched their culturally accepted practices regarding health [3]. This has had direct consequences on the health profile of the already minoritized communities. We examine how information about COVID-19 was received by speakers of Quechua, Shipibo-Konibo, and Iskonawa (Peru) using a 62-item novel crisis-readiness survey [4] co-created with indigenous speakers. We demonstrate that especially in such multilingual settings, indigenous communities are interested in collaborating with dominant-language structures; however, this collaboration must take into account traditional approaches to information gathering, delivery, and healing. The survey was administered in the indigenous (L1) languages to 103 participants ( $60 \%$ Quechua, $29 \%$ Shipibo, $4 \%$ Iskonawa; 49 female, 51 male; ages 18-81). Among the participants, $98 \%$ exhibit native-like performance in L1 and report variable proficiency in the dominant L2 (0-native).
A. Most participants (94\%) consider COVID-19 a disease. Among those who responded to the relevant questions ( $\mathrm{N}=79$ ), $24 \%$ made reference to the potential for serious outcomes ("grave", "dangerous", "kills"); $24 \%$ referenced contagion ("virus," "microbe," "air-spread"); $8 \%$ exhibited lack of knowledge or misinformation ("you get it when you eat bats", [5]). Most participants indicated self-care and social distancing as preventive measures and mentioned a variety of conventionalized (indigenous and colloquial Spanish) terms for self-protection as well the disease itself ("tapaboca"). 53\% cited traditional herbs as prevention and treatments over western medicine (matico, garlic, ginger, eucalyptus; vapors, saunas, teas) [6][7].
B. The data reflect variability of access to healthcare infrastructure: $57 \%$ reported having potential access to a formal health facility, $40 \%$-having access to a traditional healer, and $30 \%$ - lack of health providers in their community. These findings indicate that traditional healers are not available in many indigenous communities; the vast majority of healthcare services are expected to be available in government-funded health-centers.
C. Regarding the channels of information delivery, responses included radio/TV and community leadership. However, most participants stated they would prefer health professionals come to their communities/workplace and administer training in prevention/treatment, showing a clear preference for in-person communication that is reciprocal and takes into consideration the linguistic profile of the community, rather than top-down delivery through media, etc.

Implications are discussed in light of the recommendations from the indigenous/rural/migrant communities [8]. One clear result: indigenous communities, that hold the wealth of traditional medicinal knowledge, are interested in equitable collaboration with the external infrastructures in health crisis management-the collaboration that is currently lacking.

## References:

[1] Garcia, G. M., Haboud, M., Howard, R., Manresa, A., \& Zurita, J. (2020). Miscommunication in the
COVID-19 Era. Bulletin of Latin American Research, 39, 39-46.
[2] Paludneviciene, R., Knight, T., Firl, G., Luttrell, K., Takayama, K., \& Kushalnagar, P. (2021). Perception of COVID-19 physical distancing effectiveness and contagiousness of asymptomatic individuals: A cross sectional survey of deaf and hard of hearing adults in US. Journal of Medical Internet $R$ esearch
[3] Piller, I., Zhang, J., \& Li, J. (2020). Linguistic diversity in a time of crisis: Language challenges of the COVID-19 pandemic. Multilingua, 39(5), 503-515.
[4] https://sites.google.com/view/saipm-covid 19/home?authuser=0
[5] https://covid-no-mb.org/
[6] Benarba, B., \& Pandiella, A. (2020). Medicinal plants as sources of active molecules against COVID-19. Frontiers in Pharmacology, 11.
[7] Divya, M., Vijayakumar, S., Chen, J., Vaseeharan, B., \& Duran-Lara, E. F. (2020). South Indian medicinal plants can combat deadly viruses along with COVID-19?-a review. Microbial Pathogenesis, 148, 104277.
[8] Cecilia, F. (2020). Disseminating information on covid-19 to rural dwellers through translation: a panacea to covid-19 spread. https://doi.org/10.31219/osf.io/n4p53

# Eye-movement Comparison in Reading in Deaf and Hard-of-hearing Russian Sign Language Speakers 

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Deaf individuals are usually considered poorer readers than hearing people (Berent \& Kelly, 2007; Bélanger, Baum \& Mayberry, 2012; Bélanger \& Rayner, 2015). Less-skilled reading in the deaf population is currently explained by the fact that for deaf adults spoken language is often their second language, learned after sign language (Goldin-Meadow \& Mayberry, 2001). However, deaf children born to hearing parents do not have a common language with their parents and may be deprived of sign language input too. This deprivation may hinder overall language development, and, consequently, reading (Knoors \& Marschark, 2014). Probably, deaf people born to deaf parents have more developed language ability and may further acquire oral language and reading better than deaf people born to hearing parents.

Level of hearing loss is another factor that may influence oral language proficiency and, consequently, reading skills. Hard-of-hearing people have partial access to sounds and may acquire spoken language as the first one and later learn to read in it as their native one. It is likely that hard-of-hearing people might read better than deaf signers because they typically read in their first language, while deaf individuals read in their second language.

To examine to what degree the early language deprivation and access to the speech sounds affect later reading skills, we investigated the patterns of eye movements during reading in hearing-impaired speakers of Russian Sign Language (RSL) with different degrees of hearing loss ( $\mathrm{N}=35, \mathrm{~N}$ of hard-ofhearing participants $=13, \mathrm{~N}$ of deaf participants $=22$ ). Participants read 144 sentences from the Russian Sentence Corpus (Laurinavichyute et al., 2019) and answered comprehension questions.

First, we investigated local quantitative characteristics of reading. We found that deaf and hard-ofhearing RSL signers mostly have comparable reading skills: similar fixation durations, skipping rates, numbers of fixations per word, saccade landing positions, and word and sentence reading speeds. However, comprehension question responses demonstrated that deaf participants had a pronounced decrease in correct answers as the sentence length increases. Besides, deaf individuals were not sensitive to word frequencies, which may indicate a smaller vocabulary size.

Second, we identified reading strategies with the analysis of scanpaths (i.e., sequences of eye movements) that focuses on the whole trajectories of eye movements in reading the entire sentence (von der Malsburg \& Vasishth, 2011). Further, we used cluster analysis that allows to automatically group participants by the similarity of their reading strategies. The results demonstrated that participants do not fall into groups determined by their hearing loss status and early access to language.

To sum up, deaf and hard-of-hearing signers have comparable reading patterns with minor differences. Hearing loss status and early access to language do not define successful reading acquisition in hearingimpaired RSL speakers.

## References

Bélanger, N. N., \& Rayner, K. (2015). What eye movements reveal about deaf readers. Current directions in psychological science, 24(3), 220-226.
Bélanger, N. N., Baum, S. R., \& Mayberry, R. I. (2012). Reading difficulties in adult deaf readers of French: Phonological codes, not guilty!. Scientific Studies of Reading, 16(3), 263-285.
Berent, G. P., \& Kelly, R. R. (2007). 5. The Efficacy of Visual Input Enhancement in Teaching Deaf Learners of L2 English. In Understanding second language process (pp. 80-105). Multilingual Matters.
Goldin-Meadow, S., \& Mayberry, R. I. (2001). How do profoundly deaf children learn to read?. Learning disabilities research \& practice, 16(4), 222-229.
Knoors, H., \& Marschark, M. (2014). Teaching deaf learners: Psychological and developmental foundations. Oxford University Press.
Laurinavichyute, A. K., Sekerina, I. A., Alexeeva, S., Bagdasaryan, K., \& Kliegl, R. (2019). Russian Sentence Corpus: Benchmark measures of eye movements in reading in Russian. Behavior research methods, 51(3), 1161-1178.
Von der Malsburg, T., \& Vasishth, S. (2011). What is the scanpath signature of syntactic reanalysis?. Journal of Memory and Language, 65(2), 109-127.

# Broadening the spectrum of syntactic complexity measures in relation to the typological specificities of the target language: A corpus-based study of word order diversity in L2 German 

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Linguistic complexity has become an established construct in SLA research, mainly due to the essential role of complexity measures in the assessment of learners' written performance. However, research on syntactic complexity was criticized for promoting a reductionist approach, with the consequence that an entire dimension of the construct was left unexplored. In fact, while several definitions of syntactic complexity emphasize concepts such as variety and diversity, most research on L2 writing has confined its calculation to a handful of indices, mainly measures of syntactic elaboration (length-based metrics and frequency of clause-linking devices). There are several reasons for extending the operationalization of syntactic complexity to diversity measures. First, proficient language use does not necessarily imply an increase in the use of weighty structures (longer sentences with more subordinate clauses). Second, the complexification of learners' interlanguage is largely dependent on the typological specificities of the target-language system since languages may rely on different grammar features to encode similar propositional content.

In this study, we make ours this objective to broaden the spectrum of complexity measures and propose to examine the potential of syntactic diversity indicators to distinguish between proficiency groups in advanced L2 German. Concretely, we argue for the use of two types of non-canonical structures, argument inversions and passives, as diversity indices and apply them alongside traditional measures of elaboration on 75 texts written by upper-intermediate to nearnative L2 learners of German. Using data from the FALKO corpus (Humboldt University Berlin), we compiled three sub-corpora of 25 texts, following the corpus guidelines regarding the mapping between learners' score on a C-test and the three superior CEFR proficiency levels (B2, C1, C2). All texts were segmented into clauses and all clauses coded for (a) instances of passives and argument inversions and (b) five indices of syntactic elaboration targeting various syntactic levels (sentence, T-unit and clause): T-units/sentence, T-unit length, clauses/T-unit, NP length, and length of clause midfield. Regarding the identification of non-canonical structures, it should be noted that our coding scheme included a further distinction between the topicalization of non-subject arguments in main clauses and instances of scrambling involving argument reordering in the midfield of main and embedded clauses.

To examine the relationship between complexity measures and proficiency, a KruskalWallis test with pairwise comparisons was performed. Results only revealed statistically significant differences between groups for argument inversions. Specifically, data pointed to a significant increase in the frequency of such structures as from C 1 level. The fact that no significant differences between groups could be found for all measures of syntactic elaboration confirms the necessity to supplement large-grained measures (length and clause linking) with more fine-grained indices of diversity which help locate areas of interlanguage complexification that may otherwise stay under the radar.

# The Influence of the L1 on L2 Collocation Processing in Tamil-English Bilingual Children 

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This study examines the activation of the L1 during the processing of L2 collocations in bilingual children, an underrepresented population in collocation studies. Models of bilingual lexical representation and access, such as the Bilingual Activation Model (Dijkstra \& Van Heuven, 2002) and the Multilink Model Dijkstra and Rekke (2010), posit that bilingual lexical processing involves nonselective, cross-linguistic activation. As these models are largely based on studies into processing of single words, and on studies involving languages which shared writing systems, it is crucially important for evidence from processing of formulaic language (fixed multiword expressions of different kinds) to inform these theories. This study therefore uses online processing measures to investigate whether crosslinguistic influence can be extended beyond single lexical items to collocations during reading, among bilinguals speaking languages with different scripts.

A self-paced reading (Study 1) and an eye tracking (Study 2) experiment were conducted with Tamilspeaking children (age 8-11). In both studies, we measured reading times on English collocations embedded in sentences. All collocations were congruent or incongruent with collocations in Tamil. Study $1(\mathrm{~N}=58)$ was conducted in India and Study $2(\mathrm{~N}=80)$ was conducted in the UK. Participants across the two studies varied substantially in their English and Tamil vocabulary knowledge and a general English proficiency scores: the ones in India had a lower proficiency in English and those in the UK a lower proficiency in Tamil. All results showed shorter reading times on congruent than incongruent collocations, both for reading times on the entire collocation and for reading times on individual words. There also appeared to be a priming effect for congruent collocations, in that the second word was read faster. However, the reverse was true for incongruent collocations.

Results clearly show that children rely on their vocabulary knowledge in L1 to aid their processing of collocations in L2 and that this cross-linguistic activation is immediate and can be captured in real time. Furthermore, cross-study comparisons suggest that the frequency and immediacy with which this occurs differs as a function of proficiency and vocabulary knowledge in both languages. While the study lends support to the assumption that nonselective, cross-linguistic activation also applies to collocations, only partial support for the BIA+ and the Multilink models was found. The data support assumptions derived from the BIA+ model, that the cross-linguistic effect would be larger from the L1 to the L 2 than for the L 2 to L 1 , because it is likely that L 1 codes are activated slightly before L 2 codes. The Multilink model considers word association links to play an important role in priming, which would explain the priming effects in congruent collocations.

## References

Dijkstra, T., \& Heuven, W. J. (2002). The architecture of the bilingual word recognition system: From identification to decision. Bilingualism: Language and Cognition, 5(3), 175-197. doi:10.1017/s1366728902003012
Dijkstra, T., \& Rekké, S. (2010). Towards a localist-connectionist model of word translation. The Mental Lexicon, 5(3), 401-420.

# Changes in language use in inner speech during study abroad: A study on Chinese university students in the UK. 

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Inner speech, i.e. 'silent speech for oneself' (de Guerrero, 2018, p. 3), is a natural everyday cognitive activity. Following the premises of the Complementarity Principle (Grosjean, 2012), research on language use in inner speech identified different frequency of use in different discourse domains in inner speech in a foreign language (LX). For example, Dewaele (2015) found that LX was used significantly less in emotional inner speech than in general inner speech. Dewaele's (2015) study measured general inner speech and emotional inner speech in a single question. Previous studies on LX inner speech were cross-sectional studies; and domains in inner speech were measured using single item in a questionnaire. The contribution of this study lies on the use of a multi-item inner speech scale and longitudinal design to further the understanding of changes in language use pattern in inner speech during LX socialization.

A total of 162 Chinese university students in the UK participated in this study. Two data collection points were conducted to collect data at the start and the end of the academic year. The first data collection point was October 2019 (Time 1); the second data collection point was March 2020 (Time 2). Participants completed an online questionnaire at both data collection points; six participants took part in follow-up interviews.

Frequency of language use in inner speech was measured by an eight-item inner speech scale, covering eight functions of inner speech. Domains in inner speech were then identified using factor analysis. Language use in inner speech was collected for LX English, L1 Mandarin, and L1 Chinese regional languages. Factor analysis revealed two factors at both Time 1 and Time 2: the general domain and the academic domain in LX English inner speech. A single factor was found for L1 Mandarin inner speech in Time 1; two factors: the general domain and the academic domain was found in Time 2. A single factor emerged for L1 Chinese regional languages inner speech throughout Time 1 and Time 2. Frequency of use at Time 1 was compared to that at Time 2. The results showed a general increase of frequency of use of LX English in inner speech; while L1 Mandarin academic inner speech (Time 2) was used less frequently compared to Time 1.

To conclude, this presentation provides a longitudinal and multi-domain perspective to language use in inner speech. The results showed that as participants immersed in the UK, changes in language preferences in inner speech were found not only in LX English, but also in L1 Mandarin.

## References

de Guerrero, M. C. M. (2018). Going covert: Inner and private speech in language learning. Language Teaching, 5l(01), 1-35. https://doi.org/10.1017/S0261444817000295
Dewaele, J.-M. (2015). From obscure echo to language of the heart: Multilinguals' language choices for (emotional) inner speech. Journal of Pragmatics, 87, 1-17. https://doi.org/10.1016/j.pragma.2015.06.014
Grosjean, F. (2012). Bilingual: Life and reality. Harvard University Press.

# Why are they so similar? The impact of extra-linguistic variables on monolingual and bilingual learners of English. 

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The current study investigates the relationship between linguistic as well as extra-linguistic variables and proficiency in the foreign language English. Based in the Germany context, we assess whether proficiency in the background languages (German for all participants, German and either Russian or Turkish for the bilingual participants), cognition (visual-spatial ability), type of school, gender, socioeconomic status, self-concept, motivation, and self-efficacy function differently in predicting English language proficiency when monolingual German learners of English are compared to their bilingual peers. The comparison is based on 1,403 secondary school students attending school years seven or nine (German monolinguals: $\mathrm{n}=849$, Russian-German bilinguals: $\mathrm{n}=236$, Turkish-German bilinguals: $\mathrm{n}=$ 318). With two comprehensive structural equation models we aspire to capture the multitude of factors influencing foreign language acquisition and analyze how each of them contribute to explaining the observed variance in English proficiency. A secondary aim is to contribute to the discussion on multilingual advantages or effects.

The results based on comparisons between the monolinguals and unbalanced bilingual heritage speakers reveal that almost all variables make a statistically significant contribution. Moreover, overall, the structural equation models function similarly across the three language groups; yet, group specific minor differences can be identified. By and large, we submit that the three groups are more similar than different, which means that the heritage languages Russian and Turkish add comparably little to predicting English language proficiency.

Finally, we discuss why the participants of the current study are so "similar". By that, we do not mean that the participants are a homogenous group of participants. Quite the opposite: there is lots of internal variation within each language group and also across the language groups, for instance in terms socioeconomic status. On average, the German monolinguals come from families with a higher socioeconomic status compared to their bilingual peers. Nevertheless, we argue that all three groups are highly similar in terms of language background, even though we considered them as separate language groups in the structural equation models. In our understanding, there are three main reasons for that, namely i) the status of the bilinguals as unbalanced bilinguals, ii) the institutional environment in German schools, and iii) that non-linguistic variables "override" language effects.

# Multilingual lexical transfer breaks monolingual educational norms: Not quite! 

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Foreign language learners frequently use words from their previously acquired language(s) in the target language, especially if these languages are related (Ringbom 2001). Such insertions are referred to as 'lexical transfer', commonly divided into 'transfer of form' and 'transfer of meaning' (Bardel 2015; Ringbom 2001). German English foreign language classrooms, especially in the upper grades, display a strong monolingual orientation in that English serves both as the target language and the language of instruction, despite the multilingual turn in language education (Fuller 2020; García and Li Wei 2014; May 2014; Melo-Pfeifer 2018). Thus, lexical transfer challenges the monolingual habitus prevailing in foreign language classes, because language mixing is to be avoided as it is heavily stigmatized and diagnostic of an insufficient language learning process (Fuller 2020).

In this context, the current study investigates the use of lexical transfer instances in short English texts written by bilingual and monolingual secondary school students. We compare three learner groups, namely learners of English with a monolingual German background ( $\mathrm{n}=20$ ), bilingual Russian-German ( $\mathrm{n}=20$ ), and bilingual Turkish-German learners of English ( $\mathrm{n}=20$ ). These students were followed from school year 7 to 9 . The study assesses i) whether the students increasingly adhere to the imposed normative rules and ii) what influence background variables such as language background (mono- vs. bilingual), type of school (higher vs. lower academic track), gender (female vs. male), or age (four measurement points over a period of 2.5 years) exert on the use of lexical transfer instances.

A total of 1,553 lexical transfer tokens were drawn from the English texts of the sixty students (nword_tokens $=32,433$ ) during four measurement points. Overall, there is a decrease of lexical transfer instances with increasing age for both the monolingual as well as the bilingual learners of English. Furthermore, in the data of the bilingual students, lexical transfer predominantly comes from German and only rarely from the heritage languages, due to the dominant status of German, typological similarity between German and English, and the largely monolingual German learning environment prevailing in secondary-schools. Nevertheless, the Turkish-German bilingual students show less lexical transfer than their monolingual peers which may be a symptom of heightened metalinguistic awareness and inhibition control due to more sensitivity to code-switching and language use. With the inclusion of extra-linguistic variables, we are able to explain additional variation across the learners. Apart from gender, all factors impact lexical transfer in a statistically significant way, evoking different norm-based explanations. For instance, students attending the higher academic secondary school track (i.e., Gymnasium) display lower ratios of lexical transfer, which can be plausibly related to the higher norm-orientation prevalent at this institution.

## References

Bardel, C. (2015). Lexical cross-linguistic influence in third language development. In H. Peukert (Ed.), Transfer effects in multilingual language development. (pp. 111-128). Amsterdam: Benjamins.

Fuller, J. M. (2020). English in the German-speaking world: Immigration and integration. In R. Hickey (Ed.), English in the German-speaking world. (pp. 165-184). Cambridge: Cambridge University Press.
García, O., \& Li Wei. (2014). Translanguaging. Language, bilingualism and education. London: Palgrave Macmillan.
May, S. (Ed.). (2014). The multilingual turn. Implications for SLA, TESOL and bilingual education. Oxon: Routledge.
Melo-Pfeifer, S. M. (2018). The multilingual turn in language education: Facts and fallacies. In A. Bonnet \& P. Siemund (Eds.), Foreign language education in multilingual classrooms. (pp. 191-212). Amsterdam: Benjamins.
Ringbom, H. (2001). Lexical transfer in L3 production. In J. Cenoz, B. Hufeisen \& U. Jessner (Eds.), Cross-linguistic influence in third language acquisition: Psycholinguistic perspectives. (pp. 59-68). Clevedon: Multilingual Matters.

# Mixing two unrelated languages: Congruent lexicalization in Malay-English code-switching 

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Bilingual speakers often engage in code mixing, that is the use of lexical items and grammatical features from two languages in one sentence (Muysken, 2000, p. 1). Malaysia is no stranger to the phenomenon of code-switching as it is a highly multilingual country. The study offers a new perspective on MalayEnglish code switching based on Muysken's (2013) four-way typology. It fills an important gap in our knowledge about the ways in which two unrelated languages can be mixed. The current study analyses the speech of two lecturers, Azma and Ali, who were observed and video recorded for seven weeks and a total of 15 hours recordings were captured. The recordings were then transcribed and analysed using the Computerized Language Analysis (CLAN) programme (MacWhinney, 2000). Although the most intimate form of code-switching, Congruent Lexicalization (the use of words from two languages in a shared grammatical frame), is expected mainly in related languages, the results show that Congruent Lexicalization is the most common pattern for Azma and Insertion is the most common type to emerge for Ali. We focus specifically on the switching of Malay function words, such as the relative pronoun yang "which/who/that" and modal verbs, such as kena "must" in (1):

| (1)Stated main <br> (1dea yang <br> Stated main idea | that | you | kena | create | sendiri. | create | alone. |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | "Stated | main | idea that | you | must | create | on |
|  | your | own." |  |  |  |  |  |

This type of switching could be related to the fact that word order is similar in many cases which may have facilitated the occurrence of Congruent Lexicalization. Furthermore, the data show multi-word switches and one-word switches. Multi-word switches consist of various grammatical elements which include not only function words but also a mixture of function words and content words. The switches of function words take place in both directions, from English to Malay, as in (2) and from Malay to English, as in (3):
(2) You kena ada factual support to actually justify or to strengthen your testimony. You must have factual support to actually justify or to strengthen your testimony. "You must have factual support to actually justify or to strengthen your testimony."

| So | kalau | you | boleh | nampak | kat | sini. |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| So | if | you | can | see | at | here. |  |
| "So | if |  | you |  | can |  | see |

These examples show that switching of function words is not as restricted as in other language pairs, in which content words can come from either language while function words are limited to the matrix language, as discussed in Muysken (2000). We conclude with a reflection on what it means for languages
to be related and how similarities and differences between languages affect the type and the frequency of code-switching in data sets.

## References

MacWhinney, B. (2000). The CHILDES Project: Tools for Analyzing Talk (3rd ed.). Mahwah,NJ: Lawrence Erlbaum Associates.

Muysken, P. (2000). Bilingual Speech: A Typology of Code-Mixing: Cambridge University Press.
Muysken, P. (2013). Language contact outcomes as the result of bilingual optimization strategies. Bilingualism: Language and Cognition, 16(4), 709-730. doi:10.1017/S1366728912000727

# Family input is to the heritage language what formal instruction is to the second language: Evidence from Greek-German bilingual children 

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Bilingual acquisition studies suggest different effects of family input and formal instruction. Formal instruction seems to boost development in both languages (heritage language (HL): Dosi \& Papadopoulou 2019; Rodina et al. 2020; L2: Paradis et al. 2017; Kaltsa et al. 2019). In contrast, family input in the HL is strongly related to children's HL abilities (Papastefanou et al. 2019; Chondrogianni \& Schwartz 2020), whereas family L2 input is only weakly linked to children's L2 abilities (Paradis et al. 2017; Papastefanou et al. 2019). Few studies have examined both types of exposure for the HL and the L2 of heritage children (e.g., Bongartz \& Torregrossa 2020), leaving open whether these effects coexist in the same group of language learners.

Our study examines the predictive role of current family input and formal instruction in the HL Greek and the L2 German for Greek-German children's morpho-syntactic abilities, measured via Sentence Repetition Tasks (SRT) (Greek: Chondrogianni et al. 2013; German: Hamann \& Abed Ibrahim 2017). Children's Chronological Age (CA), Age of Onset of German (L2-AoO), Length of Exposure to German (L2-LoE), and verbal Short-Term Memory (vSTM), measured via forward digit-span, were assessed, as these factors have been found to influence SRT-performance (Haman et al. 2017; Papastefanou et al. 2019; Armon-Lotem et al. 2020). Fourty-six children (CA: 6;0-12;8 years, Mean ${ }_{C A}=9 ; 1$ ) were tested. All had regular contact to Greek from birth (L2-AoO: 0;0-5;10 years, Mean ${ }_{\text {L2-AoO }}=1 ; 10$ ). Current exposure to Greek and German in the family was assessed via the PABIQ (Tuller 2015); current amount of formal instruction in the two languages was calculated as the total of hours per week (Table 1). SRTresponses were scored for target structure ( $1=$ maintained $/ 0=$ changed). Forced-entry linear regression analyses were conducted for each language, with the SRT-scores as the dependent variable and the background factors that correlated with the SRT-scores (Tables 2,3 ) as the independent variables. In the model for Greek $\left(F_{(4,45)}=22.125, p<.001\right.$, adj. $R^{2}=.653$ ), current family input ( $\beta=.647, p<.001$ ) and $\mathrm{L} 2-\mathrm{AoO}(\beta=.347, p=.006)$ were significant predictors of performance. In the model for German $\left(F_{(5,45)}=\right.$ $6.772, p<.001$, adj. $R^{2}=.391$ ) performance was predicted by current formal instruction ( $\beta=.325, p=.020$ ) and $\operatorname{vSTM}(\beta=.436, p=.003)$.

Our results reveal a clear complementary pattern: children's morpho-syntactic abilities in their HL profit from current family input in the HL, while family input in the L2 does not improve their L2 morphosyntactic abilities. Conversely, L2 exposure at school helps the L2, but HL exposure at school does not help the HL. Chronological age did not prove significant for either language, suggesting that in bilingual acquisition the driving factors of development can vary independent of age. In the presentation, we also address whether parents' L2 German proficiency may be related to the absence of family input effects in the L2.

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## References

Armon-Lotem, S., Rose, K., \& Altman, C. (2020). The development of English as a heritage language: The role of chronological age and age of onset of bilingualism. First Language, 29(1), 1-23.
Bongartz, C., \& Torregrossa, J. (2020). The effects of balanced biliteracy on Greek-German bilingual children's secondary discourse ability. International Journal of Bilingual Education and Bilingualism, 23(8), 948-963.
Chondrogianni, V., Andreou, M., Nerantzini, M., Varlokosta, S., Tsimpli, I.-M. (2013). The Greek Sentence Repetition Task. COST Action IS0804, 2013.
Chondrogianni, V., \& Schwartz, R. G. (2020). Case marking and word order in Greek heritage children. Journal of Child Language, 47, 766-795.
Dosi, I., \& Papadopoulou, D. (2019). The role of educational setting in the development of verbal aspect and executive functions: Evidence from Greek-German bilingual children. International Journal of Bilingual Education and Bilingualism, 37(2), 1-17.
Haman, E., Wodniecka, Z., Marecka, M., Szewczyk, J., Białecka-Pikul, M., Otwinowska, A. et al. (2017). How does L1 and L2 exposure impact L1 performance in bilingual children? Evidence from Polish-English migrants to the United Kingdom. Frontiers in Psychology, 8: 1444.
Hamann, C., \& Abed Ibrahim, L. (2017). Methods for identifying specific language impairment in bilingual populations in Germany. Frontiers in Communication 2: 16.
Kaltsa, M., Prentza, A., \& Tsimpli, I-M. (2019). Input and literacy effects in simultaneous and sequential bilinguals: The performance of Albanian-Greek-speaking children in sentence repetition. International Journal of Bilingualism, 6, 1-25.
Papastefanou, T., Powell, D., \& Marinis, T. (2019). Language and decoding skills in Greek-English primary school bilingual children: Effects of language dominance, contextual factors and cross-language relationships between the heritage and the majority language. Frontiers in Communication, 4: 65.
Paradis, J., Rusk, B., Sorenson Duncan, T., \& Govindarajan, K. (2017). Children's second language acquisition of English complex syntax: The role of age, input, and cognitive factors. Annual Review of Applied Linguistics, 37, 148-167.
Rodina, Y., Kupisch, T., \& Meir, N., Mitrofanova, N., Urek, O., \& Westergaard, M. (2020). Internal and external factors in heritage language acquisition: Evidence from heritage Russian in Israel, Germany, Norway, Latvia and the United Kingdom. Frontiers in Education, 5: 20.
Tuller, L. (2015). Clinical use of parental questionnaires in multilingual contexts. In S. Armon-Lotem, J. de Jong, \& N. Meir (Eds.), Assessing multilingual children: Disentangling bilingualism from language impairment. (pp. 301-330). Bristol/Buffalo/Toronto: Multilingual Matters.

## Appendix

Table 1: Mean values (and SDs) of SRT-scores and input variables

|  |  | Greek | German | Difference |
| :--- | :--- | :--- | :--- | :--- |
| 1. | SRT-score (in \%) | $55.9(27.9)$ | $80.3(16.8)$ | $t=-4.719, p<.001$ |
| 2. Current family input | $7.0(3.1)$ | $4.1(2.8)$ | $t=3.439, p=.001$ |  |
| 3. Current hours of instruction per week | $6.5(7.2)$ | $19.6(6.4)$ | $t=-6.485, p<.001$ |  |

Notes: Current input in the family is calculated as a total of 12 points, divided between the two languages.

Table 2: Pearson correlations (one-sided) between outcome and background variables in Greek

|  | 2. | 3. | 4. | 5. | 6. | 7. |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1. SRT-score_Greek | $.767 * * *$ | $\mathbf{. 3 2 9} *$ | .239 | .$- \mathbf{3 1 6} *$ | $\mathbf{. 6 5 7 * * *}$ | .228 |
| 2. Current family input_Greek | 1 | $\mathbf{. 2 6 5 *}$ | -.021 | $-.501 * * *$ | $\mathbf{. 5 9 2 * * *}$ | -.007 |
| 3. Current school input_Greek |  | 1 | .022 | $\mathbf{- . 3 3 4 *}$ | $\mathbf{. 4 3 6 * *}$ | -.062 |
| 4. Chronological age |  |  | 1 | $\mathbf{. 6 4 3 * * *}$ | $\mathbf{. 3 3 5 *}$ | $\mathbf{. 5 1 2 * * *}$ |
| 5. L2-LoE |  |  |  | 1 | $\mathbf{- . 5 0 6 * * *}$ | $\mathbf{. 3 6 6 * *}$ |
| 6. L2-AoO |  |  |  |  | 1 | .127 |
| 7. vSTM |  |  |  |  |  | 1 |

Notes: sig. correlations in bold, ${ }^{*} p<.05,{ }^{* *} p<.01,{ }^{* * *} p<.001$
Table 3: Pearson correlations (one-sided) between outcome and background variables in German

|  | 2. | 3. | 4. | 5. | 6. | 7. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. SRT-score_German | .398** | .494*** | . 102 | .414** | -.395** | .377** |
| 2. Current family input_German | 1 | .414** | . 035 | .525*** | -.607*** | . 062 |
| 3. Current school input_German |  | 1 | . 187 | .446** | -.338* | . 123 |
| 4. Chronological age |  |  | 1 | .643*** | .335* | .512*** |
| 5. L2-LoE |  |  |  | 1 | -506*** | .366** |
| 6. L2-AoO |  |  |  |  | 1 | . 127 |
| 7. vSTM |  |  |  |  |  | 1 |

Notes: sig. correlations in bold, ${ }^{*} p<.05,{ }^{* *} p<.01,{ }^{* * *} p<.001$

# Language-universal and language-specific properties of referential use: evidence from bilingual children with and without ASD 

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The current study was devised to assess separate and combined effects of Autism Spectrum Disorder (hereafter ASD) and Bilingualism on the use of referential expressions using a four-group design. We compared monolingual Hebrew-speaking and bilingual Russian-Hebrew speaking children with ASD and Typical Language Development (hereafter TLD). The production of referential expressions is a ubiquitous part of communication, and it requires pragmatic judgments about what is appropriate in a given context (Ariel, 2001; Davies \& Arnold, 2018; Serratrice \& Allen, 2015). Some properties of referential choices are suggested to be more language-universal (e.g., the use of more informative noun phrases for less accessible referents), while some properties are language-specific (e.g., the presence of definiteness versus indefiniteness marking; the use of full pronouns versus null pronouns) (Guerriero, Oshima-Takane, \& Kuriyama, 2006; Hickmann \& Hendriks, 1999; Mishina-Mori, 2012; Serratrice, Hervé, \& Allen, 2015).

Thirty-five children with ASD (21 monolingual and 14 bilingual) and fifty-eight children with TLD (28 monolingual and 30 bilingual) aged 4-9, as well as eighteen monolingual adult controls were tested on an elicitation task prompting referential expressions in subject and object positions. The informativeness of referential expressions in the subject and object conditions were evaluated in contrastive conditions: in the subject condition by manipulating two referents which differed only in one property (e.g., a white $d o g$ and $a$ black $d o g$ ) and in the object condition by manipulating two different objects and two different locations. In order to ensure the use of definiteness, the referents in the subject and object conditions were introduced into a discourse, thus in both syntactic conditions (subject and object) anaphoric definiteness was mandatory.

The findings showed an effect of ASD: children with ASD were more likely to produce underinformative referential expressions and omit definiteness as compared to their peers with TLD. A bilingual advantage was observed for contrastive referential use, yet Russian-Hebrew bilingual children were more likely to omit the Hebrew definite marker under the influence of Russian, which does not have a morphological marker of definiteness. Notably, the bilingual advantage on informativeness was observed despite lower Hebrew proficiency among bilinguals as compared to monolinguals. Furthermore, no interaction between ASD and bilingualism was observed. This findings suggest that bilingualism is not detrimental for children with ASD. The study reveals language-universal and language-specific properties of referential use in both typical and atypical language acquisition.

## References

Ariel, M. (2001). Accessibility theory: An overview. Text representation: Linguistic and psycholinguistic aspects, 8(8).
Davies, C., \& Arnold, J. E. (2018). Reference and informativeness: How context shapes referential choice. In Cummins, C., \& Katsos, N. (Eds.). Handbook of Experimental Semantics and Pragmatics (pp. 474-493). Oxford: OUP.

Guerriero, A. S., Oshima-Takane, Y., \& Kuriyama, Y. (2006). The development of referential choice in English and Japanese: a discourse-pragmatic perspective. Journal of child language, 33(4), 823.

# Crosslinguistic influence: Is the distribution of null and overt subjects in Guajiro Spanish permeable to the existence of two different conjugations (analytical and synthetic) in Wayuunaiki? 

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Wayuunaiki, an indigenous language spoken in Colombia and Venezuela, has a double conjugation system: an analytical conjugation and a synthetic conjugation. In the case of the analytical conjugation, we could say that Wayuunaiki is a [-Null Subject] language like English is, although Wyuunaiki seems to have freedom to omit the overt subject when it has been mentioned in previous sentences. However, in terms of the synthetic conjugation, Wayuunaiki can be considered a [ + Null Subject] language, which means that referential null subjects are possible and that Wayuunaiki, like Spanish, displays null expletives.

This dual conjugation system of Wayuunaiki is linked to whether the verb is stative, active transitive, or active intransitive. This situation creates an important difference between Wayuunaiki and Spanish and a possible locus for variation in personal pronoun usage between the bilingual and monolingual varieties of Spanish under analysis.

In this paper, we present an analysis of the use of overt and null subject pronouns produced by a group of Guajiro Spanish speakers (bilingual speakers of Wayuunaiki and Spanish) from the Guajira region in Colombia and a group of Spanish monolingual speakers from the same region, who will serve as the benchmark.

The results suggest that the Wayuunaiki verb class distinction might be playing a role in the distribution of overt subject pronouns in the speech of the bilingual group, a claim that is supported by the fact that overt pronouns are preferred with stative verbs by both the intermediate and the advance bilingual groups, whereas in the monolingual group the realization of overt subjects is higher with active intransitive verbs, as shown in table 1 .

Table 1. Distribution of overt subject pronouns
by verb type for the monolingual and bilingual groups

| Verb type | Native <br> Spanish | Verb type | Advanced <br> group | Intermediate <br> group |
| :--- | :--- | :--- | :--- | :--- |
| Active intransitive <br> verbs | $.41(16 / 39)$ | Stative verbs | $.39(107 / 275)$ | $.41(57 / 140)$ |
| Stative verbs | $.32(21 / 67)$ | Active intransitive <br> verbs | $.33(27 / 81)$ | $.36(20 / 56)$ |
| Active transitive <br> verbs | $.24(10 / 43)$ | Active transitive <br> verbs | $.32(61 / 190)$ | $.32(41 / 127)$ |
| Total N of tokens | $.31(47 / 149)$ | Total N of tokens | $.36(195 / 546)$ | $.36(118 / 323)$ |

While we acknowledge that this use of overt pronouns may be due to non-linguistic reasons, the fact that there seems to be a relationship between the type of verb and the rate of null/overt pronouns in the bilingual cohort, but not in the monolingual data, leads us to attribute this relationship to the fact that in Wayuunaiki the conjugation linked to stative and active intransitive verbs requires obligatory subject pronouns.

## References

Álvarez, J. (2002). Definitud y foco en las conjugaciones subjetiva y objetiva del Guajiro. Revista Latinoamericana de Estudios Etnolingüísticos, 10, 24-42.
Camacho, J. (2016). The Null Subject Parameter Revisited. The evolution from null subject Spanish and Portuguese to Dominican Spanish and Brazilian Portuguese. In Mary A. Kato and Francisco Ordóñez (Eds.), The Morphosyntax of Portuguese and Spanish in Latin America. (pp. 27-48) New York: Oxford.
Michnowicz, J. (2015). Subject Pronoun Expression in Contact with Maya in Yucatan Spanish. In A. M. Carvalho, R. Orozco \& N. Lapidus Shin (Eds.), Subject Pronoun Ex-pression in Spanish: A Cross-dialectal Perspective. (pp. 103-122). Washington, DC: Georgetown University Press.
Torres-Cacoullos, R., \& Travis, C. (2018). Subject Pronoun Expression: Reconsidering the Constraints (chapter 5). In Bilingualism in the Community: Code-switching and Grammars in Contact (pp. 74-110). Cambridge: Cambridge University Press. doi:10.1017/9781108235259.005

# Incorporating English Verbs in the Spanish of South Texas 

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Research on loan-verb accommodation has identified three primary patterns: direct insertion of bare verbs, e.g., push (Pfaff, 1979), morpho-phonological adaptation, e.g., pushear (Wilson \& Dumont, 2015), and bilingual compound verbs (BCVs), e.g., hacer push (Balam, 2015). A recent study (Balam et al., 2020) showed that three English-Spanish bilingual communities varied on their verbal accommodation preference raising the question as to why communities with the same language pair differ. Adopting a sociolinguistic variationist approach (Labov, 1966), the current study examined the acceptability and preference between two distinct verbal borrowing strategies-morphological adaptations and BCVsamong 25 Spanish-English bilinguals within the border community of Brownsville, TX and addresses the following research questions: How do bilingual speakers of diverse backgrounds compare to one another in their acceptance and preference of these verbal borrowing strategies; Do Spanish heritage speakers (HS) differ from established Brownsville residents who immigrated from Mexico as adults; What role, if any, do internal factors (e.g. semantic domain) and external factors (e.g. language dominance) play in the acceptance of morphological adaptations and BCVs? To address these research questions, participants completed a modified two-alternative forced-choice acceptability task (2AFC), where they judged 20 almost-identical sentence pairs on a five-point Likert-type scale depending on the likelihood of saying (output) and hearing them (input). Results indicate that the likelihood of using and hearing adaptations were moderately positively correlated, $r(498)=.537, p<.001$. Statistically significant differences were found for language dominance as balanced HS reported significantly higher rates for the likelihood of using adaptations as compared to the other groups of participants at a $p<.05$ level. Additionally, Spanish-dominant HS rated the likelihood of saying adaptations to a slightly lower degree (though not statistically different) than even the immigrant NS, even though they admitted to hearing them in their community/input. These results not only support previous findings of negative dispositions toward adaptations in this community, but they also highlight the heterogeneity among Spanish speakers in the United States. Additional analyses showed that the acceptance rates for adaptations were statistically significantly higher when the loan verb had been attested in Spanish dictionaries ( $M=3.13$, $\mathrm{SD}=1.73$ ) over not attested, $\mathrm{t}(498)=3.042, p<.01$, however, this variable did not produce a significant effect for BCVs. A statistically significant preference was found for adaptations using non-technical verbs ( $M=3.31, \mathrm{SD}=1.73$ ) over technical verbs, $t(498)=-5.514, p<.001$, while BCVs were accepted at a significantly higher rate for technical ( $M=3.56, \mathrm{SD}=1.53$ ) over non-technical verbs, $\mathrm{t}(498)=7.296, \mathrm{p}$ $<.001$. Lastly, results indicate that males $(M=3.23, \mathrm{SD}=1.73)$ accepted adaptations to a greater extent than females, $\mathrm{t}(498)=4.566, \mathrm{p}<.001$, but no gender effect was found for BCVs.

## References

Balam, O. (2015). Code-switching and linguistic evolution: The case of 'Hacer+ V'in Orange Walk, Northern Belize. Lengua y Migración/Language and Migration, 7(1), 83-109.
Balam, O., Parafita Couto, M. del C., \& Stadthagen-González, H. (2020). Bilingual verbs in three Spanish/English code-switching communities. International Journal of Bilingualism, 24(5-6), 952967. https://doi.org/10.1177/1367006920911449

Labov, W. (1966). Hypercorrection by the lower middle class as a factor in linguistic change.
Sociolinguistics. The Hague: Mouton, 84(10).
Pfaff, C. W. (1979). Constraints on Language Mixing: Intrasentential Code-Switching and Borrowing in Spanish/English. Language, 55(2), 291-318. https://doi.org/10.2307/412586
Wilson, D. V., \& Dumont, J. (2015). The emergent grammar of bilinguals: The Spanish verb hacer 'do'with a bare English infinitive. International Journal of Bilingualism, 19(4), 444-458.

# Emotional Salience in Minority Language Transmission: How Minority Language-Speaking Parents are caught between Emotional and Pragmatic Needs 

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Many children who have heard two languages from birth eventually speak the majority language only. In many exogamous couples, minority language transmission rests on the minority language-speaking parent's shoulders. Minority language transmission is emotionally demanding as it requires parents to balance out various needs (i.e. providing input in the minority language but also monitoring the child's majority language competence etc.) (Okita 2002). Parents associate the loss of the minority language with identity loss (Curdt-Christiansen 2009), while minority language transmission leads to positive relationships between parents and children. Consequently, parental ideas of success in transmitting the minority language need to be scrutinized (King, Fogle \& Logan-Terry 2008). An investigation of how parental emotions interact with their language ideologies, practices, and management strategies will show how emotions influence the families' state of bilingualism and social-psychological well-being.

To minimize the influence of prestige difference, English-German families are studied. Both are highstatus languages and due to cultural proximity, those families merely face language contact-related issues (Piller 2002). A sample of 47 minority language-speaking parents ( 23 in the UK, 24 in Germany) with young children of a narrow age range (mean: 2;9 years) were interviewed. In the UK, German is the minority language. In Germany, English is the minority language. A country comparison will reveal if reversing minority and majority language has an impact on parental emotions. Drawing on a mixedmethod design, a qualitative content analysis was performed (Mayring 2010). The results were quantified by reducing qualitative data into themes with a clear-cut meaning which justifies frequency counts (Sandelowski 2000).

Results showed no country differences, since parents in either country were largely satisfied with their child's language proficiency, even though the minority language was the child's weaker language. However, the prospect of the child's potential refusal to speak the minority language evoked strong feelings of sadness and frustration. Minority language-speaking parents in both countries face a clash of pragmatic and emotional needs (Little 2017). Despite their desire to transmit the minority language, parents also wish to be well integrated in their host country (Kirsch 2012).

The concept of emotional salience from the field of neuroscience (Phan et al. 2004) and semantics (Lee \& Narayahan 2005) explains how parents assign a different emotional value to the minority language compared to their children. The parents may transmit the minority language in its physical manifestation (i.e. vocabulary, grammar, semantics), but might fail to instill the abstract emotional value in their children. Parents acknowledge this difficulty in putting the child's well-being first, even at the risk of not fully transmitting the minority language. Parental efforts to transmit the minority language could be seen as a compensation mechanism to battle potential signs of parents‘ first language attrition.

## References

Curdt-Christiansen, X. L. (2009). Invisible and visible language planning: Ideological factors in the family language policy of Chinese immigrant families in Quebec. Language Policy 8(4): 351375.

King, K. A., Fogle, L., Logan-Terry, A. (2008). Family Language Policy. Language and Linguistics Compass 2(5): 907-922.
Kirsch, C. (2012). Ideologies, struggles and contradictions: An account of MOTs raising their children bilingually in Luxembourgish and ENG in Great Britain. International Journal of Bilingual Education and Bilingualism 15(1): 95-112.
Lee, C. M., \& Narayanan, S. S. (2005). Toward detecting emotions in spoken dialogs. IEEE transactions on speech and audio processing, 13(2): 293-303.
Little, S. (2017). Whose heritage? What inheritance?: conceptualising family language identities. International Journal of Bilingual Education and Bilingualism: 1-15.
Mayring, Philipp. (2010). Qualitative Inhaltsanalyse - Grundlagen und Techniken. 11th ed. Weinheim: Beltz.
Okita, T. (2002). Invisible Work: Bilingualism, language choice and childrearing in intermarried families. Amsterdam: John Benjamins.
Phan, K. L., Taylor, S. F., Welsh, R. C., Ho, S. H., Britton, J. C., \& Liberzon, I. (2004). Neural correlates of individual ratings of emotional salience: a trial-related fMRI study. Neuroimage, 21(2): 768 780.

Piller, I. (2002). Bilingual Couples Talk - The discursive construction of hybridity. [Studies in Bilingualism (SiBil) Vol 25]. Amsterdam: John Benjamins.
Sandelowski, M. (2000). Combining Qualitative and Quantitative Sampling, Data Col-lection, and Analysis Techniques in Mixed-Method Studies. Research in Nursing \& Health, 23, 246-255.

# Refugee children in primary education: Outlining their profile and aspects of their L2 Greek development 

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The refugee crisis has led to a great number of refugee children entering formal Greek education since 2015 (Cholezas 2018; UNHCR 2020). In the past, migrant pupils in Greek education had basic to intermediate Greek language skills (Tzevelekou et al. 2013), good oral narrative abilities in Greek while also outperforming L1 peers in some narrative measures (Andreou 2015). In contrast, the characteristics of newcomer pupils with a refugee background are rather understudied, with very few exceptions (see Paradis et al. 2020 for Syrian refugee children in Canada). The objective of the present study is to shed light onto L2 Greek learners with a refugee background by outlining their profile and by systematically presenting their cognitive and linguistic characteristics.

Fifty-three refugee children in Reception Classes between the ages of 7 and 13 years participated in the study. They completed an extensive literacy and language background questionnaire, the Raven's Coloured Progressive Matrices to assess their general intelligence, and a Digit Backwards Task to examine their verbal working memory. Their L2 Greek proficiency was evaluated with the Diapolis Placement test, while a story retelling task (MAIN; Gagarina et al. 2012) was used in order to explore the micro- and macro-structure of their L2 oral narrative skills. A group of 50 L1 Greek peers was also tested for control purposes.

The background questionnaire showed that Kurdish was the most common L1 for the refugee learners and that their L1 was more frequently used than their L2. This finding is in accordance with greater selfestimated speaking ability in the L1, but in contrast with better self-estimated writing and reading abilities in the L2. Their proficiency level in Greek was considerably low, between the A0 and A1 levels, yet their performance was not consistent across all language subskills. In the narrative task, the experimental group seemed to poorly comprehend the stories and produce rather short and incoherent narrations compared to the control group. Differences were also found in verb diversity and syntactic complexity between the two groups, revealing a significantly lower performance for the L2 group. Regression analyses on the refugee children's performance revealed that Greek language proficiency was a significant predictor of their narrative abilities. More specific significant predicting relationships were also uncovered within micro- and macro-level variables of narrative abilities, like story comprehension predicting the structural cohesion of the produced narrative. The findings will be discussed in relation to previous studies with migrant children enrolled in Greek education, but also in relation to recent studies with refugee children which point out that this population manifests a very characteristic profile that has impact on their L2 development.

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## References

Andreou, M. (2015). The effects of bilingualism on verbal and non verbal cognition: The micro- and macro-structure of narratives in the weak and the dominant language of the bilingual child (Publication No 36739) [Doctoral dissertation, Aristotle University of Thessaloniki]. National Archive of PhD Theses.

Cholezas, I. (2018). The education of refugee children in Greece. Greek Economic Outlook, 35, 38-43.
Gagarina, N., Klop, D., Kunnari, S., Tantele, K., Välimaa, T., Balčiūnienė, I., Bohacker, U., \& Walters, J. (2012). MAIN: Multilingual Assessment Instrument for Narratives. ZAS Papers in Linguistics, 56.

Paradis, J., Soto-Corominas, A., Chen, X., \& Gottardo, A. (2020). How language environment, age, and cognitive capacity support the bilingual development of Syrian refugee children recently arrived in Canada. Applied Psycholinguistics, 41, 1255-1281.

Tzevelekou, M., Giagkou, M., Kantzou, V., Stamouli, S., Varlokosta, S., Mitzias, I., \& Papadopoulou, D. (2013). Second language assessment in the Greek educational system: The case of Reception Classes. Glossologia, 21, 75-89.

United Nations High Commissioner for Refugees [UNHCR]. (2020, May 28). Greece sea arrivals dashboard. https://data2.unhcr.org/en/documents/download/76674.

# Possessives in Russian as a foreign and a heritage language: comprehension-production (a)symmetry? 

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The Principle B of Chomsky's Government and Binding Theory (1981) that describes the distribution of anaphors and pronouns has been widely researched in first (e.g., Conroy et al., 2009) and second (e.g., White, 1998; Kim et al., 2015) language acquisition. However, most research so far has focused on comprehension, production data (but see Ruigendijk et al., 2010) and data from heritage speakers as a special case of acquisition with features of both L1 and L2 (Kim et al., 2009) have rarely been considered. In our study, we want to address these gaps by investigating the comprehension and production of Russian reflexive and non-reflexive possessive pronouns by heritage speakers with German as a dominant language in comparison to foreign language learners.

Russian is one of the few European languages that distinguish between anaphors / reflexives and pronouns not only for personal but also for possessive pronouns. In $1^{\text {st }}$ and $2^{\text {nd }}$ person, they are considered to be in free variation. In the $3^{d}$ person as in (1), they are in complimentary distribution as captured by Principle B: the reflexive possessive refers to the subject of the same clause, whereas the non-reflexive normally has its antecedent in the preceding clauses.
(1) Oleg ${ }_{I}$ uechal votpusk.
${ }^{\prime} \mathrm{Oleg}_{l}$ has gone for vacation.'

| Mark $_{2}$ | nakormil | ego $_{1}$ | / svoju $_{2}$ |
| :--- | :--- | :--- | :--- |$\quad$| sobaku. |
| :--- |
| Mark |
| feed-PST.SG.M |$\quad$ NONREFL-3SG.M / REFL-ACC.SG.F $\quad$ dog-ACC.SG.F.

Using a two-alternative forced-choice design, we tested how heritage speakers and foreign language learners interpret the two Russian possessives in the $3^{d}$ person. The production of possessives was studied in written essays from the Russian Learner Corpus.

Our results confirm that pronouns are more difficult to interpret that reflexives. Both learners and heritage speakers allowed reflexive interpretation of non-reflexive possessives but not the other way around. This tendency was also evident in production: both learners and heritage speakers used the nonreflexive possessive in contexts where the reflexive possessive was required in monolingual Russian. With regard to the production of the reflexive possessive, however, heritage speakers were crucially different from learners. First, heritage speakers never used reflexive in syntactically inappropriate contexts. Second, heritage speakers produced more reflexives in the $1^{\text {st }}$ person than learners did. Finally, heritage speakers made an extensive use of idiomatic expressions with reflexive possessives. We will try to explain these findings based on usage-based accounts of language and language acquisition.

## References

Chomsky, N. (1981). Lectures on government and binding. Dordrecht.
Conroy, A., Takahashi, E., Lidz, J., \& Phillips, C. (2009). Equal treatment for all antecedents: How children succeed with Principle B. Linguistic Inquiry, 40, 446-486.

Kim, E., Montrul, S. \& Yoon, J. (2009). Binding Interpretations of Anaphors by Korean Heritage Speakers. Language Acquisition, 16(1), 3-35.
Kim, E., Montrul, S. \& Yoon, J. (2015). The on-line processing of binding principles in second language acquisition: Evidence from eye tracking. Applied Psycholinguistics, 36(6), 1317-1374.
Ruigendijk, E., Friedmann, N., Novogrodsky, R. \& Balaban, N. (2010). Symmetry in comprehension and production of pronouns: A comparison of German and Hebrew. Lingua, 120, 1991-2005.
White, L. (1998). Second language acquisition of Binding Principle B: Child/adult differences. Second Language Research, 14, 425-439.

# Undergraduates' plurilingual repertoires and in-class translingual practices in a multi-dimensionally internationalized classroom 

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This paper is part of a broader funded research project (The TRANSLINGUAM-UNI Project) investigating the development of transcultural competence in a multi-dimensionally internationalized BA degree - i.e. a multilingual and multicultural undergraduate classroom with full English-Medium Instruction (EMI) and internationalized curriculum. As a matter of fact, internationalized classrooms are a spreading phenomenon in Higher Education institutions all around the world, requiring students to interact with people from different linguistic and cultural backgrounds (Byram 2008; Kudo et al. 2019). Thus, rather than just learners, we consider students as social interactors who make use of all their plurilingual resources to function effectively in the educational context and carry out successful intercultural interactions (Coleman 2013, 2015; Mitchell et al. 2017).
The focus here is on the plurilingual repertoires and translingual practices of 33 volunteering local and international students enrolled in the first year of such a multi-dimensionally internationalized classroom. Also, the degree is offered by a university with a trilingual educational policy (i.e. Catalan, English, and Spanish; Trenchs-Parera 2019) located in the city of Barcelona. Thus, this study is guided by the broad research question: What linguistic resources do students make use of in the context of a multilingual and multicultural classroom from a highly internationalized University located in a glocal city? Accordingly, the aim is twofold: (1) to present students' plurilingual repertories, and (2) to explore the in-class languages of interaction, taking into account the purpose of the contact: to study, to do leisure activities, and/or to build intimate friendships.
A mix-method research approach has been adopted. Quantitative data were collected by means of a sociolinguistic questionnaire and a name generator with an interpreting item. Name generator is a common instrument in Social Network Analysis to collect data on participants' relationships; in this case, it aimed to investigate with whom students interact in the classroom, for what purpose and in which language. Moreover, interviews were conducted with 23 volunteering students to further explore the reasons for and consequences of their social relationships in the classroom as regards their language practices.
Although the degree has full EMI teaching, the local language - i.e. Catalan - emerges as the preferred one for both academic and informal interactions, followed by both Spanish and English in a similar amount. Nonetheless, qualitative results show a variety of language repertoires and practices, pointing to the coexistence of monolingual practices with plurilingual and translingual ones. Actually, the multidimensionally internationalized classroom appears as a remarkable context for improving both Spanish and English, as well as for practicing other foreign languages and learning new ones. Furthermore, such a context may also offer students the opportunity to retrieve heritage and local languages.

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## References

Byram, M. (2008). From Foreign Language Education to Education for Intercultural Citizenship: Essays and Reflections. Clevedon, UK: Multilingual Matters.
Coleman, J.A. (2013). Researching whole people and whole lives. In C. Kinginger (Ed.), Social and cultural dimensions of language learning in study abroad. Language Learning \& Language Teaching, 37. (pp.17-44). Amsterdam/Philadelphia: John Benjamins.
Coleman, J.A. (2015). Social Circles During Residence Abroad: What Students Do, and Do With. In R. Mitchell, N. Tracy-Ventura \& K. McManus (Eds.), Social Interaction, Identity and Language Learning during Residence Abroad. (pp. 33-52). Eurosla Monographs Series, 4, European Second Language Association.
Kudo, K., Volet, S., \& Whitsed, C. (2019). Development of intercultural relationships at university: a three-stage ecological and person-in-context conceptual framework. Higher Education, 77(3), 473-489.
Mitchell, R., Tracy-Ventura, N., \& McManus, K. (2017). Anglophone Students Abroad: Identity, social relationships and language learning. New York: Routledge.
Trenchs-Parera, M. (2019). Higher education language policies at the crossroads of glocal challenges: Rethinking multilingualism, internationalization and public service in Catalonia. In Marqués Pascual, L. \& Cortijo Ocaña, A. (eds.), Second and Third Language Acquisition in Monolingual and Bilingual Contexts. (pp. 15-44). Delaware: Juan de la Cuesta.

# Bilingualism as a Life Experience Induces Dynamic Changes in Resting State EEG Oscillations 

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Bilingualism, at least under specific conditions, can result in a more fine-tuned executive control system and in structural and functional brain adaptations (see for a review Pliatsikas, 2019). Resting state EEG (rs-EEG) activity (frequency power) is related to various cognitive functions and can estimate neurological connectivity (mean coherence) between brain regions. As such, it has emerged in the past few years as a complementary neuroimaging methodological option to investigate the effects of languages (e.g., language learning, bilingualism) in the brain (Bice et al., 2020; Prat et al., 2016). Herein, we use rs-EEG to understand how bilingualism may reshape the mind/brain in a diverse pool of bilinguals.

Five minutes eyes-closed task free EEG data from 103 participants ( 25 were early bilinguals - Italian being the heritage language and German the majority language - and 78 late bilinguals of English in both Germany and Norway) were recorded. All participants completed the Language and Social Background Questionnaire (LSBQ; Anderson et al., 2018), which quantifies language exposure and crucially the division of usage in diverse variety of activities and settings in the participants' two languages over the lifespan. We hypothesized to find positive correlations between linguistic variables (degree of active bilingualism) and frequency bands (especially alpha and beta power), particularly reflected in the posterior brain regions. Furthermore, we expected to observe levels of mean coherence to vary by amount of bilingual language experience.

In terms of power frequency, there was a main effect of Age of L2/2L1 onset on high beta and gamma powers (i.e., earlier acquisition resulted in higher beta and gamma frequencies). Higher exposure/usage scores from the LSBQ of the non-societal language at home modulated mean coherence effects (functional brain connectivity) in theta, alpha and gamma frequencies. Results are in line with claims that bilingualism effects are not monolithic, but are rather modulated by degree of engagement with experiential factors.

## References

Anderson, J. A., Mak, L., Chahi, A. K., \& Bialystok, E. (2018). The language and social background questionnaire: Assessing degree of bilingualism in a diverse population. Behavior Research Methods, 50(1), 250-263.
Bice, K., Yamasaki, B. L., \& Prat, C. S. (2020). Bilingual Language Experience Shapes Resting-State Brain Rhythms. Neurobiology of Language, 1(3), 288-318.
Pliatsikas, C. (2019). Multilingualism and brain plasticity. In The handbook of the neuroscience of multilingualism (In J. Schwieter (Ed.), pp. 230-251). Hoboken, NJ: Wiley-Blackwell.
Prat, C. S., Yamasaki, B. L., Kluender, R. A., \& Stocco, A. (2016). Resting-state qEEG predicts rate of second language learning in adults. Brain and Language, 157, 44-50.

# The cognate advantage in picture-identification in bilingual children from elementary into middle school years 

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Bilingual children show sensitivity to cognates from a young age in receptive (Pérez, Peña, \& Bedore, 2010) and productive vocabulary tasks (Sheng et al., 2016). However, the effect of cognates on children's receptive vocabulary skills in particular shows considerable variation, and may be absent in some individuals (Kelley \& Kohnert, 2012; Potapova, Blumenfeld, \& Pruitt-Lord, 2016) and groups of children (e.g. Floccia et al., 2018). Two possible sources of variation in this effect are children's age and relative language exposure: the strength of the cognate advantage on picture-identification increases with age (Kelley \& Kohnert, 2012) and decreases with increased exposure to a language (Robinson Anthony et al., 2020). Longitudinal analyses of the effect of cognates on receptive skill in both of bilingual children's languages are rare. In this study, we address this gap by viewing the effect of cognates on picture-identification (receptive) performance in French and English, cross-sectionally and longitudinally in children attending an international program at a state school in France, from 1st to 8th grade. We find that relative language exposure predicts the direction of the cognate advantage in these children; however, differently from findings for bilingual children's picture-naming (production), children with balanced exposure do not show a cognate advantage in either language. Furthermore, regardless of these children's relative exposure, growth in the cognate advantage over time was limited to English picture-identification. Another finding is that the onset and growth of the cognate advantage for these children was later than predicted, beginning after the start of elementary school and extending into middle school. We conclude that the absence of an effect in balanced exposure children may derive from the different skills involved in receptive and productive vocabulary tasks. With respect to developmental trajectory of the cognate advantage in these children, we consider differences in the nature and distribution of cognates across language pairs and the factors that support children's ability to use cognates in vocabulary tasks. Finally, we discuss possible implications for practices in the dual-language classroom.

## References

Floccia, C., Sambrook, T., Delle Luche, C., Kwok, R., Goslin, J., White, L., ... \& Plunkett, K. (2018). Vocabulary of 2-year-olds learning English and an additional language: norms and effects of linguistic distance. V: GENERAL DISCUSSION. Monographs of the Society for Research in Child Development, 83(1), 68-80.
Kelley A., \& Kohnert K. (2012). Is there a cognate advantage for typically developing Spanishspeaking English-language learners? Language, Speech, and Hearing Services in Schools, 43, 191-204.
Pérez, A. M., Peña, E. D., \& Bedore, L. M. (2010). Cognates facilitate word recognition in young Spanish-English bilinguals' test performance. Early Childhood Services (San Diego, Calif.), 4(1), 55.
Potapova, I., Blumenfeld, H. K., \& Pruitt-Lord, S. (2016). Cognate identification methods: Impacts on the cognate advantage in adult and child Spanish-English bilinguals. International Journal of Bilingualism, 20(6), 714-731.

Robinson Anthony, J. J., Blumenfeld, H. K., Potapova, I., \& Pruitt-Lord, S. L. (2020). Language dominance predicts cognate effects and metalinguistic awareness in preschool bilinguals. International Journal of Bilingual Education and Bilingualism, 1-20.
Sheng, L., Lam, B. P. W., Cruz, D., \& Fulton, A. (2016). A robust demonstration of the cognate facilitation effect in first-language and second-language naming. Journal of experimental child psychology, 141, 229-238.

# Multilingualism and education: comparing policy and practice in Botswana \& Zambia 

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Despite the multilingual ecologies of communities and multilingual repertoires of individuals, monoglossic approaches to language policy pervade educational contexts in Africa. These approaches also ignore a substantial international evidence base on the benefits of mother tongue based multilingual education. This presentation reports on findings emerging from an ongoing study on multilingual education contexts in Zambia and Botswana.

Botswana recognises English as the official language and Setswana as the national language. In the first year of primary education in Botswana (Standard One), Setswana is used as the medium of instruction (MOI) while English is taught as a subject. However, from the second year of primary education onwards, these two languages swap positions and English becomes the medium of instruction for all subsequent levels. Although $78 \%$ of the population report speaking Setswana at home, there are an estimated 25-28 different languages spoken in Botswana, and many of the smaller regional languages have no official status in educational contexts. Zambia, like Botswana, has English as the official language but recognises seven local languages as national/regional languages. The current medium of instruction policy is to use "familiar" languages in the early years of learning and then switch to English in Grade Five. While "familiar language" refers to any Zambian language, in practice the seven regional languages are favoured. Additionally, this policy is not sustainable - nor practicable - in many multilingual contexts and communities where actual language practice in the classroom tends to favour English as the medium of instruction from Grade One onwards. With up to 80 ethnic groups and over 70 languages in the country, actual language practices are pluralistic and therefore at loggerheads with the often artificial classroom context.

Both of these approaches: 1) maintain the dominance of English; 2) make little or no space for the language practices of vast proportions of the popular in the country. Based on linguistic ethnography work in both Botswana and Zambia, we will compare and contrast how these differing policy approaches are carried out in practice and discuss the reality of multilingualism within classrooms. We discuss the challenges towards implementing more inclusive, multilingual approaches to language in education, the tensions this gives rise to, as well as present possible solutions or approaches to these challenges.

# Fostering multilingual language development in the mainstream classroom: Lessons learned from bilingual education? 

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Studies show that many (future) teachers feel unprepared to foster the different languages of multilingual students in the monolingually-orientated mainstream classroom (Becker-Mrotzek et al., 2012; Ricart Brede 2019). Particularly the attitudes of teachers towards multilingualism have an impact on their teaching behavior in linguistically heterogeneous contexts (Morys, 2014). This has consequences for the development of the language of schooling as well as for the heritage languages of multilingual students. In the first part of the talk, I will present data on the attitudes of teachers and future teachers towards multilingualism in schools in Germany combined with data on the reading and lexical competences of multilingual students in selected educational contexts.

Many bilingual education programs have been shown to provide good support for the language development of multilingual children (Müller, 2020; Steinlen \& Piske, 2018). Teacher's attitudes and engagement in those programs are potential success factors (Fielding \& Harbon, 2018). In the second part of the talk, I will focus on students' lexical and reading development in a bilingual Italian-German program and discuss them in light of teacher's attitudes.
I will ask whether there are any lessons learned from bilingual programs that could be transferred to the mainstream classroom in order to foster all of students' linguistic repertoires and I will consider paths forward.

# Does Language Make a Difference? A Study of Language Dominance and Inhibitory Control 

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Introduction: Although extensive research has been done to compare monolingual and bilingual children's executive function (Adesope et al., 2010; Carlson \& Meltzoff, 2008; Foy \& Mann, 2014; Martin-Rhee \& Bialystok, 2008), there are fewer studies that have looked at the relationship between bilingual children's languages and executive function. The purpose of this study was two-fold; first, to compare inhibitory control (executive functioning) in monolingual versus bilingual children and second, to determine the relationship between vocabulary in the dominant and non-dominant language and inhibitory control in bilingual children.

Methods: Twenty monolingual (English) and 20 bilingual (English-Spanish) children between 8 and 12 years of age completed the bilingual Expressive One Word Picture Vocabulary Test (in English and Spanish) (EOWPVT-IV Martin \& Brownell, 2010) and a task of inhibitory control (flanker task) (Eriksen, 1995).

Results: ANCOVAs revealed no significant differences between monolingual and bilingual children in reaction time or accuracy in the flanker task controlling for maternal education. Significant moderate to strong correlations were found between English vocabulary and inhibitory control reaction time and accuracy in bilingual children. No significant correlations were found between Spanish vocabulary and inhibitory control. Regression analyses showed that English vocabulary, but not Spanish, was a significant predictor of inhibitory control, suggesting that bilingual children probably use their dominant language over the non-dominant language when solving a task that requires inhibitory control.

Conclusion: The results of this study suggest that while monolingual and bilingual children may not differ in an inhibitory control task, bilingual children seem to use their dominant language over the nondominant language when processing new information.

Keywords: bilingualism, inhibitory control, executive functions, dominant language, vocabulary

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## References

Adesope, O. O., Lavin, T., Thompson, T., \& Ungerleider, C. (2010). A systematic review and metaanalysis of the cognitive correlates of bilingualism. Review of Educational Research, 80(2), 207-245. https://doi.org/10.3102/0034654310368803Westergaard, M., Mitrofanova, N., Mykhaylyk, R., \& Rodina, Y. (2017). Crosslinguistic influence in the acquisition of a third language: The Linguistic Proximity Model. International Journal of Bilingualism, 21(6), 666682.

Carlson, S. M., \& Meltzoff, A. N. (2008). Bilingual experience and executive functioning in young children. Developmental Science, 11(2), 282-298. https://doi.org/10.1111/j.14677687.2008.00675.x

Eriksen, C. W. (1995). The flankers task and response competition: A useful tool for investigating a variety of cognitive problems. Visual Cognition, 2(2-3), 101-118. https://doi.org/10.1080/13506289508401726
Foy, J. G., \& Mann, V. A. (2014). Bilingual children show advantages in nonverbal auditory executive function task. International Journal of Bilingualism, 18(6), 717-729. https://doi.org/10.1177/1367006912472263
Martin, N., \& Brownell, R. (2012). Expressive One Word Picture Vocabulary Test Fourth Edition: Spanish (EOWPVT-IV) [Measurement Instrument]. Austin, TX: PRO-ED.
Martin-Rhee, M. M., \& Bialystok, E. (2008). The development of two types of inhibitory control in monolingual and bilingual children. Bilingualism: Language and Cognition, 11(1), 81-93. https://doi.org/10.1017/S1366728907003227

# Linguistic autobiography in multilingual classrooms of adult migrants: a case study at CPIA Palermo 1 

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Since 1980s the linguistic autobiography has been used as a didactic tool activity conducted in different pedagogical settings and with learners from different socio-cultural and educational background: from primary schools (Cognigni, 2014) to Universities students (Telmon, 1984, Canobbio 1990), from L2 teachers (Busch, 2012) to language courses for L2 learners (Groppaldi, 2010), from university students attending languages courses (Corti, 2012) to young adults with a low literacy background (Di Benedetto, 2017).

In the last few years, linguistic autobiography has proved to be a useful pedagogical tool also in language courses for migrants in both formal and informal settings. As ItaStra (School of Italian language for foreigners of the University of Palermo) research team has shown, linguistic autobiography can be used with Unaccompanied Minors with a low literacy background for rise awareness about the advantage of their plurilingualism (Di Benedetto, 2017). However, little research has been done so far on the potential of such a tool with adult migrant learners in multilingual classes in formal settings.
In this paper, I will address the use of the linguistic autobiography with adult migrant learners in the formal setting of Centri Provinciali per l'Istruzione degli adulti (CPIA), an Italian educational institution financed by the national Ministry of Education offering day and evening courses to young adults and adults willing to receive a formal education and obtain their qualiTications.
We are carrying out this research at CPIA Palermo 1. The testing of the use of linguistic autobiography in such context is part of my PhD at the University of Reading, a project within the Multimind Consurtium. Ssepi Within this context, I will assess

1) the use of the linguistic autobiography in multilingual classrooms where students have different language repertoires and competence;
2) to what extent linguistic autobiography activity may not imply a written production but can be delivered also orally with the help of visuals (Language portrait).
I will then demonstrate how linguistic autobiography activities can make the process of collecting information and data about the students' linguistic repertoire and I will compare this approach to the more formal sociolinguistic interview, to assess data collection methods for adult migrant learners.
Finally, I will show how the linguistic autobiography could fruitfully be used to investigate sensible topics such as the migratory journey. Trialled by the team of scholars at ItaStra in the form of class activities ("language and the journey"), this use of the linguistic autobiography opens up further possibilities for in-depts analysis of language practice in migratory trajectories and urban ethnography in migration settings.

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## References

Bush, B. (2012). The Linguistic Repertoire Revisited. Applied Linguistics no. 33 (5): 503-523. Canobbio, S. (2006) Dialetto dei giovani e politiche linguistiche delle famiglie: appunti dal Piemonte. In Marcato, G. (Ed.) Giovani, lingue e dialetti. Atti del Convegno di Sappada 29/63/7/2005 (239-244). Padova: Unipress
Cognigni, E. (2014) Le autobiografie linguistiche a scuola tra plurilinguismo e affettività: dal ritratto al racconto delle lingue. In Liliana Landolfi (Ed.) Crossroads languages in (e)motion, (pp.189201) Napoli: photocopy.it edizioni, University press.

Corti, L. (2012) Autobiografie linguistiche: un'esperienza condotta con apprendenti l'italiano L2 sinofoni. Italiano LinguaDue 1, 448-470.
Di Benedetto, L. Salvato,V. Tiranno, C. (2017) The Value of languages in linguistic autobiography. Teaching experience with low-educated unaccompanied multilingual minors. In Sosinski M. (Ed.) Alfabetizació $n$ y aprendizaje de idiomas por adultos: investigació n, polit ica educative y prá tica docente (pp. 99-108) Granada: Universitad de Granada.
Groppaldi, A. (2010). L'autobiografia linguistica nell'insegnamento/apprendimento dell'Italiano L2/LS. Italiano LinguaDue, 1, 89-104.
Telmon, T. (2006). Gli studenti si confessano: considerazioni sulle autobiografie sociolinguistiche. In Marcato, G. (Ed.) Giovani, lingue e dialetti. Atti del Convegno di Sappada 29/6-3/7/2005 (221229) Padova: Unipress

# The acquisition of L2 Polish by East Slavic speakers - sociological and linguistic aspects 

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The recent development of Polish economy has attracted into the country a great number of speakers of East Slavic languages (Russian, Ukrainian, Belorussian), which are fairly close to Polish in terms of both grammar and lexicon. Therefore, one could expect the acquisition of L2 Polish to be affected by significant L1 transfer, both negative (Hopp et al. 2019; Yu \& Odlin 2016; Peukert 2015; Morett \& Macwhinney 2013) and positive (Bardel 2006; Jamet 2009; Heinz 2009; Marx \& Mehlhorn 2010), so much so that acquisition may be dominated by intercomprehension, i.e. the possibility of achieving effective communication in a language that was never studied explicitly but is similar to another known language in one's repertoire (Reichert 2013; Golubovic \& Gooskens 2015; Jágrová et al. 2019; Labbé 2019). The consequences on acquisition outcome are not clear, extreme scenarios ranging from effortless mastery to fossilisation. Additionally, numerous East Slavic migrants attend formal Polish classes, where they often pose a challenge to established didactic approaches.

In order to adequately describe the acquisition process in such a context, sociological information is essential to understand learners' purposes, motivations and expectations, while empirical linguistic data are needed to document their interlanguage and demystify common lay views on L1 transfer.

The paper presents the initial results of a project that adopts this approach to describe the acquisition of L2 Polish by East Slavic speakers, with the long-term objective to make language teaching more consistent with the natural learning path of this group and thus facilitate language acquisition and ultimately integration into Polish society.

Sociological information was collected through two questionnaires, respectively administered to large samples of L2 Polish learners and teachers. Learners were asked to describe the socio-psychological context of L2 Polish acquisition, including such topics as learning objectives, motivation, linguistic repertoire etc. They were also asked to self-assess their competence in a set of L2 Polish skills and to evaluate the existing language teaching resources and approaches in light of their specific linguistic repertoire. L2 Polish instructors were asked a similar set of questions, so that different perspectives on the same phenomenon can be juxtaposed.

Linguistic data were collected through an Elicited Imitation task (Erlam 2006; Van Moere 2012; Spada et al. 2015; Baten \& Cornillie 2019), a task known for approximating spontaneous speech while retaining good control onto target structures (in the present case, a set of morphosyntactic features that differ between Polish and East Slavic languages). The analysis of learner output makes it possible to accurately describe the interlanguage, highlighting both the effects of transfer and the traces of creative elaboration (Perdue 1993).

## References

Bardel, C. (2006). La connaissance d'une langue étrangère romane favorise-t-elle l'acquisition d'une autre langue romane? Influences translinguistiques dans la syntaxe d'une L3. Acquisition et Interaction En Langue Étrangère, 24, 149-180.
Baten, K., \& Cornillie, F. (2019). Elicited imitation as a window into developmental stages. Journal of the European Second Language Association, 3(1), 23-34.
Erlam, R. (2006). Elicited Imitation as a Measure of L2 Implicit Knowledge: An Empirical Validation Study. Applied Linguistics, 27(3), 464-491.
Golubovic, J., \& Gooskens, C. (2015). Mutual intelligibility between West and South Slavic languages. Russian Linguistics, 39, 351-373.
Heinz, C. (2009). Understanding what you've never learned?"—Chances and limitations of spontaneous auditive transfer between Slavic languages. WU Online Papers in International Business Communication, 5.
Hopp, H., Steinlen, A., Schelletter, C., \& Piske, T. (2019). Syntactic development in early foreign language learning: Effects of L1 transfer, input, and individual factors. Applied Psycholinguistics, 40(05), 1241-1267.
Jágrová, K., Avgustinova, T., Stenger, I., \& Fischer, A. (2019). Language models, surprisal and fantasy in Slavic intercomprehension. Computer Speech \& Language, 53, 242-275.
Jamet, M.-C. (2009). Contacts entre langues apparentées: Les transferts négatifs et positifs d'apprenants italophones en français. Synergies Italie, 5, 49-59.
Labbé, G. (2019). Fondements linguistiques et didactiques de l'intercompréhension slave: Le cas des langues slaves de l'ouest et du sud-ouest [Ph.D. dissertation]. INALCO.
Marx, N., \& Mehlhorn, G. (2010). Pushing the positive: Encouraging phonological transfer from L2 to L3. International Journal of Multilingualism, 7(1), 4-18.
Morett, L., \& Macwhinney, B. (2013). Syntactic transfer in English-speaking Spanish learners. Bilingualism: Language and Cognition, 16(1), 132-151.
Perdue, C. (Ed.). (1993). Adult Language Acquisition. Cambridge University Press.
Peukert, H. (Ed.). (2015). Transfer effects in multilingual language development. John Benjamins.
Reichert, A. (2013). Auditive intercomprehension between Russian and Bulgarian - degree and factors for the listening comprehension of native speakers. In J. Besters-Dilger \& U. Schöller (Eds.), Slavischer Sprachkontakt (pp. 119-130).
Spada, N., Shiu, J. L.-J., \& Tomita, Y. (2015). Validating an Elicited Imitation Task as a Measure of Implicit Knowledge: Comparisons With Other Validation Studies. Language Learning, 65(3), 723-751.
Van Moere, A. (2012). A psycholinguistic approach to oral language assessment. Language Testing, 29(3), 325-344.
Yu, L., \& Odlin, T. (Eds.). (2016). New perspectives on transfer in second language learning. Multilingual Matters.

# The Role of Caregivers' Language Input in Early Bilingual Learners: Relating Caregivers' Code-switching and Proficiency to Children's Receptive Vocabulary 

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Previous research has shown that the quantity of language input matters for bilingual acquisition (David \& Wei 2008; Hoff et al. 2012; Thordardottir 2011). However, qualitative input variables are less frequently investigated. Instead, many studies point towards a need to further dismantle qualitative input variables in order to examine if linguistically richer environments can be associated with bilingual children's language development (Driessen et al. 2002; MacLeod et al. 2012). Qualitative input properties relate to the type of exposure a bilingual child receives (e.g., whether the child receives native or non-native input). Unlike monolinguals, bilingual children are more likely to receive input from both native and non-native speakers of their language(s) (Fernald 2006). Besides contrasting native versus non-native speaker input, another way of approaching the type of exposure a bilingual child receives is whether the child is exposed to caregivers' code-switching, "the mixing of two or more languages in discourse" (Poplack 2015, p. 918), and subsequently mixed input. The current study looks at the effects of two quality-related variables - caregivers' (native) language proficiency and caregivers' codeswitching - on children's receptive vocabulary of the majority language Dutch. Seventy-two bilingual children with a mean age of 35 months ( $S D=7$ months), who were exposed to Dutch and (an)other language(s) at home, were tested on a Dutch receptive vocabulary task (i.e., The Peabody Picture Vocabulary Test). Information on caregivers' proficiency and children's home input situations was assessed using an electronic questionnaire on the basis of already existing questionnaires (ALDeQ; BiLEC; Language Mixing Scale). Linear mixed regression analyses showed that the amount of native Dutch input at home by children's caregivers was a significant predictor of children's vocabulary knowledge. The amount of total Dutch input at home by children's caregivers was also a significant predictor of children's vocabulary knowledge. Neither the amount of intrasentential code-switching (within a sentence) nor the amount of intersentential codeswitching (between sentences) provided by caregivers came out as a significant predictor of children's vocabulary knowledge. The evidence presented in this study advances our understanding on the relation between input quality factors and bilingual children's language development. Even though speculative and calling for future research, our findings suggest that native input may provide a higher frequency of complex structures and/ or (types of) words necessary for the child to acquire its vocabulary items. With regard to CS, caregivers may have underestimated and/ or underreported on their use of CS due to the lack of awareness about the frequency of their own CS behavior. Whereas some earlier studies point towards a negative effect of caregivers' use of CS on children's language skills, we cannot provide evidence for this notion.

## References

David, A., \& Wei, L. (2008). Individual differences in the lexical development of French-English bilingual children. International Journal of Bilingual Education and Bilingualism, 11(5), 598618. https://doi.org/10.1080/13670050802149200

Driessen, G., Van der Slik, F., \& De Bot, K. (2002). Home language and language proficiency: A large-scale longitudinal study in Dutch primary schools. Journal of Multilingual and Multicultural Development, 23(3), 175-194. https://doi.org/10.1080/01434630208666464
Fernald, A. (2006). When infants hear two languages: Interpreting research on early speech perception by bilingual children. In P. McCardle \& E. Hoff (Eds.), Childhood bilingualism: Research on infancy through school age (pp. 19-29). Multilingual Matters.
Hoff, E., Core, C., Place, S., Rumiche, R., Señor, M., \& Parra, M. (2012). Dual language input and early bilingual development. Journal of Child Language, 39(1), 1-27. https://doi.org/10.1017/S0305000910000759
MacLeod, A. A. N., Fabiano-Smith, L., Boegner-Pagé, S., \& Fontolliet, S. (2012).Simultaneous bilingual language acquisition: The role of parental input on receptive vocabulary development. Child Language Teaching and Therapy, 29(1), 131-142. https://doi.org/10.1177/0265659012466862
Poplack, S. (2015). Code-Switching: Linguistic. In N. J. Smelser \& B. Baltes (Eds.), International encyclopedia of social and behavioral sciences (pp. 2062-2065). Elsevier Science.
Thordardottir, E. (2011). The relationship between bilingual input and vocabulary development. International Journal of Bilingualism, 15(4), 426-445. https://doi.org/10.1177/1367006911403202

# BiMo: Bilingualism in Monolingual Contexts 

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BiMo (Bilingualism in Monolingual Contexts) is a research and innovation EU funded project (2020-1-ES01-KA201-081917) that delves into the needs of the main stakeholders involved in bilingual programmes: school administrators, teachers and families. BiMo centers on one of these groups that undoubtedly plays a prominent role in this issue of learning a foreign language and which, however, is often left out of the decision-making organizational circles and also of the academic research that is carried out on the achievements of bilingual education programmes, that is, families.

Parents must constantly make decisions regarding the education of their children (at what age to start learning a second language, how to do it, what educational center to choose, etc.) and in the vast majority of cases it is not an informed decision as parents do not know in advance what it really means to join a bilingual education programme. This situation is particularly serious in the case of societies with a monolingual tradition in which parents, because they do not have prolonged contact with situations of bilingualism/multilingualism in any of its aspects, are liable to make uninformed decisions about the education of their children based on mere impressions and partial information from the social environment.

The objective of BiMo project is to deepen the views, impressions and needs of the families in monolingual societies with implemented bilingual education programmes, and to establish synergies from societies with greater experience in everyday bilingualism and bilingual education programmes in a foreign language. Thus, it is expected to set in motion several lines of action to allow the transfer of information and sharing of experiences between typically bilingual social contexts (in Lithuania and Romania) towards typically monolingual social contexts (in Spain and Italy).

The implementation of this project will contribute to the development of necessary competencies so that the secondary school management teams, bilingual programme coordinators, and teachers in bilingual secondary schools following a CLIL-based model can inform and help families before they enroll their children in bilingual schools. BiMo, following a bottom-up approach, looks into the matter and tries to find solutions for the current situation in monolingual contexts in places like Spain and Italy, where teachers and families are starting to question the positive effects of CLIL programs for the cognitive development of youngsters and their capacities in their first language.

BiMo conducts research in four European countries and will innovate bilingual/multilingual education by producing outstanding free-access resources (MOOCs, a Policy Recommendation Book and a collection of best practice sources).

The purpose of this presentation will be to present BiMo project and enrich the academic discussion on the role of families in bilingual education programs across Europe.
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# Characterizing code-switching in the context of language shift and maintenance across three generations of Mountain Jews in Israel 

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The Mountain Jewish immigrant community (MJ), native of the Eastern Caucasus, is unique in their use of two heritage languages (HLs), Juhuri and Russian, in Hebrew-dominated Israel. The native language of MJs, Juhuri, an endangered language with around 200,000 speakers worldwide, is used along with Russian, the dominant language MJs spoke in former Soviet Union. These languages are used interchangably, thus creating an interesting mix of languages and identities.

The present study explored the linguistic behavior of MJs in the context of immigration and socialization into life in Israel and aimed to tap into code-switching patterns as evidence for language shift and maintenance. Audio recordings were elicited to examine differences in language use across three generations of MJs, two of which immigrated during the 1990s: Generation 1 (G1/aged 60-75), Generation 2 (G2/aged 33-50), and Generation 3 (G3/aged 9-21). Six female G2 participants engaged in 12 conversations, half with G1 (mothers) and half with G3 (children) interlocutors.

Findings show significant cross-generational differences, where the use of both Russian and Juhuri decreases across generations along with a consistent increase in the use of Hebrew. G1 speakers have little or no proficiency of Hebrew. Russian was the language used most, primarily by G1 speakers followed by G2 speakers. Maintenance of Juhuri was, by and large, found only among G1 participants, mostly in code-switching (CS) from Russian with G2 speakers. G2 speakers mostly retain Juhuri as a HL for comprehension, while G3 speakers abandon it completely.

Language shift to Hebrew is evidenced in CS directionality, which occurred mainly from Russian to Juhuri among G1 speakers, whereas among G2 speakers CS was primarily from Russian to Hebrew. CS was almost absent in the speech of G3 speakers, most of whom comprehend Russian but are virtually monolingual in Hebrew; only occasional switching to Russian was found among two participants in this group. CS was interpreted as a basis for construction of social identity, as a means to adjust social distance and affiliation, and in order to establishing interspeaker accommodation.

Language shift and maintenance account for the loss of Juhuri, beginning with restricted demographics in Israel and culminating in the lack of new Juhuri-speaking immigrants since the early 2000s. The two HLs, particularly Juhuri, were observed as the primary representative tools of participants' collective and individual identity, and CS is seen as enabling speakers to set communal boundaries and highlight their ethnocultural background by means of speech accommodation.

## References

Borjian, H., \& Kaufman, D. (2016). Juhuri: From the Caucasus to New York City. International Journal of the Sociology of Language, 2016(237), 59-74.
Bram, C. (2008). The language of Caucasus Jews: Language preservation and sociolinguistic dilemmas before and after the migration to Israel. Irano-Judaica, 6, 337-351.
Fishman, J. A. (1991). Reversing language shift: Theoretical and empirical foundations of assistance to threatened languages (Vol. 76). Multilingual matters.

Fishman, J. A. (2013). Language maintenance, language shift, and reversing language shift. In T. K. Bhatia \& W. C. Ritchie (Eds.), The handbook of bilingualism and multilingualism (pp. 406436). Malden, MA: Blackwell.

Giles, H., Bourhis, R. Y., \& Taylor, D. M. (1977). Towards a theory of language in ethnic group relations. In H. Giles (Ed.), Language, ethnicity, and intergroup relations (pp. 307-348). London: Academic Press.
Giles, H (2001). Ethnolinguistic vitality. In R. Mesthrie(Ed.), Concise Encyclopaediaof Sociolinguistics(pp. 472-473). Oxford: Elsevier.
Giles, H. (2016). Communication accommodation theory.The international encyclopedia of communication theory and philosophy, 1-7.
Pauwels, A. (2005). Maintaining the community language in Australia: Challenges and roles for families. International Journal of Bilingual Education and Bilingualism, 8(2-3), 124-131.
Tajfel, H. (1981).

# Visual Multilingualism in China's International Cities: A Language Policy Perspective 

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The research on linguistic landscape (LL), namely the written language displayed in public space, has become a thriving strand of inquiry in sociolinguistics to scrutinize and interpret societal multilingualism in urban contexts. In this paper, language policy issues concerning visual multilingualism in the topdown LL of international cities in China are investigated to reveal the official language ideologies under the influence of globalization. Language ideology constitutes the deeply held attitudes and assumptions about what has been believed to be an appropriate language choice or practice in a community or a context of communication (Spolsky, 2009). As Krzyżanowski and Wodak (2011:168) state, language policies as the sum of decisions about and practices related to language are "always inherent representations of different language ideologies". In this study, three first-tier and second-tier cities in Easter China (Shanghai, Hangzhou and Ningbo) were chosen as research sites for LL analysis. Located in the Yangtze River Delta area, one of the most open and economically affluent urban agglomeration in China, these cities are representatives of the modern metropolises in this region. With a view to build up a putative international language environment, the city authorities have implemented policies to emplace Chinese-English bilingual signage in public space. In the sphere of administrative jurisdiction (Lo Bianco, 2010), innumerable language standards, decrees, guidelines or notices are mandated and language correction campaigns are launched to regulate and standardize the language (particularly English) uses in the LL. Code frequency analysis of the public signs collected in the central district of each city shows that the intensity of bilingual signs is high: over $40 \%$ of the public signs display Chinese and English, with Chinese as preferred code and English as secondary code. The findings suggest that LL has been mediated for image construction and visual multilingualism has become the de facto policy in international cities. The language ideologies that emerge in the visual multilingualism policies and practices include, among many others, the internationalization as Englishization ideology, standard language policy, and linguistic purism ideology. It is argued that valorising English lettering in the LL of international cities brings to light the state's keen anticipation for international recognition and integration in the official ideologies, yet the symbolic efforts merely create a marketing-driven "fake multilingualism" (Kelly-Holmes, 2005), which may have far-reaching implications for the language ecologies of the country.

## References

Lo Bianco, J. (2010). The importance of language policies and multilingualism for cultural diversity. International Social Science Journal, 61(199), 37-67.
Kelly-Holmes, H. (2005). Advertising as Multilingual Communication. London: Palgrave Macmillan.
Krzyżanowski, M., \& Wodak, R. (2011). Political strategies and language policies: the European Union Lisbon strategy and its implications for the EU's language and multilingualism policy. Language Policy, 10(2), 115-136.
Spolsky, B. (2009). Language Management. Cambridge: Cambridge University Press.

# Relative clauses in heritage Romanian in a French-dominant context 

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According to Montrul's (2016) Incomplete Language Acquisition Hypothesis (ILAH), structures acquired late by monolinguals are even more vulnerable in heritage languages (HL); their acquisition will be incomplete. Crosslinguistic research identified an asymmetry between subject and direct object relatives (SR/DOR) in L1. DORs emerge later than SRs, are more difficult to produce and comprehend. However, Polinsky (2008), Marinis, Özge (2020) report findings which challenge ILAH. Heritage speakers (HS) of Russian and of Turkish with English as the majority language comprehend relative clauses (RC) early in spite of the differences between RCs in the HL and in the ML.

This study investigates the use of RCs in heritage Romanian with French ML, an understudied context (Soare 2020). We analyse RC production in order to test the predictions of ILAH: (i) RCs in the HL should emerge later than in monolingual development; (ii) performance should deteriorate as an effect of increased exposure to the majority language.

We used an elicited preference task (a replica of Novogrodsky, Friedmann 2006), designed within COST A33, previously used for Romanian in Sevcenco et al. (2013), with 20 test items ( 10 SR and 10 DR ).

18 HSs of Romanian ${ }^{1}$ dominant in French (mean age 8;11), born in France, in Romanian families, took part in the study. The results were compared to a group of monolinguals and to data previously reported for Romanian adults.

SRs and DORs are indeed acquired later by the HSs, with a more significant delay for DORs. Before age 8 , even SRs are problematic. The younger HSs ( 7 children, mean age $6 ; 6$ ) produced $62.8 \%$ SRs (n $=44$ ), whereas the monolinguals ( 7 children, mean age $6 ; 6$ ) produced a SR $95.7 \%(n=67)$. DORs are more delayed. HSs produced DORs $14.3 \%(\mathrm{n}=10)$ whereas the monolinguals produced DOR $50 \%$ $(\mathrm{n}=35)$ of the time. Contrary to the predictions of ILAH, no deterioration of RC production was found with age. The older group of HSs ( 11 children, mean age $12 ; 7$ ) produced $95.5 \%$ SRs and $31.8 \%$ DORs. Though the rate of DORs is low, it is in line with the results of the monolingual group, who produced an even lower rate of DORs (similar to what was reported for Romanian adults, Sevcenco et al. 2013). The analysis of errors revealed the same pattern with both groups. The DOR avoidance strategies are the same: SRs are used instead of DORs. But the HSs also produced SRs which "copied" the se-faire causative RCs in French.

In line with previous studies, our findings show that complex syntactic structures can be acquired in spite of the impoverished input which HSs receive, though at a lower pace and are prone to crosslinguistic interference effects.

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## References

Marinis, T., Özge, D. (2020) How do bilingual children acquire complex syntax in their heritage vs. the majority language: Turkish-English speaking children in the UK. Lecture given on 3.11.2020 as part of The Multilingual Mind: Lecture series on multilingualism across disciplines.
Novogrodsky, R.N., Friedmann, N. (2006) The production of relative clauses in SLI: A window to the nature of impairment. Advances in Speech-Language Pathology 84: 364-375.
Polinsky, M. (2008) Relative clauses in heritage Russian: Fossilization or divergent grammar? Formal Approaches to Slavic Linguistics (FASL), 16.
Sevcenco, A., Stoicescu, I., Avram, L. (2013) Subject and direct object relative clause production in child Romanian. In L. Avram, A. Sevcenco (eds.) Topics in language acquisition and language learning in a Romanian context, 51-86. Bucharest: Editura Universităţii din Bucureşti.
Soare, E. (2020) Remarks on the Case system of Heritage Romanian with French as a dominant language. Talk given at the Workshop on Heritage Language Syntax 1, Utrecht, October 12-16, 2020.

# Subject realization in heritage Polish: A comparison of different age groups 

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The choice of referential expressions has been identified as a challenging domain for heritage speakers (HS) because it requires the integration of syntactic, pragmatic and discourse information. A lot of studies revealed that HS tend to overuse overt subjects in pro-drop heritage languages (HL). This has been found for many Romance HL, Greek, Turkish or Russian (e.g. Montrul 2004; Serratrice et al. 2004; Haznedar 2010; Tsimpli et al. 2004; Ivanova-Sullivan 2014). However, some studies have found no evidence for the overuse of overt subjects in child (Wolleb 2013) or adult HS (Nagy et al. 2011; Schmitz et al. 2016). A possible reason for this inconclusive evidence might be the fact that the studies mostly focus on only one age group of heritage speakers (children or adults). For other domains at the syntax/discourse interface (e.g. word order) it has been claimed that non-target like structures in HL development may disappear over time (cf., e.g., Kupisch 2014).

To check this hypothesis, the present study looks at the use of null and overt subjects in different age groups of Polish HS in Germany, thus contributing new data from a hitherto understudied language combination. Polish represents a pro drop-language, while German is a topic drop-language. The data come from elicited oral speech. The age groups covered in the analysis include: (i) children between $4 ; 11$ and $6 ; 11(n=14)$; (ii) children between $7 ; 2$ and $9 ; 11(n=24)$; (iii) children between $10 ; 2$ and $13 ; 11$ ( $\mathrm{n}=19$ ); (iv) teenagers from 15 to 17 years ( $\mathrm{n}=15$ ) and (v) (young) adults from 18 to $36(\mathrm{n}=30)$. The groups were additionally split according to their age of onset of the acquisition of the majority language German into simultaneous ( $\mathrm{n}=61$ ) and early sequential bilinguals ( $\mathrm{n}=41$ ). They were compared to two age groups of Polish monolinguals who were exposed to the same tasks (group 1: 4-12 years, $n=20$; group 2: 19-38, $n=30$ ).

A preliminary study on a smaller subsample showed that the child and adolescent Polish HS did not use more overt subjects when compared to their age-matched monolingual peers. Only within the group of adults we found a significant overuse of overt subjects compared to monolingual adults (see Fig. 1).

Figure 1: Relative frequency of null and pronominal subjects in different age groups of Polish heritage speakers (HS) in Germany and monolingual (Mono) Polish peers


These findings support that distributional patterns of overt and null subjects may change over time. In line with Silva-Corvalán (2014) we propose an account that identifies ongoing attrition of the null subject parameter due to cross-linguistic influence from German as the main reason for the overuse of overt subjects by our oldest HSs. Our data, however, offer no support for an effect of AoO on subject realization in heritage Polish.

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## References

Haznedar, B. (2010). Transfer at the syntax-pragmatics interface: Pronominal subjects in bilingual Turkish. Second Language Research, 26(3), 355-378.
Ivanova-Sullivan, T. (2014). Theoretical and experimental aspects of syntax-discourse interface in heritage grammars. Leiden: Brill.
Kupisch, T. (2014). Adjective placement in simultaneous bilinguals (German-Italian) and the concept of cross-linguistic overcorrection. Bilingualism: Language and Cognition, 17, 222-233.
Montrul, S. (2004). Subject and object expression in Spanish heritage speakers: A case of morphosyntactic convergence. Bilingualism: Language and Cognition, 7, 125-142.
Nagy, N. G., Aghdasi, N., Denis, D., \& Motut, A. (2011). Null subjects in heritage languages: effects in a cross-linguistic context. University of Pennsylvania Working Papers in Linguistics, 17(2), 135-144.
Schmitz, K., Di Venanzio, L., \& Scherger, A.L. (2016). Null and overt subjects of Italian and Spanish heritage speakers in Germany. Lingua, 180, 101-123.
Serratrice, L., Sorace, A. \& Paoli, S. (2004). Cross-linguistic influence at the syntax-pragmatics interface: Subjects and objects in Italian-English bilingual and monolingual acquisition. Bilingualism: Language and Cognition, 10(3), 225-238.
Silva-Corvalán, C. (2014). Bilingual Language Acquisition: Spanish and English in the First Six Years. Cambridge: CUP.

Tsimpli, I., Sorace, A., Heycock, C., \& Filiaci, F. (2004). First language attrition and syntactic subjects: A study of Greek and Italian near-native speakers of English. International Journal of Bilingualism, 8(3), 257-277.
Wolleb, A. (2013). Referring expressions in the narratives of Italian-English bilingual children. Studia Linguistica, 67(1), 28-46.

# Optionality in generational attrition: Italian clitic pronouns in first language attriters and heritage speakers 

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Use of clitic pronouns in Italian is an area of variability in several linguistic circumstances, from clinical grammars such as Developmental Language Disorder (DLD), for which it is an early marker (Bortolini et al. 2006, Arosio et al. 2014), to multilingual speakers (Vender et al. 2016, Garraffa et al. 2019). Numerous studies on attriters and heritage speakers show that the grammars of these bilingual speakers present signs of attrition on some syntactic elements, particularly when they allow for alternative structures (Tsimpli \& Sorace 2006; Sorace 2011), for instance allowing more optionality for overt subject pronouns in null subject languages (Chamorro \& Sorace 2019) and omitting object pronouns more frequently than their monolingual peers (Serratrice, Sorace \& Paoli 2004).

The present study is a comprehensive assessment of Italian clitic pronouns in two bilingual groups, aiming to explore the role of complexity in the choice of alternative structures. The two groups, namely first-generation Italian speakers and second-generation (heritage) Italian speakers living in an Englishspeaking environment, can be thought to belong to a bilingual continuum, where attriters provide heritage speakers with the input that determines the acquisition of their heritage language (Kupisch \& Rothman 2018). The assessment consists in a sentence-picture matching task for comprehension of DO clitics, and a set of elicitation tasks targeting an array of clitic pronouns on a gradient of complexity: direct object $(\mathrm{DO})>$ indirect object $(\mathrm{IO})>$ double-object clitic ( $1^{\text {st } / 2^{\text {nd }}}$ person and $3^{\text {rd }}$ person).

Results show that the abstract representation of the clitic is available to both attriters and heritage speakers, as proven by the ceiling performance on comprehension tasks and the absence of errors of feature and placement on the clitics; first generation Italian speakers frequently produce this element when it is a single argument, but infrequently cliticise two arguments at the same time. On the other hand, second generation Italian speakers always show a preference for the production of lexical NPs the majority of the time regardless of the type of clitic elicited, thus maintaining the canonical argument structure, and rarely produce clitic combinations. Importantly, when clitics are produced by this population, few mistakes on features and no mistakes of misplacement are made. Our data shows that, if a structure allows for optionality and requires a syntactic operation, bilingual speakers will prefer the less computationally demanding alternative in production in different capacities according to the group, but, regardless of the group, they will not make structural mistakes.

## References

Arosio, F., Branchini, C., Barbieri, L., Guasti, M. T. (2014). Failure to produce direct object clitic pronouns as a clinical marker of SLI in school-aged Italian speaking children. Clinical Linguistics \& Phonetics 28, 639-663.
Bortolini, U., Arfé, B., Caselli, M. C., Degasperi, L., Deevy, P., \& Leonard, L. B. (2006). Clinical markers for specific language impairment in Italian: The contribution of clitics and non-word repetition. International Journal of Language and Communication Disorders 41, 695-712.

Chamorro, G., \& Sorace, A. (2019). The interface hypothesis as a framework for studying L1 attrition. In M. S. Schmid \& B. Köpke (Eds.), The Oxford handbook of language attrition. Oxford: Oxford University Press.
Garraffa, M., Vender, M., Sorace, A., \& Guasti, M. T. (2019). Is it possible to differentiate multilingual children and children with DLD? Languages, Society and Policy, 1-8.
Kupisch, T., \& Rothman, J. (2018). Terminology matters! Why difference is not incompleteness and how early child bilinguals are heritage speakers. International Journal of Bilingualism 22(5), 564-582.
Serratrice, L., Sorace, A., \& Paoli, S. (2004). Subjects and objects in Italian-English bilingual and monolingual acquisition. Bilingualism: Language and Cognition 7, 183-206.
Sorace, A. (2011). Pinning down the concept of "interface" in bilingualism. Linguistic approaches to bilingualism 1(1), 1-33.
Tsimpli, I., \& Sorace, A. (2006). Differentiating interfaces: L2 performance in syntax-semantics and syntax-discourse phenomena. In BUCLD Proceedings 30.
Vender, M., Guasti, M.T., Garraffa, M. \& Sorace, A. (2016). How early L2 children perform on Italian clinical markers of SLI: a study of clitic production and nonword repetition. Clinical linguistics and phonetics 30(2), 150-169.

# The central processing bottleneck during word production: Comparing simultaneous interpreters, bilinguals and monolinguals 

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Simultaneous interpreters are a special group of bilinguals who frequently perform complex linguistic tasks in real time. When performing simultaneous interpretation (SI), they not only perceive information when interpreting one language into another but also perform processes such as comprehension and memorization. To account for this performance, Gile (2009) suggests that interpreters allocate limited cognitive capacity to concurrent tasks. When the total capacity required by the tasks exceeds the limitations, the performance will be affected. In other words, the process of tasks can be parallel, consistent with the capacity-sharing assumption suggested by Tombu and Jolicoeur (2003).

However, some studies have shown that people cannot conduct another task while speaking, which against the parallel processing hypothesis (Cook \& Meyer 2008; Declerck \& Kormos 2012). Ferreira and Pashler (2002) found that people cannot perform a non-linguistic task when producing a word, indicating that language production shares the central processing mechanism, which can process one task at a time, with some processes underlying non-linguistic tasks. That is, the process of tasks cannot be parallel but in serial.

When considering the fluent and clear interpretations interpreters provide while listening to the speaker, it is hard to believe that they are also subject to this structural limitation. Therefore, this study investigated whether professional simultaneous interpreters perform multiple tasks simultaneously or whether they are affected by the central processing bottleneck during language production.

The study compared the performance of professional simultaneous interpreters, bilinguals, and monolinguals. Each group has 30 participants, and each interpreter has one carefully matched counterpart in each group with age, gender, and language pairs (except monolinguals who speak only English). Interpreters in this study have at least five years of SI work experience. All participants performed a dual-task separated by stimulus onset asynchronies (SOA. 50, 150 and 900 ms ). The picture naming task in sentence context that requires a verbal response presented first, followed by a tone discrimination task that requires a button-press response. This study manipulated the sentence constraint (medium vs low) and the frequency of picture names (high vs low).

The robust psychological refractory period effect was found in all three groups, showing that the reaction times to the second task were postponed at the shortest SOA compared to at the longest. These results showed that interpreters, highly proficient bilinguals, and English monolinguals are subject to the central processing bottleneck and cannot conduct another task while speaking.

## Note:

The work has been published in the journal Bilingualism: Language and Cognition.

## References

Cook, A. E., \& Meyer, A. S. (2008). Capacity demands of phoneme selection in word production: New evidence from dual-task experiments. Journal of Experimental Psychology: Learning, Memory, and Cognition, 34(4), 886 - 899.
Declerck, M., \& Kormos, J. (2012). The effect of dual task demands and proficiency on second language speech production. Bilingualism: Language and Cognition, 15(4), 782-796.
Ferreira, V. S., \& Pashler, H. (2002). Central bottleneck influences on the processing stages of word production. Journal of Experimental Psychology: Learning, Memory, and Cognition, 28(6), 1187-1199.
Gile, D. (2009). Basic concepts and models for interpreter and translator training. Amsterdam: John Benjamins.
Tombu, M., \& Jolicoeur, P. (2003). A central capacity sharing model of dual-task performance. Journal of Experimental Psychology: Human Perception and Performance, 29(1), 3.

# Connecting Top-down and Bottom-up Processing in Reading Comprehension - Lexical Inferencing and Comprehension of Text 

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This research investigates how reading comprehension and inferencing unknown words in context can be related. We encourage our students to keep reading without consulting a dictionary in extensive reading. They are encouraged to keep reading by inferring the meanings of unknown words without explicitly confirming the accurate meanings of them. Reading extensively is assumed to enable learners to acquire vocabulary incidentally (Nation \& Waring 2020).

Still, we do not know how incidental learning of new vocabulary words actually occurs. This research examines how lexical inferencing occurs in context and at the same time to what extent learners can grasp the meanings of the text being processed. Fifty-nine university students learning English at the intermediate level participated in the experiment. They were asked to infer the meanings of nonwords in the context of 4000 -word level narrative texts and responded in both L1, i.e., Japanese, and L2. Non-words were used to control any possible variable contributions made by varied lexical knowledge. They were also asked to report all the contextual clues they used to attain the inferred meanings. In addition, they wrote a short summary of the passages. This was expected to demonstrate the levels of text comprehension by the participants.

The results of the quantitative analysis revealed that semantic clues within or beyond the sentence level were most frequently used, which could be reasonable for narrative text comprehension. The qualitative analysis on summary writing shows that the achieved levels of lexical inferencing and comprehension of the reading passage demonstrated in summary writing do not match. In other words, some students who are good at lexical inferencing do not necessarily do well on summary writing, and vice versa. Of course, such patterns as those who are good at lexical inferencing do well on reading comprehension and those who are poor at inferencing show poor reading comprehension do exist. These results indicate that the problem of developing L2 reading skills lies in the fact of not being able to appropriately connect lexical inferencing and comprehension of the gist of the reading passage. This means that L 2 readers need to become able to use their lexical inferencing skills to meaningfully connect various parts of the reading passage and attain comprehension of the text (Bialystok 1983; Nagy \& Herman 1987; Sternberg 1987; Nagy \& Scott 2013; Farstrup \& Samuels 2008). In other words, connecting top-down and bottom-up processing needs to be done.

The results obtained in the present research have numerous implications for further developing the pedagogy of reading comprehension and ultimately vocabulary build up. More research is needed to combine the effects of lexical inferencing and the process of understanding the gist of a text.

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## References

Bialystok, E. (1983). Inferencing: Testing the "Hypothesis-testing" Hypothesis. In H. W. Seliger \& M. H. Long (Eds.), Classroom Oriented Research in Second Language Acquisition. (pp. 104124). Rowley, Massachusetts: Newbury House.

Farstrup, A. E. \& Samuels, S. J. (Eds.). (2008). What Research Has to Say About Vocabulary Instruction. Newark, Delaware: International Reading Association.
Nagy, W. E. \& Herman, P. A. (1987). Breadth and Depth of Vocabulary Knowledge: Implications for Acquisition and Instruction. In M. G. McKeown \& M. E. Curtis (Eds.), The Nature of Vocabulary Acquisition. (pp. 19-35). Hillsdale, New Jersey: Lawrence Erlbaum Associates.
Nagy, W. E. \& Scott, J. A. (2013). Vocabulary Processes. In D. E. Alvermann, N. J. Unrau, \& R. B. Ruddell (Eds.), Theoretical Models and Processes of Reading. (pp. 458-475). Newark, Delaware: International Reading Association.
Nation, I. S. P. \& Waring, R. (2020). Teaching Extensive Reading in Another Language. New York and London: Routledge.
Sternberg, R. J. (1987). Most Vocabulary Is Learned from Context. In M. G. McKeown \& M. E. Curtis (Eds.), The Nature of Vocabulary Acquisition. (pp. 89-105). Hillsdale, New Jersey: Lawrence Erlbaum Associates.

# Lexical access of trilingual speakers of Brazilian Portuguese, German and English in language comprehension and production 

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Lexical access is a complex process in itself, which, for multilinguals, can become more complex than for bilinguals and monolinguals, due to the greater possibilities of language influence and/or interference among the languages (Szubko-Sitarek, 2015). Therefore, it is assumed, that the processing of one or two languages differs from the process of three or more languages. This assumption is supported by scholars in the area of multilingualism (such as Cenoz, 2008, De Angelis, 2007, Jessner, 2006). The present study investigated whether lexical access of multilinguals is selective or non-selective with respect to language. Two experiments dealing with language comprehension and production were carried out with trilingual speakers of Brazilian Portuguese, German and English. Our main goals were (1) to investigate the effect of triple cognates (among Brazilian Portuguese, German and English) in the comprehension of English as the target language, and (2) to investigate cross language priming in a language production task. The following groups of participants took part in the present study: (1) native speakers of English - the L1G, (2) native speakers of Brazilian Portuguese with English as the L2 - the L2G, and (3), native speakers of Brazilian Portuguese, with German as the L2 and English as the L3 - the L3G. In Experiment 1, data from 35 participants ( $\mathrm{L} 1 \mathrm{G}=11 ; \mathrm{L} 2 \mathrm{G}=11 ; \mathrm{L} 3 \mathrm{G}=13$ ) was analyzed. The experiment consisted of a sentence comprehension task containing cognates among the participants' three languages. This experiment was carried out with the eye tracking technique. Experiment 2, on the other hand, was a picture naming task with the masked priming paradigm and was performed by 41 participants ( $\mathrm{L} 1 \mathrm{G}=13$; $\mathrm{L} 2 \mathrm{G}=12$; $\mathrm{L} 3 \mathrm{G}=16$ ). The results of Experiment 1 showed that triple cognates facilitated the comprehension of English sentences for the L3 group, but not for the L2 and L1 groups, which was interpreted as evidence of the effect of the L2 - German. In Experiment 2, the results showed that when the prime word was presented in German (the L2), there was an increase in reaction time as compared to when the prime word was presented in the L1 (Brazilian-Portuguese) or in the L3 (English). This effect was only observed for the L3G. which was in line with the results of the Experiment 1. The results of this second experiment are also in favor of the effect of the L2 - German in the processing of the L3 - English. The results of the two experiments were interpreted as evidence of non-selective lexical access as well as of a common lexical storage for the trilinguals' languages.

## References

Cenoz, J. (2008). The acquisition of additional languages. ELIA. Spain, v.8, p. 219-224.
De Angelis, G. (2007). The Multilingual Lexicon [Chapter 5]. In Third or additional language acquisition (v. 24, pp.87-108). Clevedon: Multilingual Matters.
Jessner, U. (2006). Linguistic awareness in multilinguals: English as a third language. Edimburgh: Edinburgh University Press Ltd.
Szubko-Sitarek, Weronika. Multilingual lexical recognition in the mental lexicon of third language users. Heidelberg: Springer, 2015.

# Interhemispheric transfer in monolingual and bilingual young and older adults in a divided-field Stroop task 

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The corpus callosum is the largest white matter structure of the human brain, which enables interhemispheric transfer of information. Research has shown that bilinguals have larger anterior regions of the corpus callosum (Felton et al., 2017; Coggins et al., 2004) when compared to monolinguals. Besides, as a potential consequence of age-related thinning of the corpus callosum and therefore less facilitated interhemispheric transfer, older monolingual adults seem to experience less interference from contradicting stimuli when bilaterally displayed (Delvenne \& Castronovo, 2018). The current study aimed to investigate whether bilinguals, due to a larger corpus callosum, would experience more interference from bilaterally displayed contradicting stimuli and whether age-related decline in interference would be reduced by bilingualism. In this divided-field Stroop task, four groups of younger ( $18-25$ years) and older (65-85 years) monolinguals and bilinguals were tested with spatially separated target and distracter stimuli in two similar online experiments. Experiment 1 used word and colour stimuli, while Experiment 2 used number and dots stimuli, to control for the language component of Experiment 1. As expected, all groups showed a significant Stroop effect across both experiments. In Experiment 1, the Stroop effect was the smallest in younger bilinguals, which is in line with the literature (Bialystok et al., 2008), suggesting that even highly fluent bilinguals may read their second language less automatically. Therefore, reading the word while reacting to the colour would not interfere as much in younger bilinguals than in monolinguals. This was confirmed by Experiment 2 when the stimuli did not include any words, as a Stroop effect for younger bilinguals was found in this task. For the older bilinguals, the Stroop effect was significantly larger in the bilateral condition than in the unilateral condition, while there was no difference between the two for all other groups. As hypothesised, this suggests that older bilinguals experience more interference from contradicting stimuli in the bilateral display when compared to their monolingual peers. This could be explained by increased white matter integrity through lifelong bilingualism (Anderson et al., 2018) and would mean that older bilinguals are less able to inhibit the distracter stimulus in a bilateral display compared to older monolinguals. However, this effect only occurs in Experiment 1, while no differences between groups for the Stroop effect are found in Experiment 2.

## References

Anderson, J. A. E., Grundy, J. G., De Frutos, J., Barker, R. M., Grady, C., \& Bialystok, E. (2018). Effects of bilingualism on white matter integrity in older adults. NeuroImage, 167, 143-150.
Bialystok, E., Craik, F. I. M., \& Luk, G. (2008). Cognitive Control and Lexical Access in Younger and Older Bilinguals. Journal of Experimental Psychology, 34(4), 859-873.
Coggins, P. E., Kennedy, T. J., \& Armstrong, T. A. (2004). Bilingual corpus callosum variability. Brain and Language, 89, 69-75.
Delvenne, J.-F., \& Castronovo, J. (2018). Reduced inter-hemispheric interference in ageing: Evidence from a divided field Stroop paradigm. Brain and Cognition, 122, 26-33.
Felton, A., Vazquez, D., Ramos-Nunez, A. I., Greene, M. R., Macbeth, A., Hernandez, A. E., \& Chiarello, C. (2017). Bilingualism influences structural indices of interhemispheric organization. Journal of Neurolinguistics, 42, 1-11.

# Living apart together. A critical review of the ways in bilinguals mix and separate their languages in code-switching and translanguaging 

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One of the most remarkable characteristics of bilinguals is that they can inhibit one language while speaking another one, as well as effortlessly switch between two languages, and mix these, when the situation allows it. Transgressing the boundaries between the language systems is key to some forms of code-switching, but in other types, the languages appear to be "living apart together", maintaining a close but distant relationship. Under these circumstances, inhibition can appear to be almost perfect in that virtually no traces of the inhibited language appear in monolingual stretches of the target language, at least for a particular stretch of discourse. Accounting for the contrasts between both abilities of bilinguals (mixing as well as inhibition) is very challenging for linguistic and psycholinguistics theories. The many studies on translanguaging that have appeared in recent years have also made it clear that the issue of (the lack of) separability of language systems in multilinguals needs to be addressed. However, the issue of separability should be seen in relation to the (actual or assumed) similarity between languages. In this paper I will review the evidence for and against separation in the available literature on code-switching and translanguaging among children as well as adults. My own view is that language systems are never completely separate, nor completely integrated, and that a more fine-grained approach to the issue is needed. I hope to propose such an approach in my paper.

# Bilingual advantages in L3 learning: The role of informal L3 exposure 

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Folk wisdom has it that it is easier to learn foreign languages if you have been raised bilingually, but research evidence is controversial. Factors that have been proposed to explain the conflicting findings include typological proximity, home language status and bilingual proficiency/literacy. We argue that prior research has overlooked one crucial variable: differences in out-of-school exposure to L3. Bilinguals may receive less out-of-school exposure to English as a Foreign Language (EFL) because their time is already divided between two languages. Alternatively, bilinguals may receive more informal EFL exposure if parents in mixed marriages communicate in English. In this talk we report two studies comparing monolinguals and bilinguals learning EFL in the Netherlands.

Study 1 compared EFL skills of typically-developing monolingual Dutch ( $\mathrm{N}=31$ ) and bilingual TurkishDutch children ( $\mathrm{N}=30$ ) in the first two years of secondary education (age 12-14). The Peabody Picture Vocabulary Test (Dunn \& Dunn, 2007) and the Litmus Sentence Repetition Task (Marinis \& ArmonLotem, 2015) were administered to measure EFL proficiency. A language exposure questionnaire adapted from PABIQ (Tuller, 2015) was filled in by the parents. On both measures we found a significant Group*Exposure interaction ( $\beta_{P P V T}=-2.79, S E=0.72, t=-3.88, p<.001 ; \beta_{S R T}=-0.59, S E=$ $0.22, t=-2.70, p=.01$ ). Bilinguals with little informal exposure to English performed worse than monolinguals, but bilinguals with more EFL exposure outperformed their monolingual peers.

Study 2 focussed on EFL learning by monolingual ( $\mathrm{N}=49$ ) and bilingual ( $\mathrm{N}=22$ ) children with developmental language disorder in the last three years of special primary education (age 9-12). The bilingual participants spoke a variety of home languages. The English tests included a Receptive Vocabulary Task and a Grammar Test. An exposure questionnaire designed for the purposes of this study was also administered to the children. Bilinguals outperformed monolinguals on the Grammar Test, even if differences in out-of-school exposure were taken into account $(\beta=-0.52, S E=0.21, z=-$ $2.44, p=.01$ ). Bilinguals also outperformed monolinguals on the Receptive Vocabulary Task, but the differences disappeared once informal exposure to English was controlled for $(\beta=2.22, S E=1.44, z=$ $1.55, p=.12$ ). Furthermore, there was a significant Group*Exposure interaction ( $\beta=-0.22, S E=0.11$, $z=-2.06, p=.04$ ) revealing that a greater amount of informal EFL exposure benefitted bilinguals more than monolinguals.

Taken together the findings demonstrate that (i) not taking the amount of informal EFL exposure into account may lead to either false positives or false negatives as far as bilingual advantage in L3 learning is concerned; and (ii) bilingualism may be associated with enhanced input processing capacities (bilinguals benefit more from higher EFL exposure than monolinguals).

## References

Dunn, D. M., \& Dunn, L. M. (2007). Peabody Picture Vocabulary Test - 4. AGS.

Marinis, T., \& Armon-Lotem, S. (2015). Sentence repetition. In S. Armon-Lotem, J. de Jong, \& N. Meir (Eds.), Assessing multilingual children: Disentangling bilingualism from language impairment (pp. 95-121). Multilingual Matters.
Tuller, L. (2015). Clinical use of parental questionnaires in multilingual contexts. In S. Armon-Lotem, J. de Jong, \& N. Meir (Eds.), Assessing multilingual children: Disentangling bilingualism from language impairment (pp. 301-330). Multilingual Matters.

# Cross-linguistic influence in bilingual French-Dutch children: Evidence from between-language structural priming 

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Background Many bilingual children regularly produce utterances in one language influenced by the other. For example, in both elicited and spontaneous speech, Romance-Germanic bilingual children have been found to produce ungrammatical N (oun)-Adj(ective) structures in their Germanic language (e.g., "apple ${ }_{\mathrm{N}}$ green $_{\mathrm{ADJ}}$ ") influenced by their Romance language (e.g., "pomme ${ }_{\mathrm{N}}$ verte ${ }_{\mathrm{ADJ}}$ ") (Nicoladis, 2006; van der Linden \& Blok-Boas, 2005). Such cross-linguistic influence (CLI) has also been primed (Hsin et al., 2013). Indeed, between-language structural priming has recently been proposed as the mechanism underpinning CLI in bilingual children (e.g., Hervé et al., 2016; Serratrice, 2016). On this account, bilingual children share syntactic representations across languages, similarly to bilingual adults (Hartsuiker et al., 2004). For adults, shared syntax - and hence between-language priming - has been shown to develop as a function of proficiency (Hartsuiker \& Bernolet, 2016). Furthermore, such sharing has been claimed to include structures which are grammatical in one language but ungrammatical in the other (Hsin et al., 2013; Hwang et al., 2018). To test these claims, this paper investigates (i) to what extent it is possible to prime CLI resulting in ungrammatical structures, and (ii) whether priming of ungrammatical structures is related to proficiency.

Participants \& Method Following Messenger et al. (2011), a "snap" card game was used to prime Adj$\mathrm{N} / \mathrm{N}-$ Adj structures in 24 French-Dutch bilingual children ( $M_{\text {age }}=6.6$ years). Dutch adjectives are prenominal (Adj-N); French adjectives are typically postnominal ( N -Adj), but a number of high frequency adjectives occur prenominally. Children were primed from French to Dutch and vice versa. Both adjective-types were included. Bilingual proficiency was measured by averaging vocabulary scores across both languages.

Results There was a priming effect from French to Dutch: ungrammatical N-Adj orders were more frequent in Dutch after a postnominal prime in French. There was however no priming effect from Dutch to French. In both directions, there was a main effect of adjective-type: postnominal orders were more frequent in both languages for those adjectives which appear postnominally in French. There was no interaction. French-to-Dutch priming was modulated by bilingual proficiency with stronger priming of the ungrammatical N -Adj order associated with lower proficiency.

Discussion Our results replicate previous findings for French-to-Dutch (Hsin et al., 2013) but not from Dutch-to-French (cf. Nicoladis, 2006). Possible explanations include: the rate of ungrammatical orders in the baseline, language dominance, and the fact that Adj-N is a possible order in French but completely ungrammatical in Dutch. Contrary to bilingual adults (Hartsuiker \& Bernolet, 2017), higher proficiency was not associated with greater priming. This suggests ungrammatical structures may not be shared. It also leads us to consider how proficiency can best be operationalized in bilingual children and adults in relation to priming.

## References

Hartsuiker, R. J., \& Bernolet, S. (2017). The development of shared syntax in second language learning. Bilingualism: Language and Cognition, 20(2), 219-234. https://doi.org/10.1017/S1366728915000164
Hartsuiker, R. J., Pickering, M. J., \& Veltkamp, E. (2004). Is syntax separate or shared between
languages? Cross-linguistic syntactic priming in Spanish-English bilinguals. Psychological Science, 15, 409-414. https://doi.org/10.1111/j.0956-7976.2004.00693.x
Hervé, C., Serratrice, L., \& Corley, M. (2016). Dislocations in French-English bilingual children: An elicitation study. Bilingualism: Language and Cognition, 19(05), 987-1000. https://doi.org/10.1017/S1366728915000401
Hsin, L., Legendre, G., \& Omaki, A. (2013). Priming cross-linguistic interference in bilingual children. BUCLD 37: Proceedings of the 37th Annual Boston University Conference on Language Development, (September 2016), 165-177.
Hwang, H., Shin, J. A., \& Hartsuiker, R. J. (2018). Late Bilinguals Share Syntax Unsparingly Between L1 and L2: Evidence From Crosslinguistically Similar and Different Constructions. Language Learning, 68(1), 177-205. https://doi.org/10.1111/lang. 12272
Messenger, K., Branigan, H. P., \& McLean, J. F. (2011). Evidence for (shared) abstract structure underlying children's short and full passives. Cognition, 121 (2), 268-274. https://doi.org/10.1016/j.cognition.2011.07.003
Nicoladis, E. (2006). Cross-linguistic transfer in adjective-noun strings by preschool bilingual children. Bilingualism, $9(01)$, 15. https://doi.org/10.1017/S136672890500235X
Serratrice, L. (2016). Cross-linguistic influence, cross-linguistic priming and the nature of shared syntactic structures. Linguistic Approaches to Bilingualism, 6(6), 822-827. https://doi.org/10.1075/lab.6.6.15ser
van der Linden, E., \& Blok-Boas, A. (2005). Exploring possession in simultaneous bilingualism: Dutch/French and Dutch/Italian. EUROSLA Yearbook, 5(1), 103-135. https://doi.org/10.1075/eurosla.5.07lin

# Cross-linguistic influence on pronoun resolution in simultaneous bilingual Turkish-Dutch children: An eye-tracking study 

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We investigated whether pronoun interpretation preferences from a null subject language, Turkish, influence online and offline pronoun resolution in a non-null subject language, Dutch, in Turkish-Dutch simultaneous bilingual children. Dutch overt pronouns are usually linked to the most accessible referent in the discourse (e.g., Ariel, 2014), which is Anna in (1). In contrast, Turkish overt pronouns typically signal a shift in topic (e.g., Azar \& Özyürek, 2015; Enç, 1986), linking o in (2) either to Sophie or a third unmentioned referent.
(1) Anna ${ }_{i}$ en Sophie $_{k} z i j n$ thuis. Terwijl Annai leest, neemt zij $_{\mathrm{i} k}$ een slokje water. Anna $_{i}$ and Sophiek are home while Anna reads takes she ${ }_{i k}$ a sip water
(2) Anna $a_{i}$ okurken, $\mathrm{o}_{\mathrm{i} 2 \mathrm{k}}$ sudan bir yudum alıyor.

Anna $_{i}$ read sherik water a sip take
It is unknown whether preferences from one language can influence bilingual children's online pronoun resolution preferences in their other language (see Serratrice, 2007, for offline pronoun resolution). In fact, cross-linguistic influence during sentence processing in general is an underexplored area in children (cf. Lemmerth \& Hopp, 2019; van Dijk, Dijkstra, \& Unsworth, under review). Our main aim was, therefore, to test for online cross-linguistic influence during Dutch pronoun resolution in TurkishDutch children. Furthermore, we compared online and offline effects and investigated the role of language dominance. Finally, we tested whether a general bilingualism effect affects children's pronoun interpretations (e.g., Sorace et al., 2009).

We measured 17 Turkish-Dutch children's (age: 7;0-11;0) pronoun interpretation preferences in Dutch sentences such as in (1) using an eye-tracking task (visual world paradigm) combined with a picture selection task. Twenty-two German-Dutch bilingual and 14 Dutch monolingual peers served as control groups. We expected no influence from German as Dutch and German have similar pronoun preferences (e.g., Roberts, Gullberg, \& Indefrey, 2008).

Using mixed effects modelling we found evidence for cross-linguistic influence from Turkish in children's fixations when we took children's language dominance profile into account. The more balanced children were in their languages, as opposed to being Dutch-dominant, the less they fixated on the Turkish-preferred non-topic referent. We observed a similar although non-significant pattern offline. Finally, we found no evidence for a general bilingualism effect online or offline.
Our findings suggest that processing Dutch pronouns activates Turkish overt pronouns and their preferred non-topic interpretation, in line with accounts on non-selective lexical and syntactic access in bilinguals (e.g., Dijkstra \& van Heuven, 2002; Hartsuiker \& Bernolet, 2017). Turkish-Dutch children had to inhibit this Turkish co-activation. Consequently, the stronger this inhibition was, the less available the 'Turkish interpretation' became. Furthermore, language dominance mediated the strength of co-
activation, and, consequently, inhibition. This study is one of the first to provide direct evidence of language co-activation during sentence processing in bilingual children.

## References

Ariel, M. (2014). Accessing Noun-Phrase Antecedents (RLE Linguistics B: Grammar) (2nd ed.). Routledge. https://doi.org/10.4324/9781315857473
Azar, Z., \& Özyürek, A. (2015). Discourse management: Reference tracking in speech and gesture in Turkish narratives. Dutch Journal of Applied Linguistics, 4(2), 222-240. https://doi.org/10.1075/dujal.4.2.06aza
Dijkstra, T., \& van Heuven, W. J. B. (2002). The architecture of the bilingual word recognition system: From identification to decision. Bilingualism: Language and Cognition, 5(3), 175-197. https://doi.org/10.1017/s1366728902003012
Enç, M. (1986). Topic Switching and Pronominal Subjects in Turkish. In D. I. Slobin \& K. Zimmer (Eds.), Studies in Turkish Linguistics (pp. 195-209). https://doi.org/10.1075/tsl.8.11enc
Hartsuiker, R. J., \& Bernolet, S. (2017). The development of shared syntax in second language learning. Bilingualism: Language and Cognition, 20(2), 219-234. https://doi.org/10.1017/S1366728915000164
Lemmerth, N., \& Hopp, H. (2019). Gender processing in simultaneous and successive bilingual children: Cross-linguistic lexical and syntactic influences. Language Acquisition, 26(1), 21-45. https://doi.org/10.1080/10489223.2017.1391815
Roberts, L., Gullberg, M., \& Indefrey, P. (2008). Online Pronoun Resolution in L2 discourse: L1 influence and general learner effects. Studies in Second Language Acquisition, 30(3), 333-357. https://doi.org/ 10.1017/S0272263108080480
Serratrice, L. (2007). Cross-linguistic influence in the interpretation of anaphoric and cataphoric pronouns in English-Italian bilingual children. Bilingualism: Language and Cognition, 10(3), 225-238. https://doi.org/10.1017/S1366728907003045
Sorace, A., Serratrice, L., Filiaci, F., \& Baldo, M. (2009). Discourse conditions on subject pronoun realization: Testing the linguistic intuitions of older bilingual children. Lingua, 119(3), 460-477. https://doi.org/10.1016/j.lingua.2008.09.008
van Dijk, C., Dijkstra, T., \& Unsworth, S. (under review). Cross-linguistic influence during online sentence processing in bilingual children. Bilingualism: Language and Cognition.

# Rapid naming skills in monolingual and bilingual children with and without developmental dyslexia 

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This study aims at analyzing rapid naming skills in dyslexia and bilingualism, while also addressing the interaction between these two dimensions. Lexical access, typically measured with rapid automatized naming (RAN) tasks in which participants are asked to name as fast and accurately as possible sequences of pictures, colors, digits and letters, is generally found as markedly impaired in developmental dyslexia (Fawcett \& Nicolson, 1994; Swan \& Goswami, 1997). Consistently, rapid naming skills have been reported as a solid predictor of reading abilities (Kirby et al., 2008; Norton \& Wolf, 2012).

Weaknesses in lexical competence are also typically observed in bilingual individuals (Bialystok, 2009; Roberts et al., 2002), although it has been suggested that difficulties are lower with high frequency stimuli and especially with digits and letters, if the bilinguals' vehicular language is tested (Gollan et al., 2005; Wood et al., 2017).

Our study aimed to address the interaction between bilingualism and dyslexia in rapid naming, which has not been tested so far. We developed and administered a task to assess rapid naming abilities in Italian of 111 of 10 -year-old children, divided in 4 groups: 24 monolingual dyslexics, 24 bilingual dyslexics, 33 monolingual controls and 30 bilingual controls. All bilinguals had Italian as a L2. The participants' literacy and language skills were assessed. The RAN task comprised 4 subtests assessing rapid naming of colors, digits, letters and pictures.

Data were analyzed using a series of mixed effect models that included accuracy and logtransformed response time as dependent variables. Results showed that dyslexics, both monolingual and bilingual, were slower than controls; interestingly, however, we found a significant interaction between bilingualism and dyslexia in accuracy, with bilingual dyslexics performing more accurately than monolingual dyslexics. A significant effect of task was also found. More particularly, both groups of dyslexics were slower than controls in naming pictures, colors and digits, showing however a similar (ceiling) accuracy with no differences among groups. In letter naming, instead, both groups of dyslexics were less accurate than controls; in addition, besides the fact that dyslexics were slower than controls, we also found that bilinguals were significantly faster than monolinguals, pointing to an advantage of bilingualism that extends to dyslexia as well.

In conclusion, it is confirmed that lexical access is impaired in dyslexia, with dyslexic children being always slower than controls and also less accurate in letter naming. Moreover, no bilingual deficit was reported in this task: bilinguals always performed similarly to monolinguals and they even showed a higher speed in naming letters in their vehicular language. Finally, bilingual dyslexics performed similarly to monolingual dyslexics with digits, colors and pictures, and they were even faster with letters, confirming that bilingualism does not have a negative effect on dyslexia.

## References

Bialystok, E. (2009). Bilingualism: The good, the bad, and the indifferent. Bilingualism: Language and Cognition, 12(1), 3-11.
Fawcett, A. J., \& Nicolson, R. I. (1994). Naming speed in children with dyslexia. Journal of Learning Disabilities, 27(10), 641-646.
Gollan, T. H., Montoya, R. I., Fennema-Notestine, C., \& Morris, S. K. (2005). Bilingualism affects picture naming but not picture classification. Memory \& Cognition, 33(7), 1220-1234.

Kirby, J. R., Desrochers, A., Roth, L., \& Lai, S. S. V. (2008). Longitudinal predictors of word reading development. Canadian Psychology/Psychologie Canadienne, 49(2), 103-110.
Norton, E. S., \& Wolf, M. (2012). Rapid Automatized Naming (RAN) and Reading Fluency: Implications for Understanding and Treatment of Reading Disabilities. Annual Review of Psychology, 63(1), 427-452.
Roberts, P. M., Garcia, L. J., Desrochers, A., \& Hernandez, D. (2002). English performance of proficient bilingual adults on the Boston Naming Test. Aphasiology, 16(4-6), 635-645.
Swan, D., \& Goswami, U. (1997). Picture Naming Deficits in Developmental Dyslexia: The Phonological Representations Hypothesis. Brain and Language, 56(3), 334-353.
Wood, C. L., Bustamante, K. N., Fitton, L. M., Brown, D. M., \& Petscher, Y. (2017). Rapid Automatic Naming Performance of Young Spanish-English Speaking Children. Languages, 2(3), 13.

# Integration of morphosyntactic information in Heritage Russian: effects of cross-linguistic influence, working memory and extralinguistic factors 

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Heritage Language (hereafter HL) grammars systematically differ from the baseline grammar, i.e., grammars of monolingual or bilingual speakers who are dominant in that language (Benmamoun, Montrul, \& Polinsky 2013; Montrul, 2016, Polinsky, 2018; Rothman, 2009). HL grammars might undergo restructuring (Meir \& Polinsky, 2019). Mechanisms of HL grammar variations are still debated (Polinsky, \& Scontras, 2019, 2020). Among the potential sources of variation, previous research suggests (a) cross-linguistic influence from the dominant language, (b) Age of Onset of the Societal language ( AoO ) and (c) processing limitations.
Russian and Hebrew offer a unique opportunity to test how properties of the dominant language might be related to acquisition/ maintenance of HL. In both languages, adjective-noun agreement is presented as well as subject-verb-agreement. However, only Russian shows case concord, while in Hebrew case morphology is sparse. If properties of the dominant language shape HL acquisition / maintenance, based on the Russian and Hebrew, better performance is expected on adjective-noun and subject-verb agreement in HL speakers, while case concord is hypothesized to be more fragile.
The current study presents morpho-syntactic abilities of 76 Russian speakers divided into 4 groups: 1 group of monolingual baseline speakers residing in the former USSR and 3 groups of bilingual RussianHebrew speakers from Israel, who vary in the AoO of Hebrew (before age 5, between 5-13, after age 13). The participants completed an audio grammaticality judgment experiment (GJT). The GJT included three morpho-syntactic phenomena (subject-verb agreement, adjective-noun agreement, and case concord) across split and non-split conditions. The three grammatical categories are considered to be early-acquired categories in monolingual Russian-speaking children (see Gvozdev, 1961).
The results were analyzed using a mixed effects modeling with morpho-syntactic category (adjectivenoun agreement, case concord and subject-verb agreement), Split (split vs. non-split) and Grammaticality (grammatical vs. ungrammatical). All the groups were less accurate on split constructions, in which the agreeing elements were separated by an intervening phrase. On all three conditions, early HL speakers (i.e., speakers with AoO before 5) showed lower performance and differed from the monolingual baseline controls as well as late HL speakers (AoO between 5-13) and bilingual Russian-Hebrew baseline bilinguals (with AoO after 13). The latter three groups showed comparable results. Early HL speakers showed higher performance on subject-verb agreement, compared to adjective-noun agreement and case concord.
To conclude, the results confirmed vulnerability of morpho-syntax in HL speakers with early AoO, pointing at the key role of AoO in HL development. Increased processing load affected the performance of all speakers. With respect to cross-linguistic influence, the findings showed a more complex picture than predicted. Theoretical implications of HL formation and mechanisms triggering variation will be discussed in the light of the obtained findings.

## References

Benmamoun, E., Montrul, S., \& Polinsky, M. (2013). Heritage languages and their speakers: Opportunities and challenges for linguistics. Theoretical Linguistics, 39(3-4), 129-181.
Gvozdev, A. N. (1961). Voprosy izučenija detskoj reči. Saint Petersburg: Detstvo-Press.
Meir, N., \& Polinsky, M. (2019). Restructuring in heritage grammars: Adjective-noun and numeralnoun expressions in Israeli Russian. Linguistic Approaches to Bilingualism.
Montrul, S. (2016). The acquisition of heritage languages. Cambridge: Cambridge University Press.
Polinsky, M. (2018). Heritage languages and their speakers. Cambridge: Cambridge University Press.
Polinsky, M., \& Scontras, G. (2019). Understanding heritage languages. Bilingualism: Language and Cognition, 22(5), 1-17.
Polinsky, M., \& Scontras, G. (2020). A roadmap for heritage language research. Bilingualism: Language and Cognition, 23(1), 50-55.
Rothman, J. (2009). Understanding the nature and outcomes of early bilingualism: Romance languages as heritage languages. International Journal of Bilingualism, 13(2), 155-163.

# "Turning back the language clock": constructing multilingualism as problem in the Dutch- and French-medium written press in Belgium 

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As "lightning conductor" in socio-economic, demographic and political developments, language profoundly influences Belgium's outlines and polarises the Dutch-speaking Flemish and Frenchspeaking Walloons (Nelde, 1997; Wils, 2005). Throughout the long $19^{\text {th }}$ and $20^{\text {th }}$ century, which represent a tumultuous context of nation building and concordant language-ideological thinking, the tensions between Dutch- and French-speakers were canalised by ideals of strict territorial monolingualism. As a result, there currently is a federal state structure consisting of three language communities and three socio-economic regions shaped by a constitutionally determined language frontier. In the present phase of intense globalisation, however, various forms of societal and individual multilingualism become increasingly visible and challenge the delicately balanced state structures and their foundational ideals.

This presentation focusses on multilingualism as problem constructions (Ruíz 1984; Hult \& Hornberger 2016). Conceiving of the media as a meaningful actor in (re)producing and naturalizing such discourses (e.g. Johnson \& Milani 2009), we aim to answer the following questions: (a) in which news topics emerges the multilingualism as problem orientation in the Dutch- and French-medium written press, (b) by which linguistic strategies is it discursively constructed and (c) which language ideologies echo in these strategies? Following Milroy (2001: 538), we thereby seek to understand the historical and contemporary logic of these ideologies, but also to deconstruct their apparent neutrality and authority, by no means treating them as an idiotic or paranoid illusion.

Using a concordance analysis of 2241 media articles from the GoPressAcademic archive containing the keyword 'multilingualism', we identified 317 occurrences of a language as problem orientation. These are significantly distributed over the Dutch- (233) and French-medium (84) press. The texts in which this orientation is present, are then subjected to a critical and pragmatic analysis based on the principles of the Discourse Historical Approach (Reisigl \& Wodak 2016). The analysis sheds light on the topics these texts exhibit and on the precise linguistic nomination, predication an argumentation of the 'problem'.

Three general systematic patterns appear from the analysis: (1) intensified language and verb passivation that evokes urgency and overwhelm, (2) metaphors and temporal adverbs that display shifting language relations as linear and teleological, and (3) argumentative fallacies presenting mono- and multilingualism as a false dichotomy. This suggests that multilingualism as problem orientations in the Dutch-medium press are deeply rooted in a one nation-one language logic of community language protection that stems from the decades-long emancipatory 'battle' of the Flemish in Belgium. The French-medium press seems to be remarkably aware of this sensitivity and disdainfully presents as 'typically Flemish'. The results, in sum, show how Belgian language discussions have to been seen as the slippery tip of a more complex iceberg of sociohistorical developments between two "fragile majorities" (McAndrew 2010).

## References

Johnson, S., \& Milani, T.M. (Eds.). (2012). Language Ideologies and Media Discourse: Texts, Practices, Politics. London: Continuum.
Hult, F.M., \& Hornberger, N. (2016). Revisiting Orientations in Language Planning: Problem, Right, and Resource as an Analytical Heuristic. The Bilingual Review/La Revista Bilingüe, 33(3), 30-49.
McAndrew, M. (2010). Les majorités fragiles et l'éducation: Belgique, Catalogne, Irlande du Nord, Québec. Montreal: Montreal University Press.
Milroy, J. (2001). Language ideologies and the consequences of standardization. Journal of Sociolinguistics, 5(4), 530-555.
Nelde, P.H. (1997). Language conflict. In F. Coulmas (Ed.), The Handbook of Sociolinguistics (pp. 285-300). Oxford: Blackwell.
Reisigl, M., \& Wodak, R. (2016). The Discourse-Historical Approach. In R. Wodak \& M. Meyer (Eds.), Methods of Critical Discourse Studies (pp. 154-179). London: SAGE.
Ruíz, R. (1984). Orientations in Language Planning. NABE Journal, 8(2), 15-34.
Wils, L. (2005). Van Clovis tot Di Rupo: de lange weg van naties in de Lage Landen. Antwerp/Apeldoorn: Garant.

# Contextual Influences on Syntactic Attachment in L2 Reading 

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The prepositional phrase (PP) 'with the binoculars' in the syntactically ambiguous sentence in (1) can grammatically be attached to either the verb (high attachment) or the second noun (low attachment):

## (1) The man saw the woman with the binoculars

Although high attachment is generally preferred (Rayner et al., 1983), both text-explicit information (the discourse context; Altmann \& Steedman, 1988) and pragmatic information (world knowledge; Schütze \& Gibson, 1999) can guide attachments in native English speakers. However, little is known about $\mathbf{L} 2$ speakers' attachment preferences of globally ambiguous PPs, which may be particularly challenging when different sources of information (text-based, pragmatic) have to be integrated.

We developed a PP attachment task suitable for testing L2 and native speakers of English. Two experiments presented written globally ambiguous sentences with a preceding 2 -sentence discourse context (Fig. 1). Pragmatic information (fishermen more typically have fishing nets than hairdressers) as well as text-explicit information were manipulated to bias either low or high attachment. In addition, we manipulated the structural complexity of the preceding sentences (low vs. high), for instance through a subject vs. an object relative clause. The data were analyzed using linear mixed-effects models.

Experiment 1 aimed to confirm the attachment preferences of native English speakers ( $\mathrm{n}=47$ ) from the literature. The results confirm that overall, native English speakers prefer high attachment ( $69 \%$ high attachment responses). Text-explicit outweighs pragmatic information ( $p<0.001$ ), but low attachment never becomes the preferred option (i.e. all averages favor high attachment). Structural complexity did not affect native speakers' attachments $(p=0.88)$.

Experiment 2 examined the PP attachment preferences in highly proficient L1-Spanish L2-English speakers $(\mathrm{n}=38)$ compared to a new group of L1-English controls $(\mathrm{n}=34)$. Importantly, Spanish also prefers high PP attachment, so no interference from the L1 is expected. We hypothesized that, as opposed to L1 controls, structural complexity will influence L2-English speakers' attachment preferences, in that they will rely more on pragmatic knowledge in complex texts. The results (Fig. 2) show that L1 and L2 speakers show similar effects of text-explicit and pragmatic information ( $p \mathrm{~s}<$ 0.01 ). No main effect of group was found, but a group*complexity interaction indicates that L2 speakers (but not L1 controls) gave more low attachment responses when the structural complexity was high ( $p$ <0.05).

In conclusion, like native English speakers, L1-Spanish L2-English speakers prefer high attachment, but interpretations are flexible and influenced by text-explicit and pragmatic information. L2-English speakers show increased low attachment preferences in structurally complex contexts, but, contrary to our hypothesis, do not rely more on pragmatic knowledge in those instances. Rather, they show an
increased tendency for low attachment, suggesting that processing constraints lead them to the most recent potential attachment site.

The hairdresser that married the fisherman likes to fish.
After the fisherman came back from work, the hairdresser went fishing. The hairdresser caught the fisherman with the fishing net.

Who had the fishing net? $\square$ the fisherman hairdresser

Figure 1. Example item in which the fisherman is biased based on pragmatic information, and the hairdresser is biased based on text-explicit information.


Figure 2. LEFT: Boxplot of the high attachment ratings as affected by pragmatic information (PI) bias and text-explicit (TE) bias from Experiment 2 for L1 controls and L2-English speakers. RIGHT: Boxplot of the high attachment ratings for L2-English speakers in Experiment 2 based on the structural complexity of the context. A significant effect of structural complexity of the context was found for the L2 speakers.

## References

Altmann, G., \& Steedman, M. (1988). Interaction with context during human sentence processing. Cognition, 30, 191-238.
Rayner, K., Carlson, M., \& Frazier, L. (1983). The interaction of syntax and semantics during sentence processing: Eye movements in the analysis of semantically biased sentences. Journal of Verbal Learning and Verbal Behavior, 22, 358-374.
Schütze, C. T., \& Gibson, E. (1999). Argumenthood and English prepositional phrase attachment. Journal of Memory and Language, 40(3), 409-431.

# Noun-phrase production as a window to language selection: an ERP study 

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Speakers often experience more difficulties while naming objects in a non-native language compared to their native language. However, where do these difficulties originate? One source for this difficulty is cross-linguistic influence (CLI), which is a result of parallel activation of the native and non-native language. In order for speakers to succeed at non-native production, they need to mitigate CLI effects and select the target language of production prior to articulation. Another important question explored in this study is related to the locus of target language selection during the production process.

We addressed these two issues by examining the implications of CLI for the time course of the individual production stages and the locus of target language selection in non-native production. We exploited two phenomena to gain insight into the individual production stages from a behavioural and neurocognitive perspective. First, we studied the gender-congruency effect, which reflects CLI at the level of grammatical gender processing and was previously linked to the lemma retrieval stage and early phonological processing stages in Romance languages. Second, we explored the cognate facilitation effect indexing CLI during the phonological encoding stages. Our event-related potentials (ERPs) of interest were the P300 as an index for conflict monitoring and attentional resources, as well as the N400 as an index for parallel activation and lexical integration.

Thirty-three German late learners of Spanish named pictures by producing NPs (e.g., determiner + noun: [la flor] "the flower"). We manipulated gender congruency (congruent/incongruent) and cognate status (cognate/non-cognate) across languages and recorded participants' naming accuracy, naming latencies and EEG.

Our results provide evidence for CLI of the gender systems and the phonological systems in non-native NP production. Participants were more accurate at naming congruent nouns compared to incongruent nouns. Further, P300 voltage amplitudes were significantly modulated by gender congruency and cognate status. In contrast, we did not find evidence for an N400 effect. We argue that the P300 effect demonstrates the mitigation of CLI effects between the target and non-target language. In contrast, the N400 effect appears to be either absent, or delayed and masked by articulatory artefacts.

The results suggest that both the target and non-target language remain active at least until the phonological encoding stages and that the target language is likely selected in later phonological processing stages. Moreover, the results highlight the P300 as a critical index for CLI.

Our study has important theoretical implications for characterising the time course of non-native NP production and the resulting delays in non-native naming. Finally, this study also addresses the critical issue of the locus of target language selection, which has implications for theoretical models on native and non-native word production.

## References

Bürki, A., \& Laganaro, M. (2014). Tracking the time course of multi-word noun phrase production with ERPs or on when (and why) cat is faster than the big cat. Frontiers in Psychology, 5, 586-599.
Costa, A., Kovacic, D., Franck, J., \& Caramazza, A. (2003). On the autonomy of the grammatical gender systems of the two languages of a bilingual. Bilingualism: Language and Cognition, 6(3), 181-200.
Hoshino, N., \& Thierry, G. (2011). Language selection in bilingual word production: electrophysiological evidence for cross-language competition. Brain Research, 1371, 100-109.
Indefrey, P. (2011). The spatial and temporal signatures of word production components: a critical update. Frontiers in Psychology, 2, 1-16.

# Individual differences explaining second language listening comprehension: A study of Chinese learners of English 

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In this paper we focus on individual differences which can explain variability in listening comprehension (LC) among adult Chinese learners of English. Although many studies have been conducted on LC among second language (L2) learners, individual differences in listening have received less attention than individual differences in reading. A better understanding of individual differences which determine L2 learners' success in comprehending speech input is therefore urgently needed because L2 learners find it hard to make progress in improving their LC (Graham, 2011).

187 adult Chinese learners of English took part in the study. One group was based in China ( $\mathrm{N}=147$ ); the other group in the UK $(\mathrm{N}=40)$. LC was measured with the listening section of the Cambridge Preliminary English Test (PET Listening), and with the College English Test Band 4 (CET4). Four groups of explanatory variables were included in the study: linguistic knowledge, sentence processing speed, cognitive factors and learners' use of English in daily life. Structural equation modelling (SEM) analysis and multiple regression analysis methods were used to analyze data. A structural equation model of LC based on Andringa, Olsthoorn, Van Beuningen, Schoonen and Hulstijn (2012) was tested among the participants.

SEM analyses show that together the four groups of factors explained $65.7 \%$ of the variance in LC among adult Chinese learners of English.

The LC of learners in China was significantly lower than that of Chinese learners in the UK. Linguistic knowledge, frequency of use of English in daily life and aural sentence processing speed were key predictors of listening in both groups. Phonological knowledge was the most important predictor of LC among the variables measuring linguistic knowledge and word recognition from speech explained variance in listening comprehension over and above the contribution of word segmentation from speech. The SEM models of LC built in the current study differ from that in Andringa et al. (2012) because we added frequency of L2 use to the model. This variable uniquely explained $5.8 \%$ of the variance in LC as measured with the PET listening and it explained $5.1 \%$ of the variance in LC as measured with the CET4 listening. When the two groups of learners were considered separately word recognition from speech was the most important predictor for learners in China whilst for learners in the UK, learners' grammar knowledge and the reasoning ability were key. Pedagogical implications for teachers and learners of English and test developers in China and in the UK are provided based on these findings. These include that recognition of spoken words will need to be trained much more explicitly among Chinese learners of English, both in the UK and in China.

# Subcortical restructuring with increasing language experience: insights from bilinguals and trilinguals 

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Learning a language is akin to learning a skill, and subcortical structures adapt with increasing language experience and expertise (Hervais-Adelman et al., 2018; Pliatsikas et al., 2017; Berken et al., 2016; Burgaleta et al., 2016). However, the trajectory and limits of these restructuring remain unclear. In support of the Dynamic Restructuring Model (Pliatsikas, 2020), previous findings on bi/multilinguals appear to reflect a process of renormalisation where volumetric expansions that occur during the early stages of additional language learning are followed by contractions to baseline volumes upon acquiring greater adeptness at the skill (DeLuca et al., 2018; Elmer et al., 2014). We obtained T1-weighted images from 14 English monolinguals from the UK, and 14 English-Malay bilinguals and 14 English-MalayChinese/Tamil/Japanese/Korean trilinguals from Malaysia. The volumes of subcortical structures were extracted using FSL pipelines and compared across groups. The results revealed significant group differences for all structures except for the caudate nucleus. The accumbens is significantly smaller in monolinguals when compared to bilinguals, but is not different between monolinguals and trilinguals. Monolinguals have significantly smaller volumes than both bilinguals and trilinguals in the hippocampus, putamen, thalamus, pallidum and amygdala. Linear regression models further revealed that more lateralised restructuring occurred for the accumbens, hippocampus and thalamus. These results highlight the dynamic process of subcortical restructuring, and more specifically supports the concept of structural renormalisation with increasing language experience. Additionally, structures with roles in language processing and production, and higher-order cognition such as executive control, memory and learning seem to be the quickest to renormalise. This may be attributed to similar cognitive demands involved in controlling and processing additional languages (Kroll et al., 2014; Bialystok et al., 2012; Abutalebi \& Green, 2007).

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## References

Abutalebi, J., \& Green, D. (2007). Bilingual language production: The neurocognition of language representation and control. Journal of neurolinguistics, 20(3), 242-275.
Bialystok, E., Craik, F. I. M., \& Luk, G. (2012). Bilingualism: consequences for mind and brain. Trends in Cognitive Sciences, 16(4), 240-250.
Berken, J. A., Gracco, V. L., Chen, J. K., \& Klein, D. (2016). The timing of language learning shapes brain structure associated with articulation. Brain Structure and Function, 221(7), 3591-3600.

Burgaleta, M., Sanjuán, A., Ventura-Campos, N., Sebastian-Galles, N., \& Ávila, C. (2016). Bilingualism at the core of the brain. Structural differences between bilinguals and monolinguals revealed by subcortical shape analysis. NeuroImage, 125, 437-445.
DeLuca, V., Rothman, J., Bialystok, E., \& Pliatsikas, C. (2019). Redefining bilingualism as a spectrum of experiences that differentially affects brain structure and function. Proceedings of the National Academy of Sciences, 116(15), 7565-7574.
Elmer, S., Hänggi, J., \& Jäncke, L. (2014). Processing demands upon cognitive, linguistic, and articulatory functions promote grey matter plasticity in the adult multilingual brain: Insights from simultaneous interpreters. Cortex, 54, 179-189.
Hervais-Adelman, A., Egorova, N., \& Golestani, N. (2018). Beyond bilingualism: multilingual experience correlates with caudate volume. Brain Structure and Function, 223(7), 3495-3502.
Kroll, J. F., Dussias, P. E., Bogulski, C. A., \& Kroff, J. R. V. (2012). Juggling Two Languages in One Mind: What bilinguals tell us about language processing and its consequences for cognition. In B. H. Ross, ed., Psychology of Learning and Motivation - Advances in Research and Theory. Cambridge, MA: Academic Press, Vol. 56, pp. 229-262.
Pliatsikas, C. (2020). Understanding structural plasticity in the bilingual brain: The Dynamic Restructuring Model. Bilingualism: Language and Cognition, 23(2), 459-471.
Pliatsikas, C., DeLuca, V., Moschopoulou, E., \& Saddy, J. D. (2017). Immersive bilingualism reshapes the core of the brain. Brain Structure and Function, 222(4), 1785-1795.


[^0]:    ${ }^{1}$ Data are still being collected and analysed.

