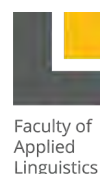


# International Symposium on Bilingualism 13 Bilingualism in Flux

10-14/07/2021



# Book of Abstracts



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# History of International Symposium on Bilingualism

The first ISB conference was held at the University of Newcastle upon Tyne in 1997. Since then ISB has been organised every other year. At ISB6 in Hamburg, bylaws for ISB conferences were approved.

## **ISB1 and ISB2**

Newcastle upon Tyne 1997 and 1999 The International Symposium on Bilingualism (ISB) began at the initiative of Li Wei and Nick Miller of the University of Newcastle upon Tyne, who organized ISB1 in 1997 and ISB2 in 1999. Keynote Speakers for ISB1 included Peter Auer, Pieter Muysken, Michel Paradis, and Shana Poplack. ISB2 featured Keynoters Michael Clyne, Francois Grosjean, Monica Heller, and Carol Myers-Scotton.

## **ISB3 – University of the West of England (Bristol) 2001**

The event moved to the University of the West of England (Bristol) in 2001, where Jeanine Treffers-Daller served as the chair of the organizing committee for ISB3. Keynote Speakers included Jim Cummins, Ton Dijkstra, Nancy Hornberger, Jürgen M. Meisel, Thomas Roeper, and Suzanne Romaine.

## **ISB4 – Arizona State University (Tempe) 2003**

ISB4 took place at Arizona State University (Tempe) in 2003, with Jeff MacSwan chairing the organizing committee and Fred Genesee, Bernard Spolsky, Loraine Obler, and Ana Celia Zentella as Keynoters.

## **ISB5 – Universitat Autònoma de Barcelona 2005**

In 2005, ISB5 was organized in Barcelona with Melissa Greer Moyer of the Universitat Autònoma de Barcelona as the chair of the organizing committee. Keynote Speakers were Suzanne Flynn, Judith Kroll, Ignasi Vila, Jef Verschueren, and Li Wei.

## **ISB6 – University of Hamburg 2007**

The Research Centre on Multilingualism and the University of Hamburg hosted ISB6 in 2007 with Jürgen Meisel chairing the organizing committee. The Keynote Speakers were Ellen Bialystok, Sascha W. Felix, David W. Green, Kenneth Hyldenstam and Virginia Yip.

## **ISB7 – Utrecht University 2009**

In 2009 the Utrecht Institute of Linguistics OTS at Utrecht University, the Netherlands, hosted ISB7 with Jacomine Nortier heading the organization. The Keynote Speakers were Shyamala Chengappa, Guus Extra, Pieter

Muysken, Núria Sebastián-Gallés, Antonella Sorace, and Sarah Thomason.

## **ISB8 – University of Oslo 2011**

In 2011 the University of Oslo hosted ISB8 with Professor Elizabeth Lanza as the Chair. The city of Oslo celebrates its 200th anniversary in the same year and ISB8 is part of the program for a celebration that will last throughout the entire year. The Keynote Speakers were Jannis Androutsopoulos, Ceil Lucas, Sari Pietikäinen, Annick De Houwer and Kees de Bot.

## **ISB9 – Nanyang Technological University 2013**

Nanyang Technological University in Singapore organized ISB9, with Professor NG Bee Chin as the Chair of the committee. The theme of the 9th ISB was ‘Multilingualism’, reflecting Singapore’s status as a thriving language hub. The keynote speakers were Nick Evans, Ofelia García, Monika S. Schmid and Lionel Wee.

## **ISB10 – Rutgers University 2015**

Jose Camacho chaired ISB10 in Rutgers University, New Brunswick, New Jersey with the theme “Uncovering Multilingualism”. New Jersey is home to a large number of multilingual speakers who speak a variety of native languages of the Americas in addition to Spanish and English, often only used among close networks of speakers in a complex world of linguistic diversity and potential resources. The keynote speakers were Helen Kelly Holmes, Juana M. Liceras, Luis Enrique López, Jeff MacSwan and Lee Osterhout.

## **ISB11 – University of Limerick 2017**

The University of Limerick, Ireland organised the ISB11, with Tadhg Ó hÍfearnáin as the Chair of the Organising Committee. The theme of the 2017 gathering was ‘Bilingualism, Multilingualism and the New Speaker’. The plenary speakers were Ana Deumert, Alexandre Duchêne, Tina Hickey, Elizabeth Lanza, Lisa Lim and Jean-Marc Dewaele.

## **ISB12 – University of Alberta 2019**

ISB12 was held in 2019 at the University of Alberta in Edmonton, Canada. The theme was ‘The Next Generation’. Elena Nicoladis served as the Chair of the Organising Committee and the Keynote Speakers were Erika Hoff, Marco Jacquemet, Enric Llorca, Roy Lyster, Virginia Zavala and Virginia Yip.



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# ISB13: Bilingualism in Flux

The conference theme, “Bilingualism in Flux”, presents bilingualism as a dynamic and multifaceted phenomenon existing on a continuum. The in flux part of the theme is a two fold concept. First, it is understood as relating to non-linguistic circumstances that foster not only diverse, but also transient bilingual communities throughout the world. Nowadays, new waves of migration influence the linguistic status quo and enrich existing environments. Second, it pertains to the very processes taking place in language, a dynamic entity prone to changes. The fluctuating circumstances entail linguistic consequences reflected in the development of the second and further languages, cross-linguistic influence, language attrition, incomplete acquisition, and maintenance of heritage languages. Finally, the conference leitmotif highlights not only the local changes presently taking place in Poland, but also the country’s linguistic heritage.



# Keynote speakers



# Between psycholinguistics and language education: Is „cognate awareness” a bonus in learning L2 words?

Agnieszka Otwinowska-Kasztelanic, University of Warsaw, Poland

In L2 vocabulary acquisition, psycholinguistic evidence hardly translates into educational programs. Some controversies arise around words whose form is similar across languages: cognates (formally and semantically similar) and false cognates/friends (formally similar). Laboratory experiments demonstrate the cognate facilitation effect: Cognates are responded to faster and learned better than other words. On the other hand, classroom-oriented second language acquisition (SLA) studies emphasize the importance of learner’s „cognate awareness” that is consciously focusing on cross-linguistic similarity between L1 and L2 words. Because such awareness is enhanced in proficient multilinguals, less proficient L2 learners are advised to have their cognate awareness raised in class. For false cognates, the situation is even more complex: Psycholinguistic studies show that their processing may be inhibited or even facilitated compared to non-cognates, depending on task, but when translated, false cognates yield more errors than non-cognates. Here, SLA literature advises that L2 learners are warned about their existence, although there is surprisingly little robust empirical evidence that false cognates are more difficult to learn than other words.

How can we bridge the gap between psycholinguistics and SLA to gather robust but ecologically-valid evidence on word acquisition? What is exactly meant by „cognate awareness” in SLA studies? Are awareness-raising attempts effective in L2 classrooms? This talk will discuss several experiments that have compared the acquisition of L1-L2 cognates, false cognates and L2 non-cognates. It will answer whether raising „cognate awareness” indeed modulates the effectiveness of learning L2 words.

## About

Agnieszka Otwinowska-Kasztelanic is an associate professor at the Faculty of Modern Languages, University of Warsaw, Poland. Agnieszka’s interdisciplinary studies can be located on the crossroads of applied linguistics, psycholinguistics and language education. Her interests and research projects include: childhood bilingualism, individual differences in language acquisition, cross-linguistic phenomena in multilinguals, cognate words and the role of metalinguistic awareness in vocabulary acquisition. She is an executive committee member of the International Association of Multilingualism.

# The multilingual turn: Implications for language learning and teaching

**Stephen May, University of Auckland, New Zealand**

In this keynote address, I explore the implications for language learning and teaching of the “multilingual turn” (May, 2014). I will outline the challenges the multilingual turn presents for SLA, with a particular focus on the recent contributions of the influential Douglas Fir Group. Implications for bilingual pedagogy and practice, particularly via the notions of dynamic bilingualism and translanguaging, will also be examined and, to some extent at least, critiqued.

## About

Stephen May PhD, FRSNZ is Professor of Education in Te Puna Wānanga (School of Māori and Indigenous Education) at the University of Auckland, New Zealand. Stephen is an international authority on language rights, language policy, bilingualism and bilingual education and critical multicultural approaches to education. Additional research interests are in the wider politics of multiculturalism, ethnicity and nationalism, social theory (particularly the work of Bourdieu), sociolinguistics, and critical ethnography. Stephen has published over 100 articles and book chapters, along with numerous books, in these areas, including *The Multilingual Turn* (2014) and *Language and Minority Rights* (2nd ed., 2012). He is Editor-in-Chief of the 10-volume *Encyclopedia of Language and Education* (3rd ed., 2017), and founding co-editor of the journal *Ethnicities*. He is a Fellow of the American Educational Research Association (AERA), and of the Royal Society of New Zealand (FRSNZ).

# Looking back to move forward: A research-based wishlist for the future of bilingual education

María Luisa Pérez Cañado, University of Jaen, Spain

At a time when Content and Language Integrated Learning (CLIL) is rife with tensions and negative connotations in many of the places where it originated, this talk will strive to provide an updated, research-based perspective of what's hot and what's not on the current CLIL research agenda. It will cast a glance back at the origins of bilingual education in the European continent in order to track the progress that has been made, determine where we currently stand, and map out future pathways for progression in the CLIL arena. A historical, empirically-driven overview of key issues affecting bilingual education will be offered in order to determine whether dwelling exclusively on the problematic side of CLIL is warranted or whether, on the contrary, a possibilistic outlook should be harbored on the current state of bilingual education. Aspects such as diversity and inclusion, teacher training, the connection to EMI, the pluriliteracies approach, the nature of CLIL research, or the establishment of quality assurance frameworks will all be canvassed. The issues that should truly inform current debates on bilingual education will be made salient through a research-based wishlist that will hopefully allow the future of bilingual education to stay on track and advance unfettered into the next decade.

## About

Dr. María Luisa Pérez Cañado is Full Professor at the Department of English Philology of the University of Jaén, Spain, where she is also Rector's Delegate for European Universities and Language Policy. She is currently coordinating the first intercollegiate MA degree on bilingual education and CLIL in Spain, as well as four European, national, and regional projects on attention to diversity in CLIL. She has also been granted the Ben Massey Award for the quality of her scholarly contributions regarding issues that make a difference in higher education.

# The place-making signs of tourism: Multilingualism, multimodality, materiality, emplacement

Adam Jaworski, University of Hong Kong

The fluidity/fixity debate in sociolinguistics has reached a healthy balance, whereby both ‘perspectives’ are accepted as dialectic endpoints of linguistic variation (Jaspers and Madsen, 2019). Li Wei (2018: 22) goes as far as to say that we have reached the era of post-multilingualism, by which he means a constant reassessment, breaking up, and adjustment of boundaries across languages, modalities, and ethnonational contact zones. In this vein, my own work (e.g. Jaworski, 2014, 2020) has explored the interplay of multilingualism, multimodality, and materiality in art and displayed language more generally. In this partly retrospective and partly forward-looking talk, I overview four genres of the ‘linguistic landscape’ of tourism: (1) intertextual names of souvenir stalls in west African tourist markets; (2) welcome signs in boundary or threshold locations of tourist destinations; (3) symbolic signposts situated in scenic or ‘remote’ places, indicating distances to/from a range of worldwide destinations; and (4) three-dimensional place names commonly found in city centres or travel hubs, such as airports. I conclude by suggesting that the indexicalities of my data examples cutting across the faultlines of locality and globality, egalitarianism and elitism, conviviality and conquest, to name a few, are place-making resources resting on the dynamics of their multilingualism, multimodality, materiality, and emplacement.

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## About

Adam Jaworski is Chair Professor of Sociolinguistics in the School of English, University of Hong Kong. His research interests include discursive and multimodal approaches to mobility by choice, globalization, display of languages in space, media discourse, nonverbal communication, and text-based art. He is member of the editorial board of several journals, including *Discourse, Context & Media*, *Discourse & Society*, *Journal of Language and Politics*, *Journal of Multilingual Theories and Practices*, *Journal of Sociolinguistics*, *Language, Culture and Society*, *Language in Society*, *Lingua*, *Linguistic Landscape*, *The Mouth*, *Multilingua*, and *Visual Communication*. With Brook Bolander, he co-edits the Oxford University Press book series, *Oxford Studies in Sociolinguistics*.

# Duelling languages: families and schools in multilingual contexts

**Christa Van Der Walt, Stellenbosch University, South Africa**

Families make language choices, sometimes seen as family language ‘policies’, although these decisions will obviously not be as formal as a policy. Raising children bilingually seems a popular choice, particularly in a world where international mobility (for various reasons) brings people from different language background in contact with each other.

Choice is a much-loved concept in Western society, often linked to ideas of free will and autonomous individuals. In this paradigm parents may choose to use particular languages in their homes and they then choose to send their children to particular schools. However, when we are asked to choose, it is often productive to ask back, Can we say no? For example, when you are given the choice between a fine or imprisonment, can you say no? When you are conscripted, can you say no? We may think these examples exaggerate the importance of language ‘choices’, but when we think about the results of language-in-education choices, it is clear that their consequences can be far-reaching. In this presentation I discuss some of these consequences from pre-school to tertiary education. My point of departure is South Africa and I will discuss the transactions, transitions and disruptions that result from language choices, linking the evidence from my country to that of other countries.

## About

Christa van der Walt is a professor in the Department of Curriculum Studies at Stellenbosch University, South Africa, where she is currently also Vice-Dean for Research. Her research focuses on multilingual learning and teaching and the development of academic literacies. She has published widely, contributing chapters to 16 books, co-editing three and she published the book *Multilingual higher education*, published by *Multilingual Matters* in 2013. A forthcoming publication is a book co-edited with Dr V Pfeiffer, entitled *Multilingual classroom contexts: Transitions and transactions*, published by SunMedia.



# Early Career Scholar Speakers

# Grammatical gender in a third language: The role of cross-linguistic influence and input factors

## Kamil Długosz

Despite the advances made in our understanding of L3 development and use, the question of how grammatical gender is acquired and processed in L3 remains open.

In this talk, I focus on grammatical gender in the interlanguage of adult learners of L3 Swedish, an area which has not been explored so far. Based on different methods, including self-paced reading, acceptability judgment, and gender decision, I look at gender assignment, gender agreement in DPs, and possessive gender agreement in two groups of learners who speak the same L1, Polish, but have acquired different L2s, English or German. Differences between these languages regarding the realisation of gender not only provide an opportunity to explore cross-language interactions, but also enable us to gain insight into the acquisition and processing of asymmetric gender systems (binary versus tripartite distinction).

I conclude that acquiring and processing of an L3 grammatical gender system are shaped by cross-linguistic influence from both previously acquired languages and by input factors, such as amount of exposure and frequency of lexical items in the input.

## About

Kamil Długosz is an assistant professor at the Institute of Applied Linguistics, Adam Mickiewicz University, Poznan, Poland. He primarily works on second and third language acquisition and processing. In 2021, he received his Ph.D. with distinction. His thesis, entitled *Der Altersfaktor beim fortgeschrittenen Zweitspracherwerb* was published by Narr Verlag. He has presented at many conferences, such as BAAL 2018 in York, ISB12 in Edmonton, and EuroSLA29 in Lund. Since 2020, he has led the research project *Cross-linguistic influence in the real-time processing of grammatical gender in a third language*, funded by the National Science Centre, Poland (NCN).

# Multilingual spaces of possibilities and becoming: Refugee-background students in Poland

Aleksandra Olszewska

As human mobility continues to transform the European demographic landscape, it also affects school population shifts and shapes linguistic practices. Despite a number of language-in-education rights guaranteed by law across the continent, double standards about linguistic diversity still prevail, and only certain multilingual practices are valued in Europe (Macedo et al., 2003; Skutnabb-Kangas, 1981). With the rise of anti-immigrant narratives, language policies and practices continue to create opportunity gaps for refugee-background students (RBSs) (Shapiro et al., 2018). Guided by a framework of social justice, RefugeeCrit (Strekalova-Hughes et al., 2018), and a poststructuralist approach to language (García, 2009), this talk illuminates the voices and identities of four Chechen RBSs in a public school in Poland. It also describes how certain RBSs' language identities and practices were affirmed in the school. Drawing upon decolonial, humanizing, and arts-based research approaches (Fine, 2017; Paris, 2011), including counter-storytelling (Solórzano & Yosso, 2002), the data included interviews, fieldnotes, I Am From poems, and language self-portraits (Prasad, 2014). This talk ends with a call for linguistically and pedagogically sustaining practices for RBSs. This work further highlights the importance of establishing an interdisciplinary space of multilingual possibilities for equitable education and research in the context of RBSs.

## About

Aleksandra Olszewska obtained her Ph.D. in Curriculum and Instruction with a specialization in ESOL and Bilingual Education from University of Florida, USA. She is a Fulbright scholar. Aleksandra starts her Postdoctoral Fellowship at the Center for Multilingualism in Society across the Lifespan, University of Oslo in August 2021.

Aleksandra's research interests encompass teacher education for immigrant and bilingual students, linguistic justice, humanizing research, and socially just pedagogies. Her work has been published in *TESOL Quarterly*, *International Journal of Multilingualism*, and *Teaching in Higher Education*. She has presented her research at conferences, including *Language and Migration*, Princeton University; *National Association for Bilingual Education*; and *TESOL International*.



# Language experiences and neurocognitive adaptations: a tale of two spectrums

Vincent DeLuca

Much research over the past two decades shows that bilingualism affects brain structure, function, and potentially domain-general cognition. The specificity of these effects, however, has become the subject of significant debate in recent years, in large part due to variability of findings across studies. My research program takes the position that bilingual effects on neurocognition exist but are conditional. I specifically aim to test the hypothesis that specific experience-based factors (EBFs) variably affect neural activity and plasticity in brain regions and pathways implicated in language- and executive control. Herein I present results from a series of previous and ongoing studies showing a specificity of neural adaptation to different EBFs. These data suggest that the brain strives to be maximally effective and efficient in language processing and control, which in turn affects domain-general cognitive processes proportionally to degree of engagement in bilingual experiences. I also present a new theoretical framework by which we can predict the trajectory of several neurocognitive adaptations commensurate to various EBFs. I close with a discussion of potential future directions for research in the field.

## About

Vincent DeLuca received his PhD from the University of Reading (UK) in 2018. He then worked as a postdoctoral researcher at the University of Birmingham (UK) on an ESRC project examining effects of individual differences in bilingual experience on neurocognitive outcomes. He is now an associate professor in the Neurocognition of Bilingualism and co-director of the Psycholinguistics of Language Representation (PoLaR) lab in the AcqVa Aurora Centre at UiT-The Arctic University of Norway.

# Cooperative language control: An exploration

**Anne Beatty-Martinez**

In everyday life, bilingual speakers differentially distribute their languages with different people and in different interactional contexts. Some bilinguals typically keep their languages separate; others codeswitch and make use of more than one language opportunistically. Increasing evidence suggests that interactional effects on the trajectories and outcomes of bilingualism are influenced by the ways in which the two languages are engaged. In this talk, I present converging evidence using an array of complementary multidisciplinary methods demonstrating that codeswitching requires a broad attentional state in which language membership is minimized and resources from both languages are explored. To better understand bilingual language control and adaptive change, I propose an approach that exploits variability within and across bilingual speakers and interactional contexts of language use and illustrate how it can be applied to develop an international network for research on diverse bilingual populations. Overall, the emerging picture is complex but systematic, suggesting that the bilingual language system is dynamic and adaptive to the demands of distinct contexts of language use.

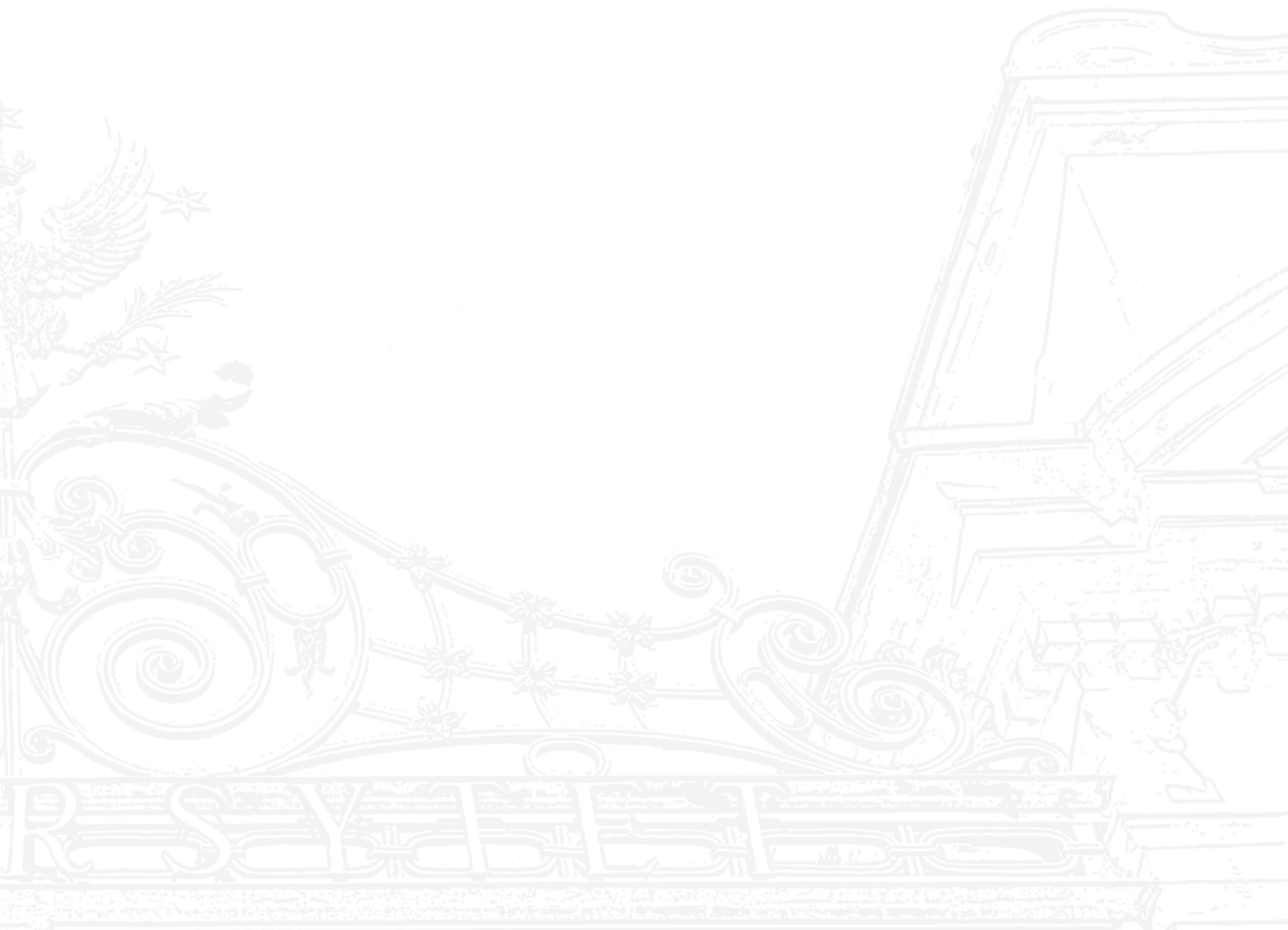
## About

Anne L. Beatty-Martinez is an NIH Ruth L. Kirschstein postdoctoral fellow at McGill University. She received her Ph.D. in Spanish and Language Science at the Pennsylvania State University in 2019. Her research agenda involves the integration of linguistic, cognitive, and neuroscientific approaches to examine how variability in the language experiences of bilingual speakers, and in the ability of bilingual speakers to adapt to distinct demands of different interactional contexts, impact interactions between language representation, access, and control. In her research, she combines ethnographic and experimental approaches, including corpus-based methods, eye-tracking, and event-related potentials, to study code-switching and bilingual language control.





# Thematic sections



[TS1] Bilingual family  
communication in the digital flux

# Family talk in transition: bilingual practices in authentic WhatsApp family chats

Tiina Räisä, Åsa Palviainen

Family talk is in transition. Research within family language policy and family multilingualism has only recently begun to pay attention to the use of various digital media for maintaining relationships and for language learning and transmission (cf. Lexander and Androutsopoulos, 2019; Palviainen & Kedra, 2020). The Covid-19 crisis appears to have intensified the platformization of communication (van Dijck 2013; van Dijck et al. 2018; Couldry and Hepp, 2017); media, family and the home – and work, school and leisure time – have become integrated, and borders between the physical and virtual spaces have become blurred. These changed conditions have led to a need for more knowledge about the language practices family members adapt when digitally connected; they also require new ways of methodological thinking, for example about how to collect data without the physical presence of the ethnographic researcher.

The data in this presentation was collected during the Covid-19 lockdown in Finland in the spring of 2020 as part of the research project WhatsInApp. Five bilingual families shared twelve lengthy authentic WhatsApp family chats. The chats were multimodal (photos, clips, text etc.) and contained interactions between parents and children, mainly in Swedish and Finnish. We will demonstrate how parents and children employed the application with a particular focus on their use of linguistic and multimodal resources to negotiate their bilingual skills and identities. Our results show that language choice patterns from oral face-to-face communication (such as, for example OPOL) to a great extent persist in the digitally mediated communication but that the emotional sides of doing family is intensified. We conclude that the Covid-19 crisis has intensified the mediatization of the family institution and the fact that families are constantly connected transforms the conditions for and the qualities of bilingual family talk.

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# Multilingual Digital Practices in Transnational Families

Xiao Lan Curdt-Christiansen, Janina Iwaniec

Digital devices are omnipresent in our everyday life and have an immense impact on our social communication and language practices. Transnational families often engage in multilingual practices with their family members close and far via digital devices and through social media. As a result, children are immersed in new technologies which exposes them to multiple languages and digital literacy. This presentation focuses on multilingual and multiliteracy practices of a group of transnational families from two communities in the UK - Polish and Chinese. Through the lens of family language policy, this comparative study looks into how parents and children establish their family language practices, negotiate meanings and develop multiliteracy skills through social media and digital devices. The study involves three sets of families with extended family members from each community. Using family language audit as a methodological tool, we conducted ethnographic fieldwork through observation of the families to collect 'live' events that were captured through digital communications, including Wechat (Chinese social media app), WhatsApp, Skype, and other apps. The findings indicate that social media are powerful tools to socialise children into multilingual practices and thus enable them to engage in both heritage language and cultural activities. Such engagement will have positive impact on their multi-literacy practices, identity and cognitive development.

# Digital parent-school interaction as a means for inclusion in a multilingual context? Lithuanian migrant workers in Norway

Hilde Thyness

In Norway, parent-school interactions are increasingly taking place through digital media, including social media. This paper contributes to our knowledge of how language use in digitally mediated parent-school interactions can be a means for inclusion of an immigrant population group, or have the opposite effect of furthering exclusion. It builds on a qualitative study of the second largest immigrant group in Norway, Lithuanians, who mostly come to Norway for work purposes.

The analysis is guided by The Douglas Fir Group's transdisciplinary framework for second language acquisition (SLA) (2016), and Norton's theory on identity and model of investment (e.g. Darwin & Norton 2015). While there is research on teacher-parent collaboration, also concerning minority groups, this study is innovative in its focus on the use of digital channels for this purpose.

The paper presents the research design and preliminary results of a study of how language practices in the digitally mediated parent-school interactions are affected both by language use and language ideologies in multilingual families, and by ideologies at the school level. The paper shows the complex connections between language proficiency, choice of media channel and social context, that separately and in combination influence the language practices.

To document and study these practices, ethnographic interviews with Lithuanian parents and teachers in Norwegian schools were conducted by using the visual support of mediagrams (Lexander & Androutsopoulos, 2021). Examples of their communication were also collected. In this paper, both interactional data and interview data from 3 parents and one teacher are analysed to discuss language and media use in view of how this leads to equality and inclusion and/or inequality and exclusion in parent-school relations.

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# [TS2] Japanese-English bilinguals in flux

# Referent re-introduction as the locus of crosslinguistic influence: An investigation on referential choice in Japanese-English bilingual children

Satomi Mishina-Mori, Yuki Nakano, Yuri Jody Yujobo

Investigations on children's narratives have suggested that selecting appropriate forms to re-introduce a referent can be challenging and thus slower in development compared with referent maintenance, as it requires integration of factors such as the distance from the prior mention, the ambiguity as well as the pragmatic predictability of the referent (Orsolini et al 1996). Accumulation of studies suggest that superficially overlapping structure at the syntax-pragmatics interface is likely to induce cross-linguistic influence (CLI) (Hulk & Muller, 2000), however, few studies have considered the impact of processing complexity in different discourse contexts. If referent re-introduction requires integration of more pragmatic information than maintenance, we may expect more interaction between the two languages. A few studies provide supportive evidence for this claim, but the analysis is limited to null-argument language. We test this hypothesis by analyzing Japanese-English early bilinguals' narratives in both languages to examine if re-introduction induces more influence in both directions. Twelve early bilingual teens as well as monolingual peers in each language told narratives using the wordless picture book *Frog, Where are you?* (Mayer 1969) as well as a speechless video clip in Japanese and in English separately. Linguistic devices children used to re-introduce and maintain the topic are compared with those of their monolingual peers to detect any cross-language effects. Analyses reveal that in Japanese, bilinguals used significantly more noun phrases than monolingual peers for referent re-introduction but not for maintenance, which suggest that re-introduction context may be more vulnerable to influence from English. However, bilinguals and monolinguals patterned almost identically in English, showing no sign of influence from Japanese, suggesting that the assumed processing complexity did not impact the referential choice. The results indicate that the effect of discourse context on the vulnerability to CLI may be limited to the case of null-argument languages.

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# The ebb and flow of language proficiency and brain activation: An fNIRS case study on a Japanese-English bilingual returnee

Hideyuki Taura, Amanda Taura

This study explores how language attrition is mitigated when the individual returns to the original linguistic milieu for a set amount of time, from the perspectives of language proficiency and brain activation.

We tracked a Japanese-English returnee student for 5 years by collecting data once a year: (1) base-line data at the incubation time (INC) of 3 months back in Japan from the USA where she had resided from age 6;11 to 14;01 for 8 years, (2) a year later (INC 1.03 years), (3) two years later (INC 2.00 years), (4) three years after the original base-line data, but only 2 months (INC 0.02 months) after having moved back from an English speaking environment for a further year, and (5) four years later (INC 1.02). She was 14;04 and 18;04, respectively at the first and fifth data collection sessions.

Data collection was two-fold - both linguistic data and neuro-linguistic data were gathered yearly. Linguistic data involved a spontaneous oral narrative task and a spontaneous written test (TOWL-3), which were analyzed from conventional viewpoints such as fluency and vocabulary. Meanwhile, neuro-linguistic data were collected while the participant was engaging in verbal fluency tasks (VFT) on an fNIRS machine (Shimadzu OMM-3000) to observe oxygenated hemoglobin flow in the Broca's area in the prefrontal cortex.

The results showed an overall gradual decline in the first three years, however, at the time of the fourth data collection, re-residing effects were present in her vocabulary selection, indicated by a more sophisticated word choice on both oral narrative and writing tasks, a more fluent speech delivery, and less energy needed in the brain when carrying out the VFT, whereas the overall writing skills showed no such effects. The results are synthesized to come to a general conclusion at the presentation.

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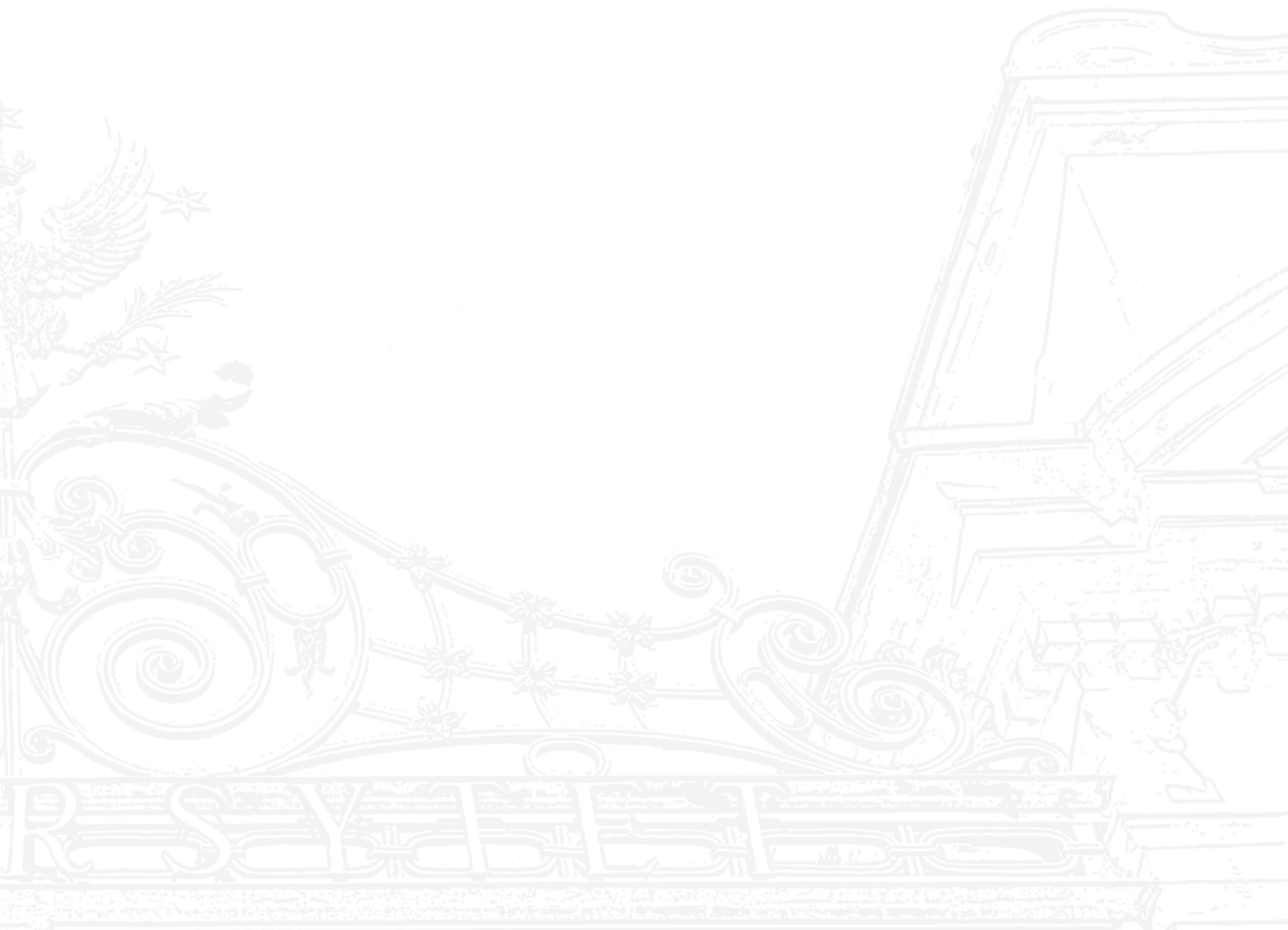
# Examining the importance of form: The acquisition of vocabularies of two distinct languages, Japanese and English, in young bilingual children

Aya Kutsuki

Previous studies of both adult and child bilinguals have suggested that there is form similarity effect in the processing and acquisition of translation equivalent (TE) words. However, few studies are available on this effect in very young children acquiring a pair of linguistically distant languages. The present study is one of few studies examining such effect on acquisition of vocabularies in bilingual children acquiring a pair of vastly distant languages, Japanese and English. The hypotheses were that if form similarity plays a role in bilinguals' vocabulary acquisition, acquisition of form similar words is facilitated more in comparison to form dissimilar words, and that young bilinguals may have more form similar words than non-form similar words in their vocabularies. 20 children aged 24-39 months were organized into a bilingual group and a monolingual group. Comparing the words on both language versions of CDIs answered by their parents, the only overlapping words with similar or same meaning were treated as TEs and subcategorized as form similar (FS) or content similar (CS). The percentages of productive FS and CS were compared both between the language groups and also within each group. It was found that bilingual group had more FS, and the monolingual group had more CS. Also, the bilingual group had more FS than CS, whereas the opposite trend was apparent for the monolingual group, suggesting the form similarity effect.

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[TS3] Language and  
communication in transcultural  
families

# Transnational and Transcultural Families in Latvia: De facto Identities, Practices and Educational Choices

Heiko F. Marten, Sanita Martena

Multilingualism in Latvia has since the 1990s been widely discussed regarding relations between Latvian and Russian in terms of ideologies, discourses, and policies, often classifying persons as either “Latvians” or “Russophones”. Reality, however, is by far more complex: Many L1-speakers of Russian today frequently use Latvian, English is gaining ground, and persons with origins in Latvia lead transnational lives as part of European integration. Both transcultural local families and a growing transnational community display diverse patterns of identities and practices of translanguaging which also challenge traditional views of education.

In this light, our paper discusses two studies on practices, attitudes, and policies among families in Latvia who have chosen multilingual educational trajectories for their children: First, we interviewed local families with Russophone backgrounds whose children attend schools with Latvian as the medium of instruction; second, we conducted a survey in a school focusing on German attended by children with diverse backgrounds, including numerous transnational and transcultural families.

Our studies reveal that these families, on the one hand, display an overwhelmingly pragmatic attitude to languages. While the importance of one’s home languages is stressed for individual identities, Latvian is recognised as important for life in Latvia, and multilingualism is seen as important for education and career. On the other hand, individual transcultural perceptions are a major factor in choosing multilingual education, while the educational trajectories of the children again reinforce translanguaging, other transcultural practices and changing identities within the families. These transcultural realities thereby stand in stark contrast to narratives on monocultural identity, language and nation in Latvian society which often continue to be prevalent in both Latvian and Russophone discourses. In this sense, our research shows how an analysis of micro-level practices and identities provides paths to understanding transcultural realities which increasingly become a de-facto norm in Latvian society.

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# Non-harmonious early bilingualism through the eyes of mothers

Vitalija Kazlauskiene, Inga Hilbig

Nowadays, the traditional family model is being transformed. Nonetheless, mother remains the head of the family's language policy (Deprez 1996, 2000; Moore 2006; Briké 2017; Ricard 2018; Ramonienė 2021). Migrant women are still seen as guardians of their heritage languages and cultures (Lambert 2005, Idiata 2009, Sabrina Aissaoui 2013). Children's bilingualism with minority languages is known to be emotionally challenging for minority mothers (Okita 2002; Timofeeva, Heen Wold 2012; Karpava et al. 2018). However, "most of the information on parental well-being in bilingual families is rather scattered and unfocused, given that it usually just happened to come up in an interview" (De Houwer, Ortega 2019). Therefore, studies that explore the socio-emotional spheres and include families from various language groups or communities are needed (Hollebeke, Struys, Agirdag 2021).

Our paper deals with emotional experiences of Lithuanian mothers from ethnically mixed families in France. The main focus lies on the negative feelings when facing non-harmonious bilingualism (De Houwer 2015) of their children. The data come from interviews and a questionnaire survey. In their discourses, mothers talk about stress, feelings of loss, despair, anger, loneliness, various inner conflicts, e. g. when trying to integrate into the host society on one hand, and preserve the Lithuanian language and identity transmitting it to the children, on the other. Shame and guilt for not meeting the high expectations of the Lithuanian society are distinct. This all might be typical for a small minority group from a small country with a difficult history, marked by the constant fight for survival (Kačkutė 2014; Hilbig 2019, 2020). We argue that revealing and normalising the emotional struggles of minority parents is crucial not only for successful bilingual child-rearing, but also for the ultimate goal of overall well-being of migrant and transnational families.

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# Institutional agency in fostering children's and parents' understanding of the importance of FLP

**Anna Szczepaniak-Kozak, Sylwia Adamczak-Kryzstofowicz**

There already exists ample evidence that family plays a crucial role in forming the child's (multi-) linguistic competence and, as such, it is critical in language maintenance and preservation. However, in our presentation we posit that there are multiple agents that influence a particular family's language policy and they are not limited to parents and children only. We argue that schools and school staff exert a fundamental, yet often unnoticed, influence on the awareness level and language maintenance practices which families display.

Parents speaking minority languages often experience insecurity and doubts concerning their language use when their children enter preschool or school proper. What aggravates their situation is that often they are offered conflicting pieces of advice by schools. By some they are advised to speak at home the mainstream language, even when not all family members are proficient in it. Another common advice offered is the implementation of a strict one person – one language approach.

We argue that raising a bi/multilingual child, competent both in the heritage and local language, requires tight informed cooperation between families and educational institutions. For instance, school teachers can make migrant children, and indirectly their parents, understand the way in which they contribute to family language policy and empower them as active agents in the process. To this end, schools can plan activities or issue materials which can foster children's and parents' understanding of the importance of FLP, its dynamics and strategies.

Based on this assumption, this presentation will discuss examples of best practices of how migrant or multilingual families can be supported in their efforts to strike the balance between maintaining linguistic heritage and fostering plurilingualism, especially by making parents aware of how their language practices, ideologies and management affect their children's language development.

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# Competing language ideologies among young Polish migrants living in Ireland

Malgosia Machowska Kosciak

When we stop perceiving language as a self-sufficient system and start seeing it as a context-sensitive tool that is needed for the accomplishment of our daily goals and actions we are able to see that identity is constructed in the everyday flow of the language of our day to day discourses. For example, for immigrant language learners, heritage language maintenance is often constitutive of identity, which is constantly negotiated in their everyday social interactions (He, 2012). But what happens when immigrants are surrounded by two or more languages? When one language is widely spoken in the society but the second one has a great cultural and heritage value for many in the society?

Language ideologies play a significant role in multilingual settings (Ochs & Schieffelin, 2011). It is often admitted in the literature that attitudes toward a language and language ideologies do not only have a profound effect on those who learn a new language but also influence the learning of that language and further socialization of it. The study of how migrant children are affected by particular ideologies is of great importance as these children are crucial to broader processes of social reproduction and change in society.

The research described in this paper investigates issues related to language ideologies towards Irish, English and Polish among Polish migrant adolescents and their families living in Ireland. The focus of the present paper is on how often competing language ideologies affect these children's identity and the choices they make. It involves an ethnographically informed analysis of speech acts and actions (social acts) with a particular focus on stance taking, affective and moral attitudes, as they were constructed over time (Ochs, 1993; Goodwin, 2000, Davis & Harre 1990).

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# Paternal agency in heritage language maintenance in Australia - Polish fathers in action

Piotr Romanowski

According to the 2016 Census, there are over 300 languages spoken in Australian homes. More than 21% of Australians report speaking a LOTE. Of those 48,000 people use Polish. The State of Victoria have the largest Polish population in Australia (33%). While there are eight Polish Saturday schools in Melbourne, exposure to Polish among primary school children is rather limited. Consequently, they shift towards English monolingualism after beginning mainstream schooling. As much as language input and usage are known to be central to acquisition and maintenance, parental support in children's bilingual development considerably affects their proficiency in the heritage language.

By applying an FLP framework to data collected from in-depth qualitative interviews, this study aims to explore the beliefs and practices of Polish-speaking fathers of 10 year-olds. The results of conducted thematic analysis disclosed that the Polish fathers perceived Polish maintenance alongside English acquisition as crucial for communication in their families, career opportunities and resettlement to Poland. Nonetheless, the beliefs concerning how bilingual development is to be best supported diverged across the families. There were instances of the ML@H policy entrusting their children's English development to the school environment. Others implemented a clear OPOL strategy allowing for both the minority and majority languages to grow in their households. Yet, two other fathers tried to avoid setting strict rules to motivate their children's active use of Polish at home and seeking out other forms of support, e.g. in Polish Saturday schools.

From the experiences of these Polish-speaking fathers it transpires that they strived to sustain their children's Polish acquisition by applying various home language policies and discourse strategies. Also, the fathers held many analogous perceptions and concerns when compared to other studies involving parents in different geographical contexts.

# 'Are we on the same page?' Parents versus children in shaping family language policy

Emilia Wąsikiewicz-Firlej

The present paper highlights the role of child agency in shaping family language policy (FLP). It takes a look at children's perspectives and their bi/multilingual experiences vis-à-vis their parents' beliefs, ideologies and language planning decisions. The study centres on three transnational families with two heritage languages and aims to investigate children's and parents' linguistic repertoires and attitudes to FLP by employing in-depth interviews and language portraits. Such a combination of research tools offers a unique potential for obtaining deep, meaningful data from respondents and seems particularly valid in the case of research on sensitive issues or involving minor participants. Despite certain criticism, the language portrait methodology is worth revisiting in the context of FLP research as it can reduce social desirability bias and enhance the self-expression of all family members (especially children). The findings point to the uniqueness of the individual's experience within and across families under study. Additionally, they reveal that children's attitudes do not always go in line with their parents' views and expectations. In consequence, this might potentially threaten harmony within the family and be a source of conflict. On the other hand, the results also show differences in parents' approaches to FLP, ranging from laissez-faire FLP, with the goal to raise a 'happylingual' child, to a more controlling style and an ambition to raise a 'super-linguist' (cf. Schwartz and Verschik, 15-16). Finally, the paper emphasises the centrality of children's perspectives and their impact on the final shape of FLP that is seen as a constantly negotiated and dynamically evolving construct.

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# „and this computer programme teaches the alphabet in Arabic” – The Role of Technology in the Language Policy of Multilingual Families

**Sandra Ballweg**

Research in family language policy takes into account that migration in many cases is not a one-time and monodirectional event (Lomeu Gomes 2018). Migration is often characterized by a high degree of mobility and constellations, in which not all family members necessarily live in the same place.

In these translocal families, technology plays a crucial role as a means of communication and as a source of additional language input. As research by King-O’Riain (2015) and Palviainen (2020) show, media use shapes everyday language use in multilingual families and can also contribute to language maintenance. However, further inquiry into beliefs and practices, especially in families with three or more languages, is necessary.

In this presentation, I will focus on parental beliefs on media use for communication and language acquisition. Data include individual and group interviews, observations, and field notes. For data analysis, Situational Analysis is used.

The results from the cases of a quadri- and a pentalingual family indicate that the practices of video calls, media use and the availability of media sources such as TV programmes can be decisive for the family language policy and might even attribute to the dominance of languages.

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# Promoting active adult bilingualism in a minority language context

Colin J. Flynn

This paper addresses the role of adult Lx learners in minority language revitalisation and the promotion of active bilingualism in Ireland. It outlines perspectives from which researchers, as well as practitioners, may approach the learning of Irish and other minority languages among adults.

Irish is the first official language of the Republic of Ireland. To compensate for the historical contraction in the Irish speech community, a national language revitalisation enterprise ensures that the vast majority of the population learn the language at school. Consequently, over time bilingualism in Ireland has become more a product of language learning than of intergenerational transmission. Unlike broadly similar minority language contexts such as Wales (Baker, 2011), the contribution of adult bilingual learners to the promotion of Irish has never been fully assessed or appreciated. However, recent research on adult learners of Irish (Flynn, 2020; Flynn & Harris, 2016) and steady improvements in educational provision for them suggest that a thorough examination of the potential contribution of this cohort to language revitalisation is overdue.

More recently, Ireland has experienced a dramatic increase in multilingualism resulting from multiple waves of immigration from other European countries, as well as from further afield. These demographic and linguistic changes have motivated a wider discussion of minority and community language learning in Ireland (Carson & Extra, 2010).

This presentation will address pertinent issues for adult minority language learning in Ireland, and similar contexts. It will draw on psycholinguistic, sociolinguistic, applied linguistic and pedagogical research to raise questions that should be considered in any attempt to increase active minority language use, particularly among adult Lx learners. In doing so, recommendations will be made for research on this cohort in terms of language revitalisation.

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# (Trans)languaging of plurilingual speakers in the context of familylect and ecolect

**Hadrian Lankiewicz**

Drawing on the concept of ecolect (Lankiewicz, 2013) and familylect (Søndergaard, 1991) as well as the translingual instinct (Li, 2011), the author of the paper delves into the problem of linguistic repertoires among plurilinguals. In his research based on narrative studies and in-depth interviews with plurilingual university students of international background, he tries to disclose how their linguistic repertoires echo the family-specific frames and family cultures (familylect) in reference to “private language” (Tannen, 2001), “family expressions” (Randall, 2005), “family words” (Dickson, 2007), “family humour style” (Everts, 2003) and how these are evocative of language mixing (Canagajarah, 2013). The ultimate objective of the proposal is to delineate the elements of family-related (trans)languaging (Mazak and Carroll, 2017; García and Otheguy, 2019) within linguistic repertoires of plurilingual speakers, conceptualized as part of their ecolect.

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# The role of parental attitudes in acquisition of Welsh as L3 among Polish migrants to Wales

**Karolina Rosiak**

Poland's accession to the European Union in 2004 resulted in unprecedented economic migration flows from Poland to the UK. Unlike previous Polish migration flows which tended to concentrate around big cities in England and Scotland, this time it reached rural and semi-rural areas that had not attracted many newcomers previously. According to Migration Observatory, over 18,000 Poles lived in Wales in 2014, constituting the most numerous non-British born ethnic group living in, officially bilingual, Wales. The largest Polish communities can be found in Llanelli (South West Wales), Wrexham (North East Wales), and Cardiff (South Wales).

Wales is an officially bilingual country with Welsh (*de iure*) and English (*de facto*) as her official languages based on The Welsh Language (Wales) Measure 2011. Welsh is a minority language spoken by around 20% of the population (i.e., 583,000 people), the biggest percentage of whom live in the west and north west though with considerable "migrant" communities in urban centres, such as Cardiff. In their 2017 document *Cymraeg 2050: A million Welsh speakers*, The Welsh Assembly Government outlined their strategies to promote the acquisition and use of Welsh in public domains. The document stresses the importance of continuing providing obligatory bilingual education to all students between five and sixteen, which has been in place since early 90s.

In this paper I will discuss attitudes of Polish parents towards their children having to learn Welsh in schools vis-à-vis the acquisition and maintenance of their heritage language, and English, the dominant language in Wales and the world's lingua franca. Data discussed in this presentation was obtained through qualitative research (semi-structured interviews) conducted in Aberystwyth, Wales in May-June 2018 among the so-called 'New Polish Migrants'.

# Family language policy of bilingual couples: Raising children into a second language in Poland

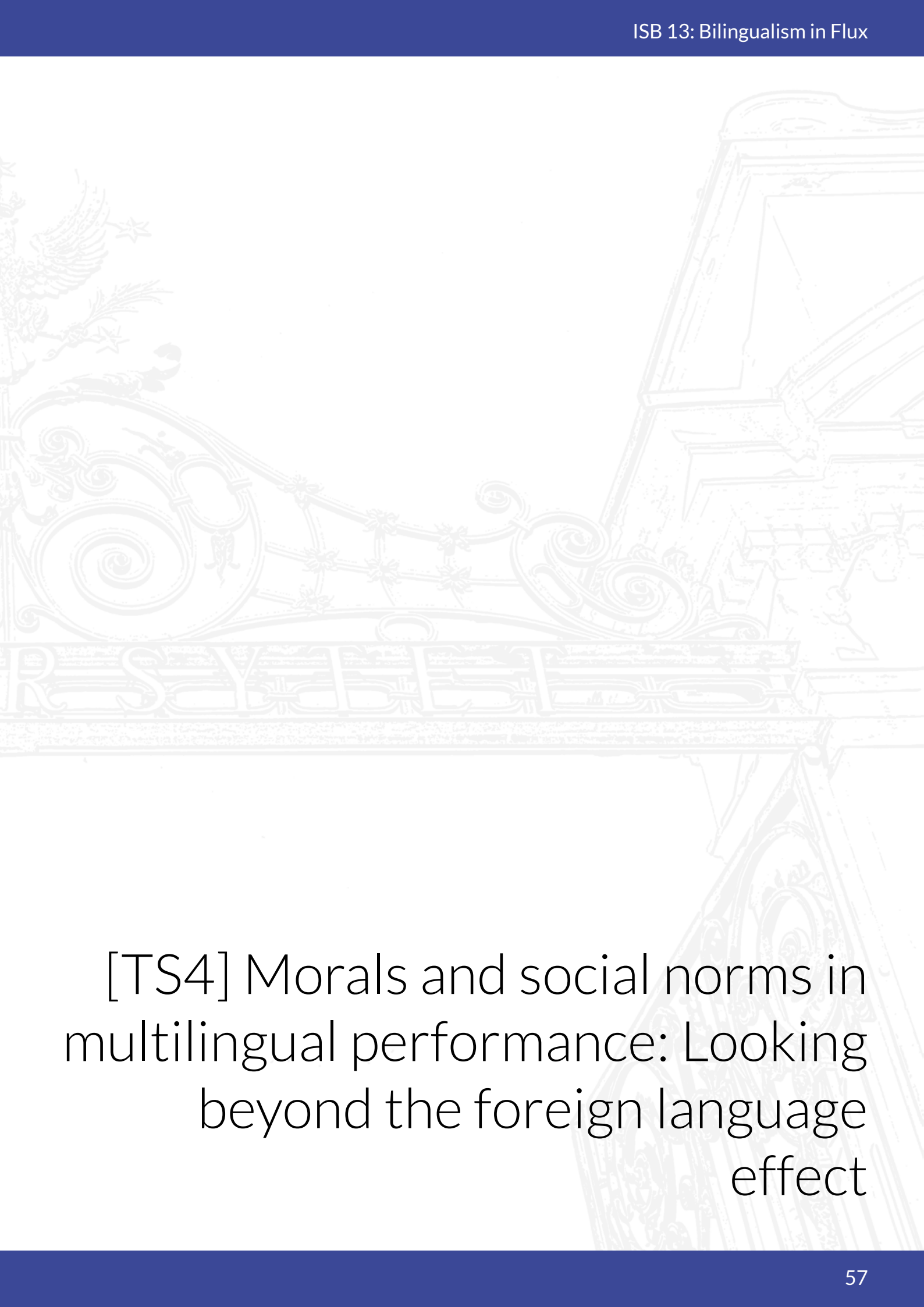
Agnieszka Stępkowska

The paper explores private language policies of bilingual couples in Poland toward their children. Based on data from 24 in-depth interviews, analyzed via a qualitative method, I identify the types of bilingual families in Poland by showing that they share parallel educational experiences. Depending on the specific linguistic constellation of a bilingual couple, the patterns of language use can vary widely. The resulting type of bilingualism in children may be active or passive depending on the pattern of use of the two languages; it may encompass oral and written skills in both languages or only a small degree of literacy in the family minority languages, or none at all. A focus on bilingual couples with children reveals factors that contribute to multilingual development and practices of all family members. The patterns of language choice in family have an impact on language socialization of children. Bilingualism matters for parents who want to prepare their children for the life in a multicultural and multilingual society. Language use reflects not only the preferred choice patterns of parents but also their language beliefs and – by extension – their personal and social identities. Extracts from interviews present parental attitudes which include the strategies of bilingual upbringing used by parents. The identification of bilingual family types has a crucial bearing for the understanding of everyday bilingual communication between parents and children. Parental attitudes to languages influence the effectiveness of communication in family and give shape to the family language policy. The research findings also reveal an appreciation of bilingual couplehood in the context of children's linguistic future.

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[TS4] Morals and social norms in multilingual performance: Looking beyond the foreign language effect

# Language-switching as a boundary of the Foreign Language Effect

Rita Gross, Jeanette Altarriba, Dina Abdel Salam El-Dakhs

Bilingualism and cognition are closely interrelated. For example, a foreign language effect (FLE) occurs when the language a problem is presented in influences its outcome (Keysar et al., 2012). So far, it has been unclear under which conditions the FLE appears (Driver, 2020; Dylman & Champoux-Larsson, 2020). Two experiments were conducted to investigate potential boundaries of a FLE. In Experiment 1 thirty-nine German-English bilingual participants ( $M_{age} = 29.39$ ) were presented with the Trolley Dilemma (a low-conflict, impersonal moral dilemma) and the Footbridge Dilemma (a high-conflict, personal moral dilemma) and responses were measured, as well as language-switching abilities. Participants saw these dilemmas either in German (NL), English (FL), or in a language-switching condition. Dilemmas were presented in either a gain or a loss frame version. Our purpose was to explain significant amounts of variance in judgments from an individual's switching habits. While no FLE was found, the data indicated that switching habits can significantly predict answers in the Footbridge Dilemma,  $F(1,37) = 6.141$ ,  $p = .018$ ,  $adj.R^2 = .119$ . Experiment 2 reflected the design of Experiment 1 with an added acculturation measure. One hundred and twenty Arabic-English bilinguals ( $M_{age} = 20.98$ ) from PSU were evaluated. Again, no FLE was found. Further, acculturation did not explain a significant amount of variance in judgments. However, in this experiment switching abilities between Arabic and English explained a significant amount of variance in the Trolley Dilemma but not in the Footbridge Dilemma ( $F(1,118) = 5.991$ ,  $p = .016$ ,  $R^2 = .048$ ). Age was not a covariate in either experiment. These findings provide support for the notion that certain types of language-switching might form a boundary of the FLE. Practical applications of the current findings can be found in the evaluation of bilinguals in standardized testing in both educational settings and in the workplace.

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# Moral Foreign Language Effect – Factors Other than Language

Franziska ČAVAR, Agnieszka Ewa Krautz

Several previous studies have demonstrated that a foreign language may affect our moral choices. The present investigation aims at testing the, so-called, Moral Foreign Language Effect (MFLE) by controlling at the same time for participants' language proficiency, varied levels of emotionality of the native and foreign language, the emotion regulation mechanism, and moral foundations. For that purpose, a group of 75 German-English speakers was presented with classic moral personal and impersonal dilemmas in either their mother tongue, German, or their foreign tongue, English. In addition to making a moral choice, the participants were requested to evaluate their level of arousal and valence using the Self-Assessment Manikins (SAMs) (Bradley & Lang, 1994), providing answers on the Cognitive Emotion Regulation Mechanism questionnaire (CERQ) (Garnefski et al., 2001) as well as on the Moral Foundations questionnaire (MFQ20) (Graham et al., 2011). The results revealed that other factors than language, i.e. the type of scenario (switch vs. footbridge) as well as the moral foundations of in-group, harm, and purity along with the emotion regulation mechanisms of positive refocusing, refocusing on planning, and rumination seem most reliably to predict moral decision-making.

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# Two languages – two sets of social norms? The Social Normativity Hypothesis in bilinguals

Michał B. Paradowski, Marta Gawinkowska

In an ideal world, reactions and answers to ethical problems should be consistent irrespective of the medium through which the question or situation is presented. Yet recent research (Costa et al. 2014; Geipel, Hadjichristidis & Surian 2015, 2016; Cipolletti, McFarlane & Weissglass 2016; Corey et al. 2017; Hayakawa et al. 2017; Čavar & Tytus 2018; Brouwer 2019; Karataş 2019; Dylman & Champoux-Larsson 2019; Driver 2020) has shown that the same dilemma may elicit different moral judgements depending on the language in which it has been described.

Using a covert 2×2×2 experiment where 61 bilinguals were asked to translate (L1↔L2) a passage peppered with swearwords, we showed that while the results ostensibly corroborate the Emotion-Related Language Choice theory (according to which bilinguals find their L2 an easier medium of conveying content that evokes strong emotional reactivity; Kim & Starks 2008), the effect was only observed in the case of ethnophaulisms, that is expletives directed at social (out)groups. This indicates that the key factor modulating response strength is not so much the different emotional power associated with the respective languages, but social and cultural norms.

Long cultural learning and socialisation make expressions in L1 highly prone to normative influences, whereas using a foreign language exempts the speaker from these (whether our own or socially imposed) norms and limitations. It transpires that switching to a foreign language during decision-making may not only reduce emotionally-driven responses and political correctness biases, but also promote candid deliberative processes.

Due to the COVID-19 pandemic, we were prevented from verifying whether the same kind of contrast holds for L2 vs L3; in other words, whether all foreign languages acquired later in life as subject to the relaxation of social normativity. Instead, we will discuss the original findings in light of most recent research.

# Moral decision-making in the context of written and oral code-switching: A new context for the Foreign Language Effect

Meagan Driver

The current presentation outlines two individual studies which explore the implications of bilingualism and language on moral decision-making in the written and oral modes. Study 1 expands the literature on the Foreign Language Effect (e.g., Costa et al. 2014; Keysar et al., 2012) by investigating differences in moral judgment in the written mode for 280 English-Spanish late bilinguals when processing the button and bridge moral scenarios of the canonical trolley dilemma (Thomson, 1985) in an online questionnaire in either a native (NL), foreign (FL), or code-switched (CS) language environment. Study 2 parallels the goals and procedure of the first study and explores the Foreign Language Effect on moral decision-making in the oral mode for 200 additional English-Spanish late bilinguals making judgment again in a NL, FL, or CS context. Study 1 furthermore examines the effects of emotion on moral standards across the three language contexts, analyzing self-reports of individuals' emotions following their moral decisions. In the written mode, moral judgments in the CS and NL conditions patterned similarly for both dilemmas, while, in line with previous studies, the FL condition elicited an increased percentage of utilitarian decisions in the high-conflict bridge scenario. Unique emotions did not vary significantly across language contexts in either scenario, and no reduction in emotion was seen in participants' FL. However, an interaction between language condition and emotion in the high- conflict dilemma suggests that the ratio and relative ranking of various emotions, and not just the degree of emotionality, may have an influence on moral evaluations. The presentation illuminates the previously neglected variable of moral decision processing in the context of written and oral code-switching and discusses cognitive and emotional explanations for the Foreign Language Effect.

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# Explicit Gender Stereotyping in Bilingualism

Greta Mazzaggio

A gender stereotype is a mental representation related to gender, according to which certain characteristics are attributed without direct experience (Allport 1954). Many ordinary words present a negative connotation when applied to women compared to men (Lakoff 1973). Do linguistic stimuli influence our bias towards gender stereotypes? We want to exploit the foreign language effect (FLE) to see whether explicit linguistic gender stereotypes are reduced in a second language (L2) compared to a first language (L1). We asked Italian native speakers (213), English native speakers (105) and Italian/English bilinguals (192) to evaluate words as neuter, masculine or feminine. We presented a total of 58 words divided into four categories: 14 Power words vs. 14 Weak words and 15 Warm words vs. 15 Cold words. As expected, overall, participants judged Power words much more masculine than Weak words and Cold words much more masculine than Warm words (Rudman et al. 2001). Running a two-way MANOVA (Group\*Gender), there was a statistically significant effect of group for Weak words and of Gender for both Weak words and Warm words. Post-hoc analyses revealed that L2 participants behave differently from the L1 ones, with lower masculine scores for Power words, lower feminine scores for Weak words and Warm words. We demonstrated that when presented with words in a L2 participants are less prone to judge them in a gender-biased way. Our results seem to confirm the FLE: a L2 might trigger cognitive and emotional distance, leading to a lesser gender-biased semantic behavior and language might (mildly) affect how we perceive reality. The take home message is that linguistic behavior might affect our inner beliefs and, thus, how women are represented in everyday language should reflect better equality standards. Gender-free language policies (e.g., gender-neutral language) might be useful in the long run.

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# The effect of language and cultural context on decision making and personality inventories

Alexandra S. Dylman

In recent years, the foreign language effect has been extensively studied for a range of psychological phenomena (including decision making, moral dilemmas, financial decisions etc.), generally showing that bilinguals make more rational decisions and more utilitarian choices in a native language context compared to in a second language context. Similarly, studies have found that bilinguals score differently when responding to personality measures in their different languages, and these findings have been interpreted as indicating that bilinguals change their personality as they switch between their two languages and/or cultures. More recently, however, some studies have found limitation to the foreign language effect, proposing several variables that seem to modulate the foreign language effect, such as immersion, linguistic similarity and cultural influence. In a subsequent study, we attempted to systematically distinguish between the unique role of language and culture separately by asking bilingual participants to fill out a personality inventory. Specifically, native Swedish speakers were asked to imagine going for a job interview. The scenario was presented either in their native language (Swedish) or in their second language (English), and the job interview was either at a Swedish company or at an American company, in a 2 by 2 design. Following the scenario, the participants were asked to fill out the Big-5 personality inventory in the same language as the scenario they had just read. This allowed us to investigate the effect of language and culture separately. The results indicate that separate processes may be driving previously found differences on personality measures in bilinguals' two languages, and that these processes affect the personality dimensions (as measured by the Big-5 personality inventory) differently. These results highlight the methodological importance of investigating the role of language vs. culture when examining the foreign language effect in future research.

# The interplay between language proficiency, modality and emotion in the Foreign-Language Effect on moral decision making

Susanne Brouwer

Previous research has shown that people make more rational decisions when faced with a moral dilemma in a foreign than in a native language (e.g., Costa et al., 2014). The aim of the current work is to test the limits of this so-called Foreign-Language Effect (FLE) by examining (1) whether it holds for highly proficient bilinguals of a closely related language pair, (2) whether it can be replicated in an auditory setting, and (3) to what extent it is modulated by the amount of emotion involved in the dilemmas.


In Study 1, 120 Dutch-English bilinguals were tested. Half of the participants read personal and impersonal moral dilemmas in Dutch or in English, whereas the other half listened to the same dilemmas. As personal dilemmas are up close and personal, it is argued that they are putatively more emotional. After reading or listening, participants' task was to indicate whether the proposed action was appropriate or not. The results showed that the FLE was absent for the readers, but present for the listeners. In Study 1 it was, however, not possible to directly compare the reading and listening task, as there were also other differences between the two set-ups such as timing and ability to review the presentation.

In Study 2, the set-up was modified such that the reading task had the character of a self-paced reading task to resemble the listening task as closely as possible. 154 Dutch-English bilinguals were asked to read and listen to personal and impersonal moral dilemmas in Dutch or in English. Results showed that the FLE was present for personal dilemmas only. In addition, an effect of modality demonstrated that participants took overall more rational decisions during the listening than the reading task. These findings aid in understanding the robustness of the FLE in different settings.

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[TS5] Mother tongue in English-  
prevalent communities:  
Perceptions, practices, and  
outcomes

# Factors that affect the Chinese Linguistic Self-confidence of students studying in an Integrated Programme- Special Assistance Plan (IP-SAP) school: A study based on students' perceptions

Sarina Chiu, Xin Ling Lai, Zi Yun Thia, Anne Kang, W. Quin Yow

This paper seeks to identify and analyse the key factors that may influence the academic self-confidence of IP-SAP students, in their Higher Chinese Language, defined as Chinese Linguistic Self-confidence (CLS). Singapore's bilingual education system encourages Singaporeans to be proficient in both the English language and their ethnic Mother Tongue Language. However, it is observed that Chinese Language (CL) teachers are increasingly facing challenges in motivating students to learn CL, and students' CL proficiency is declining [1]. Moreover, students of our sample population were observed to be lacking in confidence in their CL ability, despite qualifying for a high-achieving SAP school which caters to students who are supposedly academically strong and effectively bilingual in both languages [2]. Understanding the factors that affect students' CLS could help to motivate them to learn CL, alleviating Singapore's current situation of declining CL proficiency among students. We surveyed 95 Upper Secondary students aged 15-16 from River Valley High School, consisting of 39 Secondary-Three and 56 Secondary-Four students. Respondents rated their perception of their competency in the use of CL on Likert scales to determine their CLS level and rated the extent of involvement of 6 factors on their academic performance in CL [3-10]. Significance of the relationship between these factors and CLS were explored using correlational and regression analysis. Four factors were found to be significant, namely: comparison with peers' academic results, past experiences in learning CL, exposure to CL and culture, and the Bicultural Studies Programme ( $R^2=.435, .213, .157, .145$  respectively,  $ps<.001$ ). Students' tendency to compare their academic performance with peers' academic achievements has the greatest influence on their CLS, corresponding to the Big-Fish-Little-Pond-Effect in a high-achieving school environment [11]. We postulate that targeted efforts such as discouraging peer-to-peer comparison in academic performance among students would raise their CLS.

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# Reading starts at home: Early home literacy practices predict bilingual children's reading development in Mother Tongue

Fun Lau, Wendy Toh, Alice Chan

In the past decade, the shift in home language choice from Mandarin Chinese to English has sparked concerns of declining Chinese proficiency among the younger generation in Singapore. To address this, we conducted a study to examine how specific aspects of home language and literacy practices predicted Singaporean bilingual English-Chinese children's emergent literacy skills in Chinese. We report here data from forty-nine Primary 1 (aged 6-7) children and their parents. Parents filled up a questionnaire asking about SES factors, home language environment (e.g., languages that the child hear and speak), and home literacy practices (e.g., reading and writing routines). Children's emergent literacy skills in Chinese were measured with a radical awareness task which assessed their knowledge about the functions of semantic and phonetic radicals, as well as their sensitivity towards positional constraints of radicals. Correlational analyses revealed that children's radical awareness was significantly related to various SES factors and various home literacy practices, such as the age at which the child starts to read both English and Chinese books, and frequency of visits to the library. Other home language and literacy practices such as amount of mother tongue input from family members and total number of books owned by the child did not significantly correlate with the children's radical awareness. Regression analyses showed after accounting for effects of SES, home Chinese literacy practices, specifically the age at which the child starts to read Chinese books, best predicted children's radical awareness. Our findings highlight the importance of introducing mother tongue reading materials to children from a young age and demonstrate the crucial role that early parental home literacy decisions play in predicting literacy development in a L2/heritage language.

# Heritage languages in the Irish primary school context: an investigation into teachers' attitude and pedagogical practice in the area of support for first language maintenance in bilingual pupils'

Suzanne McCarthy, Bozena Dubiel

This study investigates Irish primary school teachers' attitudes and practice with regards to heritage languages in bilingual pupils. The study has three aims: to explore teachers' views on bilingualism and heritage languages, to examine their practice around support for heritage language maintenance, and to investigate potential changes in teachers' views and practice across the primary school years. The theoretical framework draws on the role attitudes play in classroom practices (Christopoulou, Pampaka & Vlassopoulou, 2012), and on the relationship between teachers' knowledge, training and approach with bilingual pupils (Flores, 2001). Past studies show that teachers have positive attitudes towards bilingualism, however, they emphasise the acquisition of the majority language and see the heritage language maintenance as the responsibility of the family (Blazar & Kraft, 2017; Dillon, 2011; Lee & Oxelson, 2006). Teachers highlight their lack of resources and limited awareness of strategies (Dillon, 2011; Lee & Oxelson, 2006; Ribeiro, 2011). The study utilizes a mixed methods approach underpinned by the pragmatism theoretical paradigm. The participants are ninety primary school teachers from six schools in Dublin. Thirty-six of those teachers took part in nine focus groups. Individual questionnaires were distributed and completed by ninety teachers in the participating schools. The qualitative data was analysed thematically through NVivo 12, and the questionnaires through SPSS. Results are that teachers value bilingualism yet struggle to support heritage language maintenance in bilingual pupils. The barriers highlighted are limited knowledge of strategies to support the inclusion of heritage languages in classroom practice, and a curriculum overload. The school and community should respect and encourage heritage language maintenance among children, however, according to the majority of the participants, the primary responsibility lies with the parents. The results will contribute to the fields of language education and pedagogy in terms of heritage language maintenance in bilingual children.

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# Examining the value of mother tongue in bilingual Singapore through the Mother Tongue Perception Scale

Clara, G.H. Chan, W. Quin Yow

English has been adopted as the “international language” for speakers of different first languages (or Mother Tongue, MT) in many parts of the world (Seidlhofer, 2005). Due to globalization, many individuals value the mastery of English; this inadvertently results in a decline in the usage of MT. An individual’s motivation in learning - and hence using - a given language is based on their attitudes toward the language and its use; positive attitudes lead to greater motivation (Oroujlou & Vahedi, 2011) and hence greater use. Given the social and cultural importance of MT language maintenance in English-dominant communities, we examined MT perceptions of adults living in Singapore, one such English-prevalent community. We describe findings among community-sampled adults (aged 18-90) who identified their MT as either (1) Mandarin, the official MT of the majority-Chinese Singapore population (n=938); (2) Malay or Tamil, official MT languages of Singaporean minorities (n=587); or (3) other Chinese “dialects” considered unofficial MT (n=938). Participants completed the Mother Tongue Perceptions scale, adapted from Luk and Surrain (2019). Using factor analysis, we identified two underlying factors: (1) Perceived Value of MT; and (2) Value of Learning Additional Languages. We also examined associations with demographic characteristics through SEM analyses. Higher MT proficiency ( $\beta=.20$ ,  $p<.001$ ) was associated with higher Perceived Value of MT. Chinese “dialects” speakers ( $\beta=-.53$ ,  $p<.001$ ) reported lower Perceived Value of MT. Higher education levels ( $\beta=.20$ ,  $p<.001$ ), younger age ( $\beta=-.16$ ,  $p<.001$ ), and being a minority-MT speaker ( $\beta=.07$ ,  $p=.02$ ) were associated with higher Value of Learning Additional Languages. Chinese “dialects” speakers ( $\beta=-.15$ ,  $p=.001$ ) saw lower Value of Learning Additional Languages. Gender and reported proportion of MT usage did not emerge as significant predictors. Results shed light on how MT is differentially valued in the community and may provide important implications on maintenance of MT in English-prevalent communities.

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# Children's language usage moderates the relationship between parental language-mixing attitudes and behaviors

Xiaoqian Li, W. Quin Yow

Bilingual adults often engage in language-mixing behavior (i.e., mixing two languages in the same discourse) yet hold varied attitudes toward it (Poplack, 1988). Past research suggests that bilingual parents' language attitudes (e.g., one should cherish mother tongue) do not necessarily predict their language choices in interactions with their children (Ghimenton, 2015; Yu, 2010). In the current study, we examine the relation between parental attitudes toward language-mixing and their self-reported use of language-mixing in conversation with their own child, and the moderation effect of the child's language use (i.e., usage of mother tongue). The data is part of a larger project on children's language and socio-cognitive development. Parents ( $N = 231$ ) of 2- to 6-year-old English-Chinese bilingual children completed a questionnaire, in which they reported (1) how often they engage in language-mixing behavior (e.g., "I switch languages within a sentence"; 1=never to 5=always) when talking to their child, (2) their attitudes toward language-mixing (e.g., "People should speak only one language at a time"; 1=strongly disagree to 5=strongly agree), and (3) percentage of time their child hears and speaks mother tongue language (Chinese). Regression analyses revealed that parental language-mixing behavior was significantly predicted by their attitudes toward language-mixing ( $b = -.45$ ,  $p < .001$ ). Overall, parents who expressed more negative attitudes toward language-mixing reported less use of language-mixing than those with more positive attitudes. However, this relationship was moderated by the child's mother tongue usage ( $p < .01$ ): For children with lower Chinese usage, the frequency of parental language-mixing was low and did not vary with parental attitudes, whereas for children with higher Chinese usage, parents with less negative attitudes toward language-mixing reported more language-mixing behavior than parents with more negative attitudes. The study provides important insights into how bilingual parents' attitudes and their child's language usage influence parental language-mixing practices.

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[TS6] Multilingual interaction –  
 questions of participation and  
 belonging

# Is there modality neutrality in interaction? Exploring the case of copula constructions

Maria Frick, Niina Lilja, Ivana Leinonen, Elina Palola

The interdependence of syntactic and bodily resources in meaning-making have evoked much discussion recently (e.g., Keevallik 2018, Couper-Kuhlen 2018). Conversation analysts and interactional linguists have noticed that even the smallest building blocks of turns in interaction, turn constructional units, can be designed by combining verbal and bodily elements (Olsher 2004; Keevallik 2013). At the same time, construction grammarians have sought cognitive explanations of the phenomenon. For instance, Ziem (2017) distinguishes between inherently multimodal constructions (whose meaning would not be comprehensible without a bodily element) and frame+slot schemas (whose modality-neutral slot can be filled with either a verbal or bodily element). The examples in this study are of the latter type.

A collection of 32 instantiations of copula constructions [NP + copula + X] were examined, in which the subject, NP, is followed by a copula and a bodily enactment or gesture (X). X may or may not be accompanied by vocal sounds, but may not be accompanied by such a linguistic element that would make the sentence syntactically complete in the traditional sense. This collection is compared with a collection of purely verbal utterances that contains instantiations with the same construction type.

The data is drawn from naturally occurring Finnish, English, and code-mixed conversations among people of different linguistic backgrounds. In addition to modality neutrality we will discuss possible language neutrality of the constructions that, for bilingual speakers, may be instantiated with a different language frame and slot. As the [NP + copula + X] schema is the same in English and Finnish, we will explore the possibility that, for speakers, this construction might represent a diasystematic construction (cf. Höder 2018). However, we found no evidence of language mixing in the frame (NP + copula) of the constructions, which suggests a cognitive separation of the two languages.

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# Seeking mutual understanding. Perceptions and experiences on language skills and involvement

Liisa-Maria Lehto, Kaarina Hippi

This study discusses ways of talking about language use in situations where one interactant has a multilingual background. The study focuses on the motivational aspect of linguistic strategies. We combine data from altogether 20 single and pair interviews with people residing in Finland. The interviewees were asked about their experiences of interacting with Finns. The study utilizes discourse analytical tools (Fairclough 1989) and qualitative content analysis. Our focus is on: a) strategies that the interviewees report Finns to use when they recognize a possible asymmetry in an everyday interaction with the interviewee, b) motivations that the interviewees see behind these strategies, and c) how mutual understanding is built overall.

Three different types of interaction strategies were found to be used by Finns: 1) changing the language to English, and 2) commenting on the Finnish language spoken by the interviewee. Interviewees report possible motivations behind the Finns' interaction strategies as: 1) an assumption based on hearing the interviewee speaking (non-native) Finnish, 2) an assumption made based the looks or name of the interviewee, and 3) other assumptions, such as internationalization. On the basis of the interviewee reports, it seems that Finns sometimes lump together certain background and linguistic knowledge so that, for instance, a multilingual background provokes evaluations of interviewee command of Finnish, as well as challenges the membership of the multilingual speaker to Finnish-speaking society.

The study sheds light on the ideologies and assumptions that affect communication among people with different backgrounds. While revealing the challenges involved in communications between participants with different linguistic and cultural backgrounds, the study also shows perspectives that may help to unpack obstacles to mutual understanding and involvement in multilingual interactions.

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# Linguistic repertoire and health literacy: small stories about health interactions

**Ingvild Badhwar Valen-Sendstad**

The COVID-19 pandemic has intensified the structural vulnerability (Bourgois et al., 2017) of ethnolinguistic minorities. Structural vulnerabilities can be defined as intersectional processes that condition lifestyles and constrict minoritized populations' financial stability, wellbeing, and access to welfare services. This paper presents findings from an ongoing, ethnographically oriented PhD project. Data material collected between 2019-2021 includes participant observations, interactional and interview data. Deploying Busch's (2017) revisitation of Gumperz' (1964) repertoire, I explore health communication issues via health literacy as social practice. This paper presents the case study of 'Sara', who has migrated to Norway and learned Norwegian later in life. Sara is on long-term sick leave. Drawing on the narrative analytical framework small stories (e.g. Georgakopoulou, 2006), the paper asks what language ideologies that are indexed in Sara's narratives. Specifically, it teases out some of the processes through which Sara responds to language ideological interpellations about what it means to practice "good" health literacy in institutional interaction. The paper examines how such language ideologies come to regulate Sara's subjective perspectives on her own capacity to explain her health experiences in interactions with Norwegian public institutions. It scrutinizes one Norwegian trope, *tydelighet*, which surfaces in Sara's narratives about her life in Norwegian as a woman with a migrant background. *Tydelighet* may be translated into, amongst others, clearness. This trope is used to describe "Norwegian-ness", Norwegian institutional discourse, as well as Sara's capacity to explain herself "tydelig" in order to be understood by others. Indeed, the trope comes to illustrate Sara's experiences of (un)belonging and in/exclusion when practicing health literacy as a Norwegian "second language speaker". Sara's small stories provide valuable insight into the processes through which language ideologies may shape linguistically diverse populations' access to Norwegian public institutions in ways that in turn may configure structural vulnerabilities.

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# Multimodal try-marking as a tool for securing understanding of codeswitched lexical items in a word search

Ivana Leinonen

This study explores the multimodal means that multilingual speakers use to secure understanding of codeswitched lexical items mobilized within word search sequences. How do the speakers make sure that the recipients are familiar with the codeswitched word? Previous studies have shown that when speakers attempt to resolve a word search with a codeswitched word, they can produce it in a prosodically try-marked format (with rising intonation), thus inviting recipient participation in a search (Duran, Kurhila, & Sert, 2019; Kurhila, 2006). In my current research I am interested in both prosodic as well as embodied cues that speakers use in try-marking.

The study draws on the methodological framework of multimodal conversation analysis, which allows for a detailed examination of participant conduct with respect not only to language, but also to the wide range of other resources mobilized by the participants, such as prosody, syntax, gaze, gestures, posture, and body movements (Mondada, 2013). The data for the study consists of 21 hours of video-recorded naturally occurring conversations among friends who are native speakers of Finnish, Slovak, and Czech. In these everyday conversations, participants rely mostly on English (used as the lingua franca), which is the second language of all participants. Participant proficiencies as well as experiences with using English are varied. In addition to English, participants also recurrently draw on their native and/or other second languages, which are partially shared by the co-participants.

The results show that in addition to rising intonation, speakers also employ specific embodied cues, such as recipient-focused gaze, facial displays, and gestural holds to request recipient confirmation and to secure understanding in linguistically asymmetrical situations. The study contributes to our knowledge of how effective communication is locally and multimodally achieved by the participants in linguistically diverse settings.

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# The design of requests by adult L2 users with emerging literacy: Complex multimodal gestalts in co-constructed request sequences

**Laura Eilola**


While the number of migrant populations is growing, more research is required on how learners with low alphabetic literacy tackle the challenges of second language use in their new home countries (see Bigelow & Vinogradov, 2011). This study focuses on how adult second language users of Finnish with emerging literacy utilize multimodal resources in the settings of classroom and service encounters to accomplish recognizable requests. The study is based on longitudinal ethnographic fieldwork. The interactions of the groups were video recorded for 8 months in classrooms and in other contexts. The data consists of 22 hours of video-recordings.

The method of analysis is multimodal conversation analysis, and the focus is on how L2 users formulate their requests as complex multimodal Gestalts (Mondada, 2014), consisting typically of deictic or depictive gestures, in the situations where the participants' shared linguistic resources are limited. The analysis also shows how request sequences are multimodally co-constructed and how these sequences typically involve multimodal negotiation in the form of insert expansions in which the interlocutors support L2 users to formulate requests that are understandable to both participants and that contribute to the progressivity of the interaction in an appropriate way.

The findings contribute to understanding practical request sequences as multimodal, context-sensitive, collaborative actions, and underline the importance of this perspective especially from the view of L2 users.

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[TS7] The connections between  
loan translation and contact-  
induced change: mapping a grey  
area

# Similarity in Language Transfer

Marie Barking, Ad Backus, Maria Mos

Bilingual speakers tend to frequently experience language transfer when their languages are typologically closely related, which suggests that similarity between languages is likely to play an important role in the transfer process. In this presentation, we explore how three different types of similarity affect transfer of light verb constructions (LVCs, such as take a walk, set an alarm) from Dutch to German, namely (a) similarity to existing constructions, (b) surface similarity based on whether the noun in the LVC is a cognate in Dutch and German, and (c) similarity in the light verb's usage contexts. The results suggest that more similarity does indeed facilitate transfer, in that speakers experienced more transfer (a) when the LVC was similar to an existing German LVC, (b) when the nouns in Dutch and German were cognates, and (c) when the verbs were used in similar contexts across languages. This is reflected both in the speakers' language use as well as in their acceptability ratings of transferred constructions. Moreover, the results suggest that having a construction that is highly similar in Dutch and German can even lead to less acceptance of existing alternatives that happen to be less similar. Overall, the results thus show that speakers both add constructions that did not previously exist in German and drop constructions that did previously exist, based on similarity between constructions in Dutch and German, ultimately resulting in more convergence across their languages.

# Different paths of Finnish Romani

**Kimmo Granqvist**

Finnish Romani (FR) is a Northwestern Romani dialect spoken in Finland (since the 16th century) and Sweden. FR is seriously endangered today in both countries and used in a limited range of domains to a limited extent along and intertwined with majority languages, in Sweden also with other Romani dialects.

There is a symbiotic relationship between FR and Finnish resulting from replication or transfer of Finnish morphosyntactic patterns that entails theoretical considerations regarding the status of FR as an autonomous language system. This has caused diachronic structural changes in the language, e.g. in argument structure, the formation of analytical passive constructions, and adposition phrases. Within the light of a code-copying framework (Johanson 1993, 2002, cited by Verschik & Kask 2019: 4), semantic combinational copies involve expressions such as Finnish *mitä sinulle kuuluu?* > Romani *so tukke ħunjula?*, which is a word-by-word translation. Selective copies constitute a central means of lexical enrichment of the language; in particular, collocations that replicate Finnish compounds. These are usually not translation loans in the strict sense of Backus and Dorleijn (2009), since they involve changes in morphosyntax, e.g. Finnish *tietokone* > Romani *džaanibosko mahħiin*. However, there is an emerging competing tendency to true translation loans in FR, e.g. Finnish *jäsenmaa* > Romani *lendathem*. In addition, a gradual shift of FR speakers in taking place away from selective copying to intensive global copying as a compensation strategy, e.g. *liine Deevelesko armao*, in which *armao* is in Finnish partitive case.

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# Changes in Russian-Sakha bilingualism in the Republic of Sakha (Yakutia)

**Manchurina Lidiya**

There are several types of bi- and multi-lingualism in the Republic of Sakha (Yakutia) in Russia, between Russian and a local language, or two local languages, with one or the other dominant. Two linguistic systems co-exist for the bilingual, they may be mixed to a certain degree. Their independent co-existence is quite rare; therefore, an inevitable outcome of polylingualism is interference.

Changes in the Sakha language (ISO 639-3) as a result of Russian-Sakha contact can be divided into two categories: 1) changes in collocations and other norms of the Sakha standard language; 2) changes in the functions of Sakha written styles, from official-bureaucratized to journalistic styles from Russian.

One of the most widespread types of the first kind of change is interference in collocations. If one language uses one collocational combination, another language may combine words differently. For example, the collocation Russian *est' sup* 'eat soup' is *miin iher* 'drink soup' in Sakha. Sakha speakers are so accustomed to speaking Russian that they use a direct translation from Russian (eat instead of drink); such uses are widespread today.

Interference of the second kind includes formulaic words and combinations that come as ready blocks of information, encoding specific meaning, used to express a variety of abstract thought processes in bookish styles. For example, in Sakha there are a large number of calques, such as 'black gold' = R *černoje zoloto*, Sah *xara kömüs*

Formal business and scientific styles in Sakha have been created and continue to be created with direct influence from Russian. Here Russian is the source of the new forms, in contrast to the first category of interference, where Russian translations come at the loss of pre-existing Sakha words and expressions. Loan translations are the primary tool for borrowing various administrative terminology from the donor language.

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# Loan translation and contact phenomena in homeland and heritage varieties of Croatian

Jim Hlavac

This paper is based on data from homeland (standard and non-standard) and heritage varieties of Croatian. Homeland varieties are looked at to see what has and can happen ‘at home’, particularly in non-standard varieties. Heritage Croatian data comes from a cross-national, multi-site project spanning four generations and nine countries (Hlavac and Stolac, 2021).

Four types of loan translation are looked at: (1) semantic extension; (2) word-for-word/morpheme-for-morpheme renditions of expressions/collocations/VPs; (3) copying of argument structure; (4) other instances of template-copying with conspicuous morphosyntactic features. The following observations can be made:

(1) is infrequent. An addition or change in semantic meaning is more readily achieved through global copying of lexical items that function as hyponyms.

(2) is frequent in both homeland and heritage varieties. Some calques were not included in the standard Croatian, but other ones created to replace global copies of foreign-origin lexemes. Amongst these are NOUN+NOUN structures which are rare but with implications as a model that may be increasing in use. In heritage varieties, the proportion of recorded loan translations remains relatively high, perhaps as a favoured strategy to avoid code-switching which some speaker informants may feel is dispreferred in recorded interviews.

(3) is rarely found in homeland varieties, more so in heritage ones, e.g. structure of complex NPs, sequencing of attributives according to other-language models. Forms of possessive marking also belong to this group.

(4) is found in heritage varieties only, such as changes in valency marking for some verbs and negative polarity rather than negative concord which is otherwise required in Croatian. The copying of other-language NP templates is recorded resulting in use of the numeral jedan ‘one’ as a nascent indefinite article amongst some speakers.

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# Loan translation vs. structural change in Estonian blogs and vlogs

**Helin Kask**

The presentation focuses on the ratio of loan translations and structural changes in Estonian fashion, beauty and lifestyle blogs and vlogs. Mostly, loan translations are prevalent in my data. These are idioms and fixed expressions with figurative meaning that are used to seek innovative and colorful language use. These are word-for-word renditions from English like *minu vabandused* ‘my apologies’ (instead of *ma vabandan* ‘I apology’) and semantic extensions like *ma armastan kohvi* ‘I love coffee’ (instead of *mulle meeldib kohv* ‘I like coffee’).

In my data, examples of structural change appear rather in blogs than in vlogs. However, these changes are not specific to blogs and vlogs, but they are conventionalized in Estonian. These changes include copying the passive construction something is done by someone (*teh-tud minu poolt do-PST.PTCP me:GEN*) instead of *minu teatud* ‘done by me’ (*me:GEN do-PST.PTCP*) and have-construction (*ma oma-n salli* ‘I have a scarf’ I have-1SG scarf:PART) instead of *mu-l on salli* (*me-ADE be:3SG scarf*). There are also examples of using Estonian progressive *mas*-construction as an equivalent to English present progressive tense (*olen lugemas* ‘I am reading’ instead of *loen* ‘I read’).

As combinational properties and grammatical meanings are abstract and require more cognitive effort and time for conventionalization, it is not surprising that in my data loan translations prevail.

The data comes from Estonian fashion, beauty and lifestyle blogs and vlogs. All together 750 blog posts (275,263 words) from 45 blogs and 36 videos in total of 6 hours 54 minutes 51 seconds of footage (approximately 48,000 words) from 6 vlogs were analyzed.

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[TS8] The development of social meaning in heterogeneous speech communities

# Perceiving and evaluating standard-dialect variation in one's second language: data from multilinguals in Austria

Andrea Ender, Gudrun Kasberger, Irmtraud Kaiser

Being a fully proficient member of a speech community also entails sensitivity to variation in the respective language(s) and to its socio-indexical meaning. Moreover, the acquisition of sociolinguistic variation is not only a (language) learning task but it also pertains – for multilinguals as much as for monolinguals – to questions of identity and group membership (Regan 2010; Ender 2017). Language learners in (the Bavarian-speaking parts of) Austria are confronted with a so-called ‘continuum’ of speech forms between local dialect and (Austrian) standard German (Ammon 2003; Kaiser/Ender 2015) and these speech forms typically trigger certain socio-indexical associations in monolinguals (Soukup 2009; Bellamy 2012). Research on the acquisition of sociolinguistic variation, however, has long been neglected.

The present study investigates the discriminatory abilities of and attitudinal evaluations by speakers of L2 German who live in Austria, and contrasts them with L1 reference groups. The study includes 11 children (ages 3 to 10), 37 adolescents (ages 11 to 19) and 56 adults from 20 to 75 years of age. In an A-B-X task, participants were asked to decide whether sentences were spoken in the same or in different varieties (local dialect or standard German) and in adapted ‘matched-guise’ tasks, participants were asked to indicate their evaluations of dialect and standard German speakers in pretend roles (doctors and salespersons). Additionally, 39 semi-structured interviews were conducted, which addressed questions of language use and attitudes. Results indicate that second language users seem to quickly develop an ability to discriminate the different varieties similar to first language users. Moreover, multilinguals using German as a second language evaluate dialect quite positively, but less favourably than first language users. In the interviews, issues of comprehension, ‘belonging’ and identity were raised, which help to interpret these quantitative results.

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# Learning the social meaning of English in Belgian Dutch: a neologism task with children and teens

Gillian Roberts, Eline Zenner, Laura Rosseel

**Background:** The emerging field of developmental sociolinguistics (De Vogelaer & Katerbow, 2017), which investigates how children acquire socially meaningful linguistic variation, has so far mainly studied the production of standard/vernacular phonetic variation in acquisition (e.g. Holmes-Elliott, 2020; Chevrot et al., 2011). This study shifts the focus to a language contact setting as a window on how young language users acquire the ability to navigate variable social meanings in discourse (Eckert 2019).

**Aim:** This study experimentally explores variation in Belgian Dutch children's and adolescents' preference for English or Dutch names for a series of "new inventions".

**Design:** Respondents are introduced to novel objects belonging to four different semantic fields that index social meanings expected to be associated with English and Dutch words (e.g. English: IT; Dutch: home & family). Each trial introduces a "new invention" that has a particular function (e.g. an online game) and/or is intended for a particular user (e.g. young people). Respondents are then asked to choose which of two alternative names is the best fit for the proposed object. The name pairs consist of graphemically identical neologisms (cf. Samara et al. 2017) which are pronounced in a Dutch or English way. Neologism stimuli are phonotactically plausible in both languages (e.g. "snaster", Dutch [snəstər] vs. English [snæstər]). In a second phase, respondents are directly asked their preference for an English or Dutch name for the objects. Finally, a qualitative question probes children's awareness of the linguistic phenomenon under study. Multifactorial analysis will uncover the interplay between lexical preference (dependent variable) and semantic field, age, gender and language awareness (independent variables).

**Implications:** Results will allow us to track the evolution in children's positioning towards English and Dutch as available lexical resources and shed light on the acquisition of sociolinguistic variation in settings of language contact.

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# Monolingualism and Multilingualism as Curable Diseases

Raphael Berthele

This paper discusses changes in the view of language use in the fields of applied linguistics and bi-/multilingualism. Linguists' and educationalists' framing of their object of inquiry oscillates between monolingual and plurilingual idealizations, between the competent, monolingual speaker-hearer in the structuralist and generativist traditions and the more recent holistic repertoire and translanguaging construals.

In early European linguistics, thinking about language was highly influenced by the notion of rule-governed, systematic relationships within dialects or languages, often biased towards a monolingual conception of speakers. However, there is no strictly linear development from a monolingualist past to a plurilingual present: certain prominent scholars in the 19th and early 20th century already focused on language mixing and on dynamics within the individual repertoires (e.g. Schuchardt 1883).

On the other hand, scholars in bi- and multilingualism tend to pathologize monolingualism (e.g. the slogan "Monolingualism is curable", Ammon et al, 1997). Many scholars wish to transform the nationalist and monolingual language policy discourse into a multilingualism discourse. The latter, at least in certain social academic networks, is currently morphing into a social justice discourse with sometimes strong claims regarding the necessity to abolish language categories and language boundaries within the multilingual repertoire. I provide an explanation why these expected social effects of linguists' new proposals usually do not occur.

In the final discussion, I argue that replacing an old category (e.g. code-switching) by a new one (e.g. translanguaging) merely displaces the underlying problem of scholarly categorizations. The fundamental problem of referring to sets of usage patterns using metalinguistic terms is not solved by such proposals. I present an alternative approach to the socially negotiated meaning of linguistic terms, drawing on cognitive semantics (Berthele 2021). I argue that such a revised construal of linguistic usage patterns remains useful and meaningful both for scholars and laypeople.

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# Bidialectal pre-school: Arranging interactional (non-)participation through linguistic and other semiotic means

Marie Rickert

In pre-schools in Limburg, the Netherlands the national language Dutch and Limburgish (dialect) are spoken. Frequently, teachers' language choice is context-bound with Dutch as the language for instruction and Limburgish in playful or social-emotional situations. This distribution is reflective of language ideologies held in the wider society (Cornips, 2020). As toddlers have diverse home languages, not all the children attending pre-school are raised with dialect at home.

In this paper, I investigate how teachers and toddlers use Dutch and Limburgish, respectively, to shape situational interactional participation across diverse contexts. To do so, I draw on data generated during 4.5 months of ethnographic fieldwork in a pre-school in Limburg. The data includes fieldnotes as well as audio- and video-recordings of daily situations in the pre-school. Through an analysis of situated interactions, it becomes clear that the use of Dutch and Limburgish, respectively, is amongst the teachers' tools to organize forms of interactional inclusion and exclusion across contexts. Teachers deploy the different language varieties in combination with other semiotic resources to arrange for a situational participation framework (Goffman, 1979; Goodwin, 2007). Thereby, linguistic and topical choices set the scene for different forms of children's participation or non-participation as they make them e.g., intended overhearers, bystanders, or addressees. While children often take up these co-created positionalities, they also actively claim and achieve other forms of participation at times.

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# Measuring language attitudes towards ethnolectal features in bilingual Swiss-German-speaking children

Melanie Röthlisberger

The present paper reports on a project that investigates language attitudes of bilingual children aged 6 to 12 towards the use of ethnolectal features in Swiss-German. To that end, we apply a novel methodological approach that measures language attitudes in children (Rosseel, Zenner & Speelman 2019).

Features of ethnolectal Swiss-German have often been discussed in connection with adolescents with a migrant background (see, e.g., Tissot, Schmid & Galliker 2011) while little is known about the use and social meaning attached to these features within the youngest speech group, i.e. pre-adolescent children. By studying the language attitudes of children towards this variety, we will not only address this gap but also gain new insights into the social characteristics of language development in general.

In order to investigate children's perception of ethnolectal features, the project measures language attitudes of children towards a speaker of ethnolectal Swiss-German compared to a speaker of traditional Swiss-German. Children saw a video with a superhero that either spoke ethnolectal or the traditional Swiss-German dialect from the urban center of Winterthur. They then had to answer a social meaning questionnaire with 7-point Likert scales and a set of open questions.

Preliminary analysis of the data with factor analysis indicates that the youngest age group (6-7 years) gives equal scores to the two videos while children in the oldest age group (around 12 years) can distinguish between the two varieties. The oldest age group also seems to rate the ethnolectal speech as more entertaining and cooler than the Swiss-German one, indicating that these children are potentially aware of the ethnolect's social meaning.

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# Personal frame of reference and social meaning in heterogeneous contact

Devyani Sharma

In this talk, I suggest that a focus on social group dynamics in sociolinguistics has tended to overshadow biographical frame of reference as a key site for the generation of systematic social meaning. Biographical or ‘frame of reference’ indexicality becomes evident in social contact involving spatial (migration) and temporal (generational) heterogeneity. The first example comes from London. First generation South Asians make little use of the classic British glottal stop, but they often use it more in formal speech, at odds with its usual vernacular status. I suggest that this shared inverted meaning does not arise out of group consensus, but rather a systematic inference made by individuals with limited exposure to local class indexicalities: the more salient association for them is ‘Britishness’, linked to formality and prestige. I note other examples of migrants re-interpreting working class forms as prestigious and urban, extending usage and propelling change (Modaressi-Tehrani 1978; Kerswill 1994; Cheshire et al. 2011). This dynamic can be straightforwardly extended to the case of ‘temporal’ (inter-generational) heterogeneity. A form may index subtle meanings for adult speakers but simply sounds ‘old’ to younger speakers. In this case, an incoming generation resets the social meaning of a form (‘stylistic reinterpretation’, Labov 2001), again not due to group consensus but individual inferencing on a mass scale. In closing, I note that even at the micro-level of interaction, a speaker’s personal history of speech styles (D1, D2,... Dn) can be a key source of social meaning, e.g. use of D1 to confide or be frank (Sharma 2018). When evaluating, listeners factor in individual biography, not just group indexicality (Podesva et al. 2015). Together, these cases argue for a focus not just on social group membership for the acquisition and development of social meaning, but also systematic properties of personal frame of reference.

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# Categorisation accuracy of speaker provenance: Social-psychological salience or geographical proximity?

Robert McKenzie

This talk details the findings of a recent study (McKenzie et al., 2019) - employing a free classification instrument - to investigate 191 Thai university students' (mis)categorisations of the geographical origin of nine L1 and L2 users of English from stimulus speech. Analysis indicated participants were generally able to distinguish between native and non-native English speech, and this distinction was found to be the primary perceptual dimension underlying speaker provenance categorisations. It was also found that the social-psychological salience of the speech forms, rather than geographical proximity, was key in determining categorisation accuracy. For instance, recognition rates for Thai, UK, US and Indian English speakers were substantially higher when compared to Vietnamese and Australian English speakers. Analysis of misidentification patterns showed a tendency for the Thai students to conflate Asian English speech forms, despite substantial phonological and phonetic differences between the English spoken in different Asian nations. A discussion is offered with regard to current language attitude theory, in light of the evidence that a) segmental features were largely responsible for provenance (mis)categorisations and b) speaker categorisation processes appeared to lead to social evaluation of the speakers' perceived group membership more widely.

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# Emergent social meaning of linguistic variation in (revitalizing) Basque

**Itxaso Rodríguez-Ordóñez**

Social-meaning-oriented approaches to language variation have long showed that the mutability of social meanings function beyond social group affiliation (Eckert, 2008, 2012). This tradition, however, continues to be largely theorized within phonetic variables (Eckert 2019) in dominant language contexts and comparatively, less is known about how morphosyntactic variables may achieve social meaning in minoritized contact situations (Babel, 2018), especially in language revitalization contexts (Rodríguez-Ordóñez, 2019).

This talk examines the social meaning of two morphosyntactic variables in Basque, where the creation of a standardized variety (Batua) and the revitalization process have given rise to a new social category of Basque speakerhood, known as *euskaldunberriak* ‘new speakers’. These speakers are often associated with Batua for having learned Basque in a school setting, which is juxtaposed to *euskaldunzaharrak* ‘native speakers’. Unsurprisingly, it has been observed that these identities are not fixed, in that some new speakers may ascribe to a *euskaldun* ‘Basque speaker’ identity (Ortega et al., 2015). Here, I address whether and how self-identification may affect the meanings attributed to Differential Object Marking (DOM) and ergative case-marking, two features that have shown to be sociolinguistically salient (Rodríguez-Ordóñez, 2016).

In a Matched-Guise Experiment, 40 listeners evaluated the speech of 8 guises, (half in Batua and half in a ‘local’ variety). Each variety was manipulated for the presence/absence of DOM or ergative-case marking. For each guise, listeners responded to 18 questions pertaining to speakerhood, authenticity, and correctness. Results indicate that while linguistic variety mediates the multiple social meanings attached to each variant, these meanings differ in how they are ordered in each social category. Additionally, by examining the semiotic field, I argue that the two features have different indexical fields and discuss these results within a ‘new speaker’ framework that theorizes the individual’s disposition to self and others (O’Rourke et al., 2015).

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# What can explain (implicit) language attitudes in predominantly bilingual areas? A case study of the Coloured communities in Cape Town by means of Implicit Association Test (IAT)

Pedro Alvarez-Mosquera

Since 1994, South Africa has undergone a period of social transformation that has redefined, to different extents, the sociolinguistic spectrum of the country as well as the development of intergroup (interethnic) relations. English being the most relevant lingua franca across the nation, this presentation seeks to investigate the implicit language attitudes of young Coloured individuals towards English accents in the context of Cape Town. From a linguistic viewpoint, the complex social space of this group resulted in a predominance of Afrikaans (or Kaaps) as their L-1 while recent research shows that a language shift towards English appears to be taking place in many Coloured communities. Within a continuum of language practices that ranges between both languages (McCormick 2002) and a potential ongoing transition towards English among the youth, our innovative methodological approach makes use of IAT (Greenwald, McGhee, and Schwartz 1998) in order to investigate how Standard South African English and Afrikaans-accented English are cognitively processed by 84 young Coloured English and Afrikaans (L-1) speaking participants. In addition to demonstrating that the accents' indexicality on its own can trigger statistically significant implicit positive bias towards Standard South African English speakers, this study delves deeper into the social factors (and its social implications) that may play a role in the configuration of their language bias. More specifically, by means of a post-IAT sociolinguistic survey on participants' linguistic background, language exposure and intergroup social distance levels (among other social factors), our statistical analysis revealed that more positive attitudes towards Standard South African English are significantly correlated with the dominant languages spoken in their places of origin and the social distance levels with the white group. Finally, important methodological and sociolinguistic implications will be debated.

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[TS9] Biases in research: Who counts as 'authentic' bilingual speaker – and how can we tell?

# New speakers of Basque - Rethinking the ,bilingual‘ speaker in terms of heteroglossic practice

**Karolin Breda**

My doctoral project seeks to ethnographically investigate the linguistic practices and identity constructions of non-traditional speakers of Basque. The speakers at the centre of this study are situated within the concept of the new speaker, which describes individuals who have learned the language by other means than family transmission and become active users of the minority language (Ortega et al. 2015; cf. Hornsby 2015). However, they do not always assume this new speaker label, nor do they only use the newly acquired language in their daily lives. They usually draw on a multiplicity of semiotic resources (first language(s), accents, dialectal and standard varieties, styles...) in their daily social interactions. To avoid the notion of the ,bilingual‘ speaker which risks to evoke the problematic idea of an accumulation of competences in two clearly distinguishable ,languages‘, I prefer to focus on the semiotic complexity (Blommaert 2012) of the speakers‘ linguistic repertoires and practices and conceptualize them as inevitably heteroglossic (Bakhtin 1981; Bailey 2012). This perspective does not only allow for a reframing of identity as a „multi-voiced“ process of continuous stance-taking and re-positioning, as I will show with the help of my data, but also makes us question the usefulness of essentialist concepts of bi- and multilingualism for the sociolinguistic exploration of phenomena such as speakers‘ identities and attitudes (cf. Heller 2007; Blackledge & Creese 2016).

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# Non-Western Constructions of Authenticity. Idiosyncrasy and Creativity as Concepts of Authentic Speakerhood in Belizean Kriol.

**Britta Schneider**

In this contribution, I present data from an ethnographic field study on language ideologies conducted in Belize, Central America. Most inhabitants of Belize are multilingual while English is the official language. Even though Spanish is demographically most dominant, the language Kriol, an English-lexified creole language with sources in times of slavery, today functions as lingua franca in this multilingual setting and has developed into an index of national belonging (already attested in Le Page & Tabouret-Keller 1985). The complex sociolinguistic context offers itself to question concepts of linguistic authenticity and to show that Western a priori assumptions on the link between ethnic heritage, territorial belonging, language competence and linguistic stability are not the only way of conceptualizing appropriate language use and discourses of legitimate speakerhood. In the data I present, speakers do not frame creole authenticity in ideals of stable norms, ethnic heritage or territorial belonging. Many speakers in the local setting have not learned Kriol as their first language and do not use it in family settings but still strongly identify as speakers of Kriol. At the same time, my consultants mostly reject a common standardized and written Kriol norm for the national setting of Belize that would allow for identifying who is 'in' and who is 'out' and that would stabilize Kriol practices. Speakers openly construct Kriol as a code that disallows for norming, a code that can be appropriated individually, and in which idiosyncratic and creative use and constant change are regarded as intrinsic cultural values. An analysis of language ideological discourse on Belizean Kriol brings light to the cultural contingency of European concepts of 'authentic speakerhood' that often hinder an adequate analysis of language variation in non-European settings but also hinder an inclusion of 'new speakers' in traditional European minority language contexts.

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# Venturing beyond the heartlands: Creating ‘new speaker’ communities in Upper Brittany and Lower Lusatia

Michael Hornsby

Lower (western) Brittany and Upper (southern) Lusatia are iconized as the heartlands of the Breton and Sorbian languages, respectively. Higher numbers of speakers of Breton are indeed to be found in Lower Brittany and Upper Sorbs do tend to be treated as the ‘core’ (or more ‘authentic’) Sorbian community which influences and even shapes the processes of revitalization in Lower Lusatia. However, smaller communities of speakers are to be found in Upper Brittany and in Lower Lusatia, composed overwhelmingly of new speakers of Breton and Lower Sorbian. Taking the notion of ‘speech community’ much in the sense proposed by Morgan (2014), this paper aims to explore how community members construct ‘a system of interaction and symbols [which] is shared, learned and taught, and [...] participants and members are aware they share this system’ (Morgan 2014: 2). In particular, the paper explores theoretically how members discursively construct a ‘sense’ of community (or solidarity) through reference to the domain of interest (i.e. individual interaction with the minority language), through engagement in joint activities and through developing a shared practice via a common repertoire or resources or discourses in Communities of Practice (Wenger 2006). In this way, people intersubjectively construct and negotiate their notion of community (Colombo & Senatore 2005: 52). Through reviewing the literature on both language communities, and also through data collected by the author at the two research sites, this paper interrogates in a comparative way how new speakers of Breton and Sorbian collectively construct an understanding of ‘who they are’, while at the same time recognising that ‘to participate in a speech community is not quite the same as to be a member of it’ (Hymes 1974: 50). Overall, an examination of the discourses of belonging and ‘disbelonging’ form the basis of the analytical framework for this paper.

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# Worrying about the standard while speaking dialect and switching codes – dealing with linguistic insecurity in a German speech island in Russia

Edgar Baumgärtner

In recent years, German speech islands all over the world have received growing attention in linguistic research. The so called Sprachinsel used to be of high interest for dialectologists looking for preserved archaisms (Rosenberg 2003: 276). The situation changed as of 1990 when most of the residents of German descent migrated to Germany and adapted to regional dialects and/or standard German (cf. Berend & Frick 2016). Those who decided to stay in Russia have turned to Russian as the dominant language, mostly for economic and social reasons. At the same time, standard German lost its former role in religion, education, and some time ago administration (cf. Berend & Riehl 2008). But the German language did not vanish since dialects still are spoken within families and friends.

The above applies to the German National Rajon in West Siberia (Russia). I visited the villages twice from 2017 to 2019 and conducted interviews with speakers of the German minority. All the 56 respondents were capable of either Lutherisch or Katholisch (Upper and Central German Dialects), standard German and/or Russian (to different degrees). Initially, the study was designed to elicit linguistic features within the dialects. To do so I asked speakers to tell a picture story (Mayer 1969) in their local vernacular and not to worry about using different varieties. When performing the task, they apologized for either blending in parts of standard German or Russian. Though I am of Russian German descent myself and perfectly capable of understanding the dialects as well as Russian, the unequal relationship between researcher and the researched became evident in the data. In this contribution I would like to share examples from my corpus that show how – mostly inevitably – mono and bilingual ideology practice is perpetuated in (field) research (cf. Busch 2019).

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# Overwhelming enthusiasts and nagging onlookers. 50 years of German researchers studying Catalan

**Konstanze B. Jungbluth**

Obviously it makes a difference to study Catalan as an important minority language in the early 1970s when during Franco's time its use was driven out of the public domain. «Up to this point, it had been spoken primarily, although not exclusively, by those who had acquired it through intergenerational transmission, i.e. by native speakers.» (Pujolar/Puigdevall 2015, 168). Fortunately, times changed dramatically: the efforts taken by the uprising Catalan Generalitat, the regional government, privileged linguistics to become an important discipline of reference for the implementation of revitalisation policies (Strubell/Boix-Fuster 2011). Today new speakers of Catalan (Hornsby 2015) are dominant in the younger generation (16-35 years old) and many of them pretend to transmit Catalan to their children ('que tinguessin naturalment aquest xip de parlo totes dues', my emphasis).

Indeed, the way of Catalonia to become a «medium-sized language communit[y]» (Boix-Fuster/Paradís 2019) where the percentage of immigrant population is enormous (Pradilla i Cardona et al. 2013), may be regarded as a success story. The collaboration between German and Catalan linguists did not start from scratch in the 1980s (Jungbluth/Nogue 2020; Jungbluth 1996; Jungbluth 1984; Neu-Altenheimer .1992; Schlieben-Lange 1973; 1985).

In my talk I want to sketch the different stances taken by German linguists during this trajectory of roughly two generations. Did our enthusiasm for the minority language speakers representing linguistic diversity of Europe silence our data or part of it? Did it help to encourage the migrants to learn Catalan as we did? How to deal with the implications for our research rooted in our own monolingual or at best bilingual dialect-standard language acquisition experience in Germany? We had little or no contact with societies using naturally multilingual repertoires. Involvement is inevitably part of research. Which lessons can we learn from the biases determining our research?

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# Who – if any – are Lower Sorbian ‘authentic’ speakers?

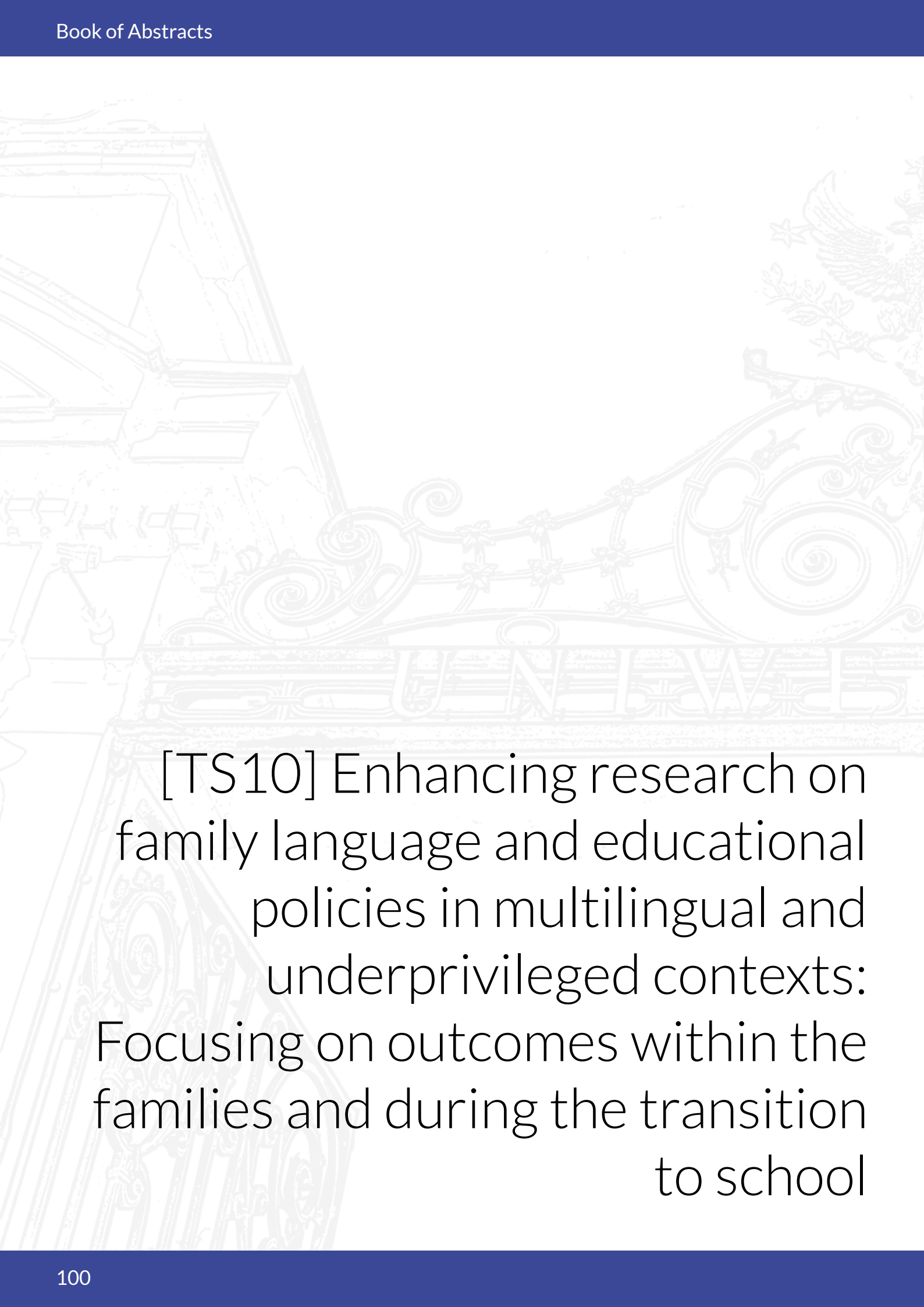
Nicole Dołowy-Rybińska

Lower Sorbian is one of the most endangered languages of Europe. Although official data states that there are approximately 4.000 Lower Sorbian speakers, in reality, there may be less than 400 people who can communicate in Lower Sorbian. As the intergenerational communication has been broken between 1930s and 1950s, there is a gap in continuity of language use and knowledge. Therefore, among the Lower Sorbian speakers, there are on the one hand, people of the oldest generation who had Lower Sorbian as the family language, and on the other hand, those who learned this language at school or during courses. The first group often struggle to speak Lower Sorbian due to the long time without language use and forgetting words and grammar. The second group is – to a large extent – the product of the Lower Sorbian language revitalization, strengthened after the political change in Germany with the education system ‘Witaj’ [Welcome]. After 20 years of these efforts, there is a new generation of Lower Sorbian new speakers; however, their number is a few dozen maximum and they are struggling to find opportunities to speak Sorbian. People who are learning Lower Sorbian often do not feel confident when using it and have a very few opportunities to do it.

The presentation is based on the fieldwork in Lower Lusatia, and interviews with new speakers of Lower Sorbian, participant observation among ‘traditional’ Lower Sorbian speakers and interviews with language activist. Referring to language ideologies theory, the paper discusses the attitudes of Lower Sorbian ‘traditional’ and ‘new’ speakers to one another, as well as different aspects of becoming a new speaker of a minority language, such as motivation to learn and to use the language, sentiment, language engagement, struggling with being recognized as a minority language speaker.

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[TS10] Enhancing research on family language and educational policies in multilingual and underprivileged contexts: Focusing on outcomes within the families and during the transition to school

# Intersections of official and family language policy: Mixed-methods findings

Alexa Ahooja, Susan Ballinger, Ruth Kircher, Melanie Brouillard, Linda Polka, Krista Byers-Heinlein, Erin Quirk

This study, which included focus groups and a large-scale online questionnaire (data collection is ongoing), explored the overt and explicit language beliefs, language use practices, and language-related decisions (King & Fogle, 2013; Spolsky, 2004) of parents raising their first child (0–4 years) bi/multilingually in Montreal-area households. We conducted 9 focus group interviews (average: 42 min 28 s) with a total of 27 parents from 12 households, who spoke either two majority languages (English and French) or a majority language and a heritage language at home. Focus group transcripts were analysed using first deductive and then inductive thematic coding (Fereday & Muir-Cochrane, 2006). In focus groups, participants expressed strongly positive attitudes towards bi/multilingualism, believed bi/multilingualism would be beneficial for their children's lives, and were generally optimistic about their child's ability to become bi/multilingual. They also shared beliefs about the best way to learn French and English, and many stated a similar plan for supporting their children's learning of these two societal languages. However, in contrast to English-French families, heritage language families were concerned about the resources (e.g., schooling options in the heritage language and community resources) available to them to support their child's bilingualism, and the amount and quality of exposure their children would receive in the heritage language. Findings on heritage language and non-heritage language households' family language policy will be examined in light of broader societal language policy in this context, and implications for resource development. Because data collection from the online questionnaire is still ongoing, open-ended responses to questions about parents' beliefs and ideology related to raising their child bi/multilingually will be coded and compared to the findings from the focus groups to reflect more nuanced insights than could be obtained by means of any method on its own.

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# Child-Initiated Codeswitches in Parent-Child Interactions Before and After the Transition to Preschool

Sarah Surrain, Gigi Luk

Children who hear a minority language at home vary in the degree to which they use it productively, even in conversations with family members who address them in the minority language. Parent-child interactions in which the child responds in a different language have been referred to as dual-lingual discourse (Nakamura, 2018; Saville-Troike, 1987) and interspeaker code-switching (Quirk, 2020). Children's propensity to switch to the majority language has been found to be associated with weaker expressive skills in the minority language (Quirk, 2020) and stronger skills in the majority language (Ribot & Hoff, 2014). However, previous work has mainly relied on parent-reported estimates of child codeswitching (see Montanari et al., 2019 for an exception). The current study draws on transcribed observations of parent-child interactions to examine the relation between child-initiated codeswitches and expressive skills in each language before and after preschool entry.

Spanish-speaking parents with a 3 or 4-year-old child in the northeastern U.S. were visited at home in the summer before preschool entry (Time 1,  $n = 35$ ) and again nine months later (Time 2,  $n = 32$ ). At each visit, parents interacted with their child using a wordless picture book and age-appropriate toys. Children's expressive vocabulary skills were assessed in Spanish and English using the CELF-P2. Interactions were transcribed and coded for initiated codeswitches (utterances that contained at least one English word following an utterance that contained only Spanish words).

At Time 1, 10% of child utterances contained initiated codeswitches, compared to 13% at Time 2 (marginally significant increase,  $p = .052$ , with wide variability). Child-initiated codeswitches were significantly negatively associated with Spanish expressive vocabulary scores. In contrast, English expressive vocabulary was not associated with child-initiated codeswitches. Our findings shed light on factors behind the intergenerational transmission of minority languages and children's bilingual development during the transition to school.

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# Building Bridges between Multilingual Families and Schools: New Theoretical and Methodological Frameworks

Xiao Lan Curdt-Christiansen

In many parts of the world, school populations have become increasingly diversified in terms of language and culture. While educational policies in general may embrace and celebrate multilingualism and cultural diversity, practices in reality tend to devalue linguistic diversity by demanding students to learn ‘the mainstream language only’ in order to fit into the existing educational system. Immigrant families are often caught in the middle between how to use (and maintain) their own language and culture to support their children’s academic development, and how to educate their children in the dominant societal/school language with which they are often not familiar. In this workshop, I focus on how the gap between language policies at home and in the school can be bridged to provide a learning environment for immigrant students that is conducive for the development of their multiple languages and academic literacy. Using examples from existing research projects, this presentation discusses how schools and immigrant families can tap into children’s linguistic and cultural resources to facilitate their academic development. Specifically, I will demonstrate how research contributes to communication between schools and parents by discussing family language policy and school policy, what research has to say about parents’ involvement and engagement in their children’s schooling from a language-socialisation perspective, and in what ways research reveals teacher ideologies about immigrant students and parents. This workshop identifies new theoretical and methodological approaches to studying differences in language and educational practices between immigrant families and schools. It emphasises how language policy in education can work jointly with family language policy, to overcome multiple differences in educational practices between mainstream schools and immigrant families.

# Asset-based Language Education Policies in Multilingual Contexts

Jeff MacSwan

Research supports the conclusion that disadvantaged multilingual children benefit from instructional support in the home language. In addition to research summaries using meta-analysis of studies in the United States (NASEM, 2017), Reljić et al. (2015) conducted a meta-analysis of bilingual education programs in Europe and also found that bilingual approaches achieved better outcomes. Still, the underlying causes for the effect are not well understood, suggesting the need for empirical evaluation of competing theories.

This presentation considers three theories of language education program effects which vary in the degree to which they accept children's home language as an asset. An asset perspective affirms and draws out community- and home-based knowledge, culture, and language as part of the school curriculum, permitting these to form a bridge to school-based teaching and learning for non-dominant groups just as they do for dominant groups (MacSwan, 2018). While the time-on-task theory rejects the home language in educational contexts altogether, the threshold hypothesis accepts the home language as an instructional resource but not as an asset, as it incorporates semilingualism, a deficit view of children's home language. The transfer theory, however, accepts the home language as both a resource and an asset.

This presentation summarizes recent research (MacSwan et al., 2017) evaluating these three theories. Participants were 196 sixth graders with Spanish language backgrounds who started learning English in kindergarten and then were continuously enrolled in a U.S. school. Structural equation modeling was used to estimate the extent to which first and second language and literacy – skills that are emphasized differentially in these competing theories – predict academic achievement. Results indicated Spanish literacy, over and above English language proficiency, was substantially predictive of academic achievement, favoring the transfer theory.

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# Heritage language transmission: Saturday schools perspectives from parents' attitude

Eglė Gudavičienė

There are many ways and strategies how to transmit a heritage language successfully to children in migration. One of them is heritage language schools. Lithuanian migrants have a tradition to establish Saturday schools, especially in places where the community is strong and active. There were many Saturday schools in the USA established by the Lithuanian diaspora after WWII. New wave migrants have kept this tradition alive. There are over 150 schools in 35 countries, where the concentration of Lithuanians is bigger.

This presentation discusses the reasons for success and failure in transmitting a heritage language at Saturday schools. The research is based on qualitative data from a research project on language behaviour and learning carried out in the Lithuanian diaspora in Europe and other continents. The study offers an in-depth look at heritage language maintenance and loss from the parents' experience, and attitudes towards the Lithuanian language in terms of educational, social, economic and cultural circumstances. This paper aims at exploring the behaviour of parents of the first generation in the Lithuanian diaspora, the reasons that force them to send their children to these schools, and the advantages and disadvantages they identify. The schools are controlled by speakers of the minority language in a host country. The research shows limitations in the effectiveness of Saturday schools in terms of heritage language transmission and unfulfilled parents' expectations in the light of goals and outcomes of the Lithuanian learning program at these schools. Although the Lithuanian language has a high status in Lithuania and a native language plays a very important role in the Lithuanian identity, usually it has a low status in a host country. Parents' attitude and future plans to stay in a host country or reemigrate are strongly related to their behaviour.

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# Language maintenance in foster care – family language policies and their social and educational contexts

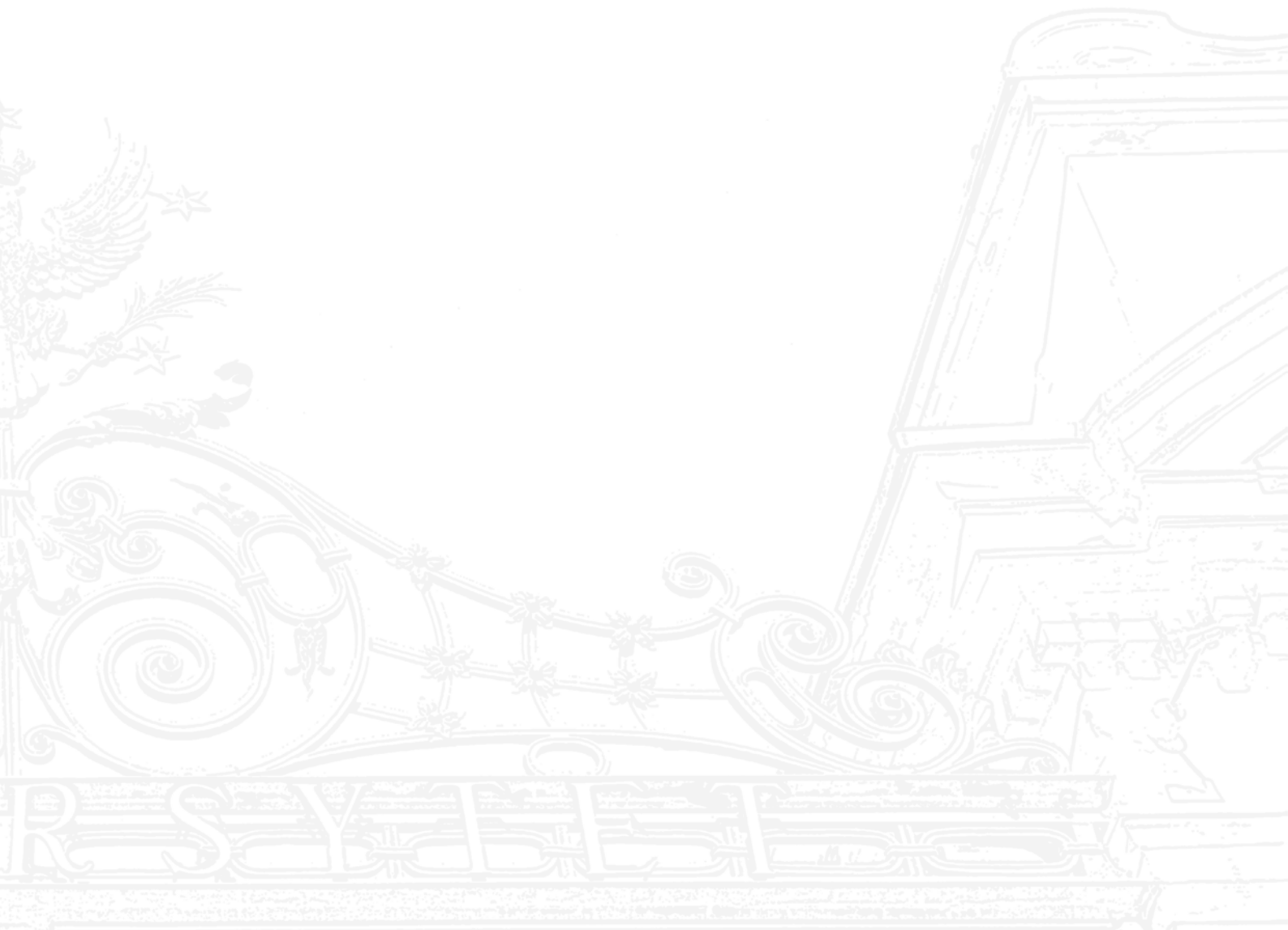
Judith Purkarthofer

Language maintenance is a challenge for most families, even privileged ones (Lanza & Lomeu Gomes 2020). In precarious living conditions – for instance legally as in the case of refugees, economically, e.g. due to insecure working conditions or due to illness – the resources needed to travel, to maintain ties with linguistically favorable circumstances or to support children in their multilingual schooling experience might be limited. One under-researched context of precarious family life is the (temporary) placement of children outside their family. This contribution sets out to map the conditions of language maintenance of children placed outside their family – for various reasons, including neglect or violence – as their language repertoires can be severely affected. In particular in the case of young children, placement outside the family might result in forced language shift and discontinuation of the family language (Purkarthofer, Lanza and Berg to appear).

As the topic has rarely been the focus of attention, my aim is to present preliminary findings about Germany, Austria and Norway, starting with the research questions: Is language maintenance legally and effectively ensured in the process of placing children outside of their family? If so, how is this organized and to which goal? How are these policies influenced by educational policies in place (e.g. a strong focus on majority languages)? The first phase of the empirical research is based on an analysis of legal conditions and available support structures through document analysis and will be complemented at a later stage through interviews with social workers, foster parents, parents and children. The focus on family language policies in foster care not only broadens our understanding of how family language policy and education can (and need to) interact for better or worse, it also helps to make power relations in language policy decisions explicit.

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# [TS11] Literacy in heritage languages

# Monolingual and Bilingual Reading Processes in Russian: Exploratory Scanpath Analysis

Olga Parshina, Irina A. Sekerina, Anastasiya Lopukhina, Titus von der Malsburg

In this study we used a novel to bilingual research scanpath approach (sequences of eye fixations) (Malsburg & Vasishth, 2011, 2013) to investigate reading processes among bilingual and monolingual Russian-speaking readers. First, we ask what kind of scanpath reading processes Russian speakers employ while reading 30 sentences in Russian and whether speakers' status (monolingual/child/heritage/L2) influences which of those

scanpath reading processes are adopted. In addition, we investigated the influence of individual differences on the preference for specific reading processes in bilingual readers.

**Method.** The data set contains eye movements (Eyelink 1000+) from 120 participants, 30 in each of the following groups: monolingual Russian-speaking adults, 8-year-old monolingual Russian-speaking children, heritage speakers of Russian, and L2 learners of Russian (L2).

**Results.** We found that monolingual adults employ a fluent reading process which suggests effortless processing of the written materials – they read straight from left-to-right at a fast pace, skip words, and do not regress much. High-proficiency heritage speakers and children share the same intermediate reading process which is characterized by short regressive saccades, longer fixations, and absence of word-skipping. L2 learners as well as low-proficiency heritage speakers exhibit what we call a beginner reading process which involves frequent re-reading of the whole sentence and particular words, long fixations, and no word-skipping. We suggest that unlike 'intermediate' readers who use the respective process to resolve local processing difficulties (e.g., word recognition failure), 'beginner' readers experience global-level challenges in semantic and morphosyntactic information integration. Among individual difference factors that we tested, proficiency in Russian for heritage speakers and comprehension scores for L2 learners were predictive of the reading process used in bilingual speakers. Overall, scanpath analysis revealed qualitative differences in reading processes among various groups of speakers – these processes cannot be captured by the word-level analysis using the conventional eye-tracking measures.

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# Early literacy in Russian and Turkish as home languages in the context of German as L2

Natalia Gagarina, Nathalie Topaj, Sophia Czapka

The present study addresses emerging literacy in the home and environment languages of bilingual Russian-German and Turkish-German children in Berlin. In this study, we search for typologically-robust tendencies in early spelling in both home languages of bilingual children and compare them to L2 German. We investigate different orthographic phenomena and their possible transfer from L1 to L2 or in vice versa.

For this analysis we used the data from a longitudinal study in which 63 primary school children (21 Turkish-German and 42 Russian-German speaking children) took part. The children attended 3rd grade and were on average eight years old. We analyzed written stories of 26 children who were alphabetized in their L1 (13 in Turkish and 13 in Russian), in addition to German. Written narrative abilities were assessed with MAIN (Multilingual Assessment Instrument for Narratives) in both languages. Additional tests assessed spelling, reading, mental lexicon size and grammar.

A possible transfer from L2 German orthographic phenomena to L1 concerns, for example, final hardening and capitalization of nouns. First analyses indicate that some children produce forms of final hardening in Turkish (like substituting the final <b> in zub ,tooth' into \*zup) but not in Russian. In Turkish, orthographic errors are related to visual similarities between graphemes (e.g., <ç> instead of <c> or <i> instead of <ı>). Additionally, vocal harmony and unstressed vowels are often spelled incorrectly. Vowels in Russian, especially unstressed vowels, are also prone to errors. More detailed analyses will follow and relations to spelling abilities in L2 German will also be calculated. The latter will include both the quantitative (number of correctly spelled graphemes in the standardized spelling test) and qualitative (ability to apply e.g., final hardening in German) abilities.

# Italian-German bilingual schooling: Heritage classes and bilingual programs compared

Tanja Rinker, Theresa Bloder, Kathleen Plötner

Heritage language and literacy development have been found to be influenced by a number of factors such as parental language use, socio-economic status, or home literacy experiences (Dixon et al., 2012; Hoff et al., 2012, 2014; Scheele, Leseman, & Mayo, 2010; Willard et al., 2015). In addition, the language and context of schooling are relevant for the development of the heritage language (Chondrogianni et al., 2019; Polinsky & Kagan, 2007). In the current study, we investigate the lexical and literacy skills in children attending two different educational settings:

The receptive and productive vocabulary (nouns / verbs) was examined in German and in Italian in children; (1) longitudinally in a bilingual Italian-German elementary school program, spanning grade 1-3 (n = 55) and (2) cross-sectionally in Italian heritage language classes (n = 40), grade 1 and 2 using the Crosslinguistic Lexical Task (CLT) in German and Italian (Rinker & Gagarina, 2014; Roch, 2014) as well as reading tests in Italian and German. The children's language and sociodemographic background was assessed in a detailed parent questionnaire.

Both groups show a larger German compared to the Italian vocabulary. During the first and second school year, all children show a large increase in their Italian vocabulary, particularly in noun development. Between grade 2 and 3, children in the bilingual classroom show an increase in verb and noun comprehension but not in production. With respect to reading, children in the bilingual program show better results than the children in heritage language classes.

The findings highlight the various educational and environmental factors that shape lexical and literacy development in bilingual speakers and exemplify how the heritage language Italian can be fostered in different educational contexts.

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# Impact of literacy on heritage Turkish in Germany and the U.S.

**Kateryna Iefremenko, Martin Klotz, Christoph Schroeder**

In our talk, we investigate the impact of literacy on the language use of Turkish as a heritage language in two communities: Germany and the U.S.

We concentrate on the use of the post-verbal position in heritage Turkish. In the SOV-language Turkish, the post-verbal position is a non-canonical linguistic phenomenon. It is characteristic for spoken media and informal registers, while in formal registers, there seems to be normative pressure that restricts the employment of this position (Schroeder 1995). Our data comes from the RUEG corpus (Wiese et al. 2021). Participants are Turkish heritage speakers (HS) of two age groups (15-18 and 23-35), born and raised in the U.S. and Germany, as well as monolingual groups from Turkey of the same age. We investigate data produced by 64 speakers from each country. The data is controlled for (in)formality and mode (formal/informal, spoken/written).

When comparing our heritage Turkish texts, a number of interesting observations can be made. First, since the contact language German is SOV and English is strictly a SVO language, one could expect that heritage Turkish in the U.S. would have a higher number of structures placed post-verbally. However, this is not the case: HS in the U.S. use slightly less post-verbal structures than monolinguals and HS in Germany (Schroeder et al. in review). On the other hand, we find a levelling of registers in heritage Turkish in the U.S.

We expect that literacy and formal language input are responsible factors for the differences between the groups, rather than general linguistic performance or competence of the speakers. In order to scrutinize our hypothesis, we correlate our findings with information about the speakers' formal education in Turkish, self-assessment of their productive and receptive skills, language use in different written media as well as a lexical diversity index and mean utterance length.

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# Does Exposure of Formal Literacy Affect Classifiers in Heritage Japanese?: A large-scale study

Maki Kubota, Jason Rothman, Jorge Gonzalez Alonso

In an ongoing large-scale study, we examine knowledge of classifiers in 300 Japanese heritage speakers (HSs) (age: 10-20). Numeral classifiers are a grammatical device that reflects how speakers categorize objects that they count or quantify, and are obligatory whenever quantity is specified. For example, *-hon* is a Japanese classifier for long, thin objects (e.g., tree, sword, pole). HSs appear to have some difficulties with classifier-noun mappings (Kan, 2019; Ruiting, 2016). However, it is still uncertain to what extent they understand the semantic criteria (i.e., shape and function properties) driving classifier selection. The current study will examine this question by using both real and nonce objects to test Japanese HSs' comprehension and production of classifiers. The participants will be tested online. They speak various majority languages and have different levels of exposure to Japanese literacy (e.g., children who attend Japanese-bilingual schools, Saturday schools, or no experience of formal schooling). In a picture-identification task, participants hear a sentence such as: “*ni-hon arimasu*” “There are two-CLASSIFIER”. At the same time, they will see a computer screen with two pictures: one that corresponds to the classifier *-hon* (e.g., tree) and the other that doesn't (e.g., cat). The trials will alternate real and nonce objects. In the production task, participants are asked to count the numbers of real or nonce objects depicted on screen. We hypothesize that literacy as well as other proxies for input/exposure quality/quantity to Japanese will predict knowledge of classifiers—especially in the nonce object condition, where the semantic criteria are tested—since such related variables are good candidates for determining the extent heritage speaker bilinguals will differ from monolinguals and from each other (Bayram et al., 2018; Kupisch & Rothman, 2016).

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# The relation between reading and prediction in biliterate children

Jasmijn Bosch, Francesca Foppolo, Falk Huettig

Previous research suggests that the ability to anticipate spoken language is related to literacy, as shown by differences between literates versus illiterates (Mishra et al., 2012) and by the effect of reading skills in monolingual children (Mani & Huettig, 2014). It has been argued that reading experience trains the core processes of anticipation, but it remains unclear to what extent this effect is modulated by secondary factors, such as vocabulary knowledge (Huettig & Pickering, 2019). The present study investigated the possible underpinnings of the effect, by focusing on Italian-German bilingual children formally educated in both languages. We tested 39 bilingual third-graders (MAge= 8;8) in a visual world eye-tracking paradigm. Participants were presented with two pictures that either matched or mismatched in grammatical gender, accompanied by the Italian sentence *Dov'è la/il...?* 'Where is the...?', so that the target noun could be anticipated during the gender-marked determiner in the mismatch condition but not in the match condition. Standardized reading and vocabulary tests were administered in both languages. A principal components analysis of various Italian and German literacy measures extracted a first principal component composed of both Italian and German decoding skills. The data were analyzed with generalized linear mixed-effect models on the odds of target fixations as a function of condition, time region and the first principal component as well as vocabulary knowledge in Italian and German. Predictive processing was found to be positively related to children's L1/L2 decoding skills (i.e., the first principle component) and to vocabulary knowledge in both languages. This supports the view that both primary and secondary reading abilities support prediction in spoken language processing, and that cognitive benefits of literacy may transfer across languages in biliterate children. Future work is required to tease apart the influence of interrelated reading skills across L1 and L2 in bilingual children.

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# The effects of different home language instruction practices on Turkish heritage speakers' lexical knowledge

Till Woerfel, Seda Yilmaz Woerfel

The majority of Turkish heritage speakers in Europe live in Germany and France. In both countries, great resources, domains and facilities for first language use and maintenance are available to them. Home language instruction (HLI) in Turkish is provided in mainstream schools and in complementary classes, organized by the German and French governments, Turkish consulates, or private organizations. However, HLI is often extracurricular, not integrated into lesson plans and takes place in the afternoon, on average two hours per week (Küppers, Schroeder & Gülbeyaz, 2014). Recent research shows that under such circumstances, HLI does not have a significant impact on the linguistic development in Turkish (Woerfel et al., 2014). This paper investigates the effects of different HLI practices on bilingual Turkish-German and Turkish-French students' lexical knowledge (n=30, mean age 9;9). Turkish-German bilinguals attended a biliteracy program in primary school, whereas Turkish-French bilinguals attended HLI in school or private classes offered by Turkish cultural associations. The data consists of a verbal re-narration task and a sociolinguistic questionnaire (Woerfel, 2018), and was analyzed with regard to lexical knowledge and home language use. The results indicate that inter-individual variation in Turkish is less pronounced in Turkish-German bilingual speakers; however, the mean scores in Turkish are quite similar for both groups and non-significant. The different quantity and quality of HLI did not result in differences in the students' lexical knowledge. Thus, it seems that other factors play an important role too, namely the use of Turkish in daily interactions. Overall, L1 maintenance in second and third generation heritage speakers' oral lexicon can be related to the great resources for first language use in formal and institutional settings in both countries. Differences in the students' outcomes may be significant rather in written academic language, which should be subject for further investigations.

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# In one word. Implications of corpus-based analysis for word representation by heritage speakers of Russian.

Anastasia Vyrenkova, Kristina Litvintseva

Word recognition has been widely discussed in psycholinguistics in relation to literacy both for monolingual and bilingual speakers (Nunes et al. 2012, Peleg et al. 2016, Chernova, Podvigina 2021). Among the great variety of experimental findings, the one that is most commonly accepted is that word perception comes either directly from the phonological form or from the semantic meaning. Studying orthographic errors is relevant for both of these paths. In this perspective, corpus data, which have not yet been extensively employed for word recognition analysis, could prove useful (cf. few studies that involve corpora for similar tasks (Xiao, Wenyan et al. 2017, Brysbaert et al. 2018).

This study presents a corpus-based research of spelling errors that occur in the written production by heritage speakers of Russian dominant in different languages as well as Russian L2 learners and shows which implications learner corpora may have for word recognition. The data for the current research comes from the Russian National Corpus (RLC) that contains written texts performed by heritage speakers of Russian dominant in 8 languages of different alphabetic systems and orthographic depth. We mainly focus on merged and separate spelling errors, which are relatively frequent in the RLC and structurally heterogeneous, cf., the following examples:

- (1) \*potomučo (corr. potomu čto)  
 ‘because’ (lit. ‘because that’)
- (2) \*vsemirnoznamenityj (corr. vsemirno znamenityj)  
 ‘world-famous’ (lit. ‘worldwide renown’)
- (3) \*mne na dobylo (corr. mne nado bylo)  
 ‘I needed’ (lit. ‘me need was’)

Such errors, however, reveal the trends in word partitioning that may point to within- and between-language factors related to word meanings and phonological representations, and prove relevant for word recognition by heritage speakers of Russian.

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# The Spanish proficiency of Latino students in dual immersion vs. English only classrooms: A pseudo-longitudinal study across multiple domains

**Kim Potowski, Megan Marshall**

This study explores the Spanish proficiency of two groups of home Spanish-speaking students in one Illinois public school: those attending a dual language program (DLP) and those in an English language program (ELP) in the same building. We administered the Language Assessment Scales in Spanish for listening, speaking, reading, writing, and written conventions. The main findings were:

Students in the DLP scored higher on all five portions of the Spanish language test than their peers in the ELP.

The differences were a good deal larger on production tasks (speaking and writing) than on multiple choice questions (listening comprehension, reading comprehension, and identifying proper written conventions).

Overall, home Spanish-speaking students in the ELP evidenced very weak Spanish writing skills in all four grade levels.

The English scores of the DLP and ELP students in fifth and eighth grade, as measured by two state mandated standardized tests, did not differ to a statistically significant degree. Although this finding does not coincide with plentiful prior research around the country showing that DLP students' English scores are usually substantially higher than those of their ELP peers (Thomas & Collier 2009; Lindholm-Leary 2001; Steele et al 2017), the fact remains that these DLP students' English scores were not comparatively lower, either. We discuss implications and future directions.

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# The Impact of Literacy on the Comprehension of Verbal Passives in School-age Spanish Heritage Speakers

Andrew Armstrong, Silvina Montrul

'Input' in language acquisition is often discussed in the context of young children and adult L2 learners. However, focusing on these periods fails to consider the quantity, quality, and type of input that learners are exposed to during other developmental periods. Research shows some aspects of linguistic knowledge continue to develop into mid-late childhood and early adolescence (Ravid & Berman, 2009). Crucially, it is during this period when children acquire literacy and exposure to larger amounts of textual input. To investigate this, we tested the comprehension of verbal passives, a complex syntactic structure that occurs more frequently in written language, in 9-12-year-old Spanish heritage speakers. One group of heritage speakers attended English-only schools, whereas another group attended bilingual schools, which provided instruction in English and Spanish. Participants completed a sentence repetition activity. The target structure was verbal passives which were plausible or implausible (Ayer fue mordido ... el hombre por el perro / el perro por el hombre 'Yesterday was bitten ... the man by the dog / the dog by the man') and informative or uninformative as to whether the participle's gender morphology provided a cue about which NP acted as the theme (Ayer fue mordido.M ... el.M hombre por la.F ardilla / el.M perro 'Yesterday was bitten ... the man by the squirrel / the dog'). Participants also completed a series of other linguistic, literacy and working memory measures. Initial results indicate that child participants were less accurate than adult controls when repeating verbal passives. Heritage speakers who attended bilingual schools show greater accuracy than those who attended English-only schools. Children especially appear to rely on plausibility cues when interpreting the verbal passives in this study. These results will be discussed in the context of input differences for heritage speakers who learn in bilingual or monolingual environments.

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# Orthographic errors in the writing of heritage learners of Russian

Olesya Kisselev, Irina Dubinina

The paper reports on the results of a pilot study that investigates spelling proficiency in heritage language writers of Russian (with American English as the dominant language). Until recently, spelling was viewed as a trivial aspect of literacy development in heritage learner language research (Llombart-Huesca, 2017). However, the wealth of research on the acquisition of orthography from the field of child language development (both mono- and bilingual) has highlighted orthography as a fundamental aspect of literacy development that connected to such important linguistic skills as phonological knowledge and awareness, and understanding of morphological structures (Carlisle & Nomanbhoy, 1993; Nagy et al., 2006). Spelling skills also depend on the knowledge of spelling conventions which require extensive practice with reading/writing in the language.

The goal of the paper is to provide an initial qualitative analysis of misspellings in Russian heritage data with an aim to begin addressing the gap in the research literature and to hypothesize on the role of the underlying linguistic knowledge that result in spelling idiosyncrasies in Russian heritage data. The data for the study were drawn from the heritage sub-corpus of a Russian learner corpus which contains essays collected from Russian learners at different proficiency levels from across the U.S. 120 heritage learner essays were subjected to the Writing Proficiency Test to obtain independent proficiency ratings. All words spelled in a non-standard way were tagged and extracted for analysis. Orthographic errors were then categorized based on the probable cause of deviation, i.e., phonological, morphological, and convention-based. The types of errors, and their relative proportions, were then correlated with proficiency levels. The paper discusses patterns observed in the distribution of types of spelling errors in light of the nature of heritage languages. The paper also explores how research on spelling and orthography may inform heritage language teaching and learning.

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# Writing Proficiency Development of Young Adult Spanish Heritage Language Learners

Alberta Gatti, Syelle Graves

This presentation describes the results of two ongoing studies intended to gauge writing proficiency development of heritage language learners (HLLs) who are enrolled in college-level courses for heritage speakers. A common objective for college-level heritage language curricula is the development of literacy—the domain in which HLLs generally have limited exposure due to their educational experiences. Previous research has described both oral and writing proficiency profiles of HLLs at Intermediate and Advanced levels of proficiency (Swender et al., 2014; Gatti & O’Neill, 2017; 2018; Gatti & Graves, 2020), contributing valuable information to our knowledge of how to support proficiency and literacy development so that learners can fully engage with academic and professional communities using their heritage language. One missing piece of information, however, is an understanding of the expected pace of development, which is crucial for establishing realistic educational goals for both learners and instructors, along with how/whether this pace is related to the starting writing proficiency level of the student. Furthermore, a second missing piece of information is an understanding of how targeted pedagogical approaches to literacy might impact proficiency development—also needed for optimizing instructional impact.

The two studies in this presentation intend to fill this gap in available information. They were conducted on over 180 Spanish HLLs who were enrolled in courses at two universities within the City University of New York (CUNY). Using a tool modeled after the American Council for the Teaching of Foreign Languages’ Writing Proficiency Test, as well as a literacy-based pedagogical model, these research projects intend to answer the following questions: (i) how long does it typically take for HLLs to move from one proficiency level to the next once they receive formal instruction? and (ii) do different pedagogical approaches have an impact on the speed of proficiency development?

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# Multilingualism and prosocial behavior: Testing a relationship between using multiple languages and being good to others

Scott Schroeder, Lindsey Echausse

We report the result of a study examining whether multilingualism is associated with prosocial behavior (i.e., actions that benefit others rather than oneself). There are (at least) two ways in which multilingualism could influence prosocial behavior. First, knowing multiple languages could increase prosocial behavior. This first hypothesis is based on evidence that multilingualism increases variables, such as Theory of Mind and tolerance of ambiguity, that have been found to increase prosocial behavior. Second, using a non-native language could decrease prosocial behavior. This second hypothesis is based on evidence that using a second language decreases emotionality, and decreased emotionality has been found to decrease prosocial behavior. These two hypotheses were examined by testing 500+ participants (with a range of language experience) on prosocial scenarios. Participants read vignettes in English about a homeless child who was asking for money and a woman with kidney disease who was asking for a kidney donation. Participants were asked how much money they would donate to the homeless child, and whether they would donate a kidney to the woman with kidney disease. They were also asked the extent to which they “really want to help [each person]” on a Likert scale. Analyses provided support (albeit weak) for the first hypothesis but not for the second hypothesis. There was a small but positive correlation between number of languages spoken and some measures of prosocial behavior, lending support to the first hypothesis. There were no differences in prosocial behavior between participants whose native language was English and participants whose native language was not English, providing evidence against the second hypothesis. The results suggest that learning multiple languages might be related to more altruism but only to a very small degree.



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

Carla Contemori, Alma L. Armendariz Galaviz

Recent research on pronoun interpretation has shown that the strength of pronoun interpretation biases in English correlates with comprehenders' print exposure, demonstrating that language experience influences anaphora resolution in adults (e.g., Arnold et al., 2018) and that individual variability among comprehenders may exist.

A question that remains open is how language experience affects anaphora resolution biases in languages other than English. In the present study, we focus on Spanish, a null-subject language where null pronouns typically refer to topic antecedents and overt pronouns refer to non-subject antecedents:

(1) Pedro<sub>i</sub> greeted Carlos<sub>j</sub> when he/<sub>proi</sub> crossed the street

We look at a population of speakers that presents variability and optionality in pronoun interpretation biases, i.e., Heritage speakers (HSs) whose first language (L1 Spanish) is a minority language. These speakers learn the L1 in the family and do not receive formal school education in the L1. In addition, their L2 (English) is a non-null subject language, which may interfere in the acquisition of L1 pronoun interpretation biases.

We recruited seventy-four Spanish HSs with different levels of proficiency in Spanish and we analyze individual factors that may determine variability in pronoun interpretation (i.e., language proficiency, reading exposure).

The results demonstrate an interplay between print exposure and proficiency on the acquisition of pronoun interpretation biases in Spanish. HSs who read more and have higher proficiency in Spanish show more monolingual-like pronoun interpretations, in particular for pronouns that are more infrequent in the input (explicit pronouns, cataphoric pronouns). The significant effects of reading exposure and proficiency contribute to demonstrate that pronoun comprehension preferences are acquired by language experience (e.g., Langlois & Arnold, 2020). In addition, our study supports models of pronoun biases use that stress the importance of language exposure to explain differences between bilingual populations and monolingual populations (Contemori, 2019).

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# Vocabulary Development in the Heritage Language between Ages 6 and 10

Elke G. Montanari, Roman Abel

How does vocabulary in the heritage language develop? Does the social environment of the community have an influence? This talk presents empirical results regarding the development of expressive and receptive vocabulary in the heritage language and analyses the effects of amount of exposure, use, socio-economic status, dominance, and community on the acquisition of vocabulary in the heritage language. A Russian-German and a Turkish-German speaking sample are compared: 211 children aged 6–10 years were tested with a standardised picture naming task in a cross-sectional design. The results show a good receptive mastery and a limited expressive command of vocabulary with large individual differences, and only a slight development in the timespan of four years. Between the communities we find systematic variation, which we attribute to social and pragmatic differences with moderator and mediator effects. Possible limitations of the results are discussed with respect to cross-linguistic test effects.

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# Does context matter? Insights from Turkish heritage language teaching practices in Germany

Fatih Bayram

This is an ongoing study that aims to bring together perspectives from Turkish heritage language speakers and teachers in Germany with the largest Turkish diaspora community in the world. The nature of the (formal) Turkish instruction varies remarkably across federal states in Germany. While in some it might be part of the school system (e.g. bilingual schools in Berlin) and in others it is only offered as an extracurricular activity (e.g., weekend classes) organized by the Turkish Ministry of Education (TME) or other community centers. In other cases, it is simply a home training done by parents. Based on a questionnaire (adapted from Bateman and Wilkinson, 2010), we explore how context of teaching and learning (bilingual school vs TME classes vs community centers vs home training) determines the processes, practices and outcomes. We assess teachers' understanding of what a heritage language is, their (formal) preparedness to the challenges and opportunities HL students bring to the classroom, their perception of success, and the tools and practices they utilize to achieve that. We juxtapose this against the beliefs and expectations of heritage speakers who attend these classes. The results will be discussed in light of the current debates in the literature (e.g., nativeness, ultimate attainment, individual differences, standard variety; Rothman & Treffers-Daller, 2014; Kupisch & Rothman, 2018; Dominguez et al., 2019; Polinsky & Scontras, 2020) to offer insights for developing more effective and more appropriate practices for teaching heritage languages.

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# Owning Turkish and Kurmanji-Kurdish literacy in Germany: A qualitative look at language-biographical agency

Annette Herkenrath

Heritage literacy research has often been interested in complex language and completeness of acquisition, following experimental designs (Benmamoun, Montrul & Polinsky 2013, Schellhardt & Schroeder 2015). The present study is interested in the subjective experience of Turkish-German bilinguals and Kurmanji-Turkish-German multilinguals, qualitatively investigating narrative patterns in its verbalisation (Treichel 2014 on emotion and discourse patterns in language-biographical narrative).

To the extent that they have grown up in Germany, speakers have experienced relegation of both Turkish and Kurmanji literacy to more or less private domains at different periods in their lives, with infrastructure and educational policies regionally varying (Pfaff et al. 2017, Ozmen 2010). They may as often as not have been exposed to more or less stigmatising discourse, both academic and public, on immigrant literacy. How then do people acquire, attain, and practice their individual multilingual literacy? How do they in retrospect verbalise their experience?

The data is a trilingual diaspora corpus under construction: some 130 hours of recording, some 15 of which transcribed in EXMARaLDA, elicited as thematically free-flowing conversations and discussions with adult individuals and groups. The subject of literacy emerges from a variety of language-biographical contexts.

Previous studies of these data have suggested a tension between impersonalisation/deagentisation (Blevins 2003, Siewierska 2008, Akar 2011) and emphatic personal ownership, related to a number of language-biographical experiences (Herkenrath 2018). Some newly analysed passages seem to suggest that certain types of heritage literacy practice can have somewhat of an invigorating language-biographical effect, discourse-structurally traceable in terms of personalisation and agentisation.

The present paper is set to further explore this line of research, focusing on four case studies, methodologically following a concordancing approach by selecting passages for their thematic interest and interpreting the discourse-level function of personal versus impersonal constructions in the three languages.

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# Individual differences in pronoun Processing in Heritage Speakers of Spanish: data from ERPs

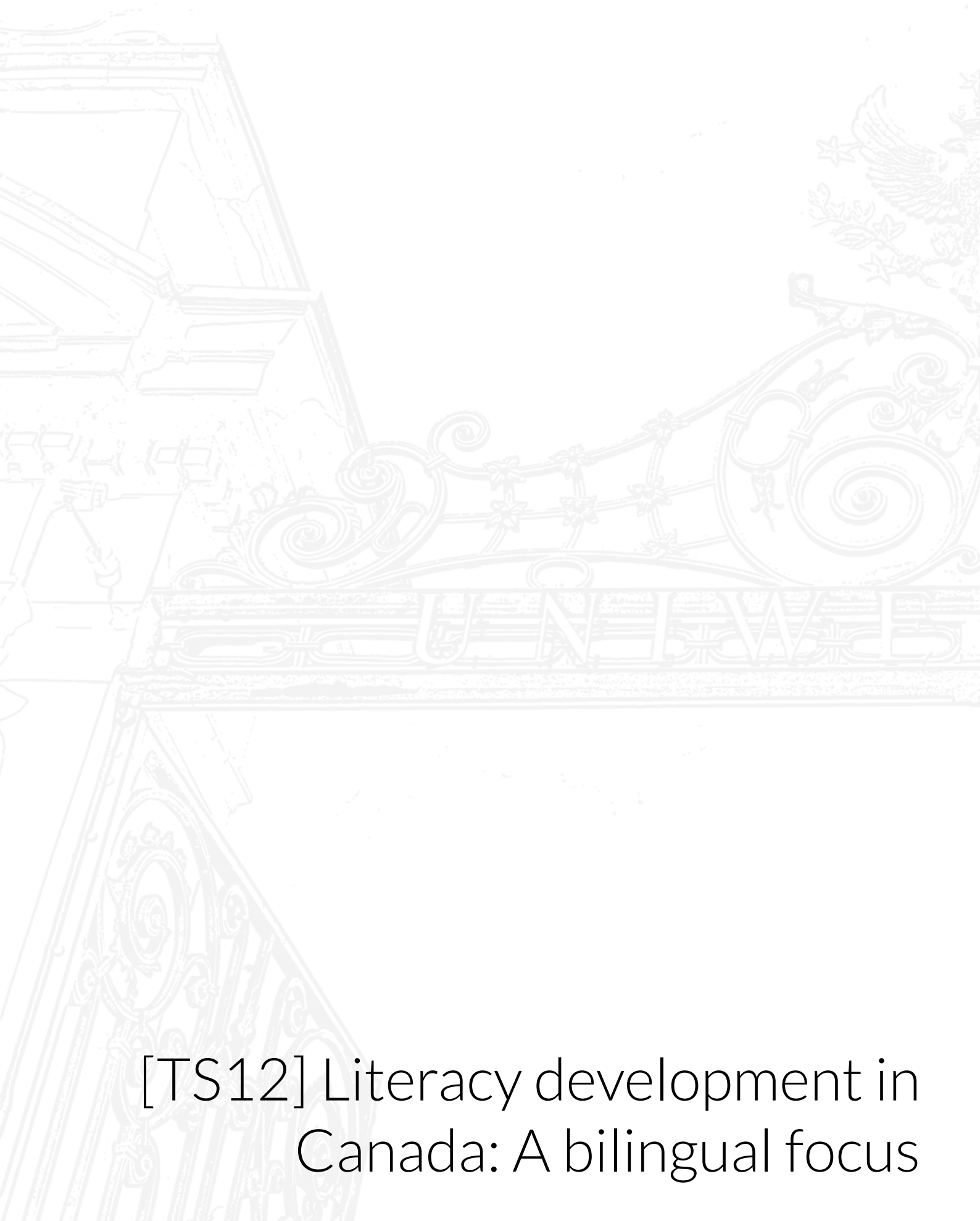
Eleonora Rossi

The literature on heritage speakers' grammatical processing abilities is still mixed but suggests that comprehension and production abilities differ from native speakers', and proposes that heritage grammar might bear similarities with second language processing (i.e., Montrul, 2010; Polinsky 2011). The aim of this study was to investigate clitic pronoun processing in heritage speakers of Spanish who did not receive formal literacy in Spanish. Spanish clitic pronouns are complex structures that have been shown to be processed differently in heritage speakers, especially when literacy is lacking in the heritage language (Kato et al., 2009). Critically, clitics agree with the antecedent both in grammatical gender and number, and they undergo syntactic movement, making them fragile for heritage speakers. In this study, we tested 60 heritage speakers of Spanish (age: 19-25) using EEG while they processed sentences containing clitic pronouns. We hypothesized that if heritage speakers are sensitive to the violations of grammatical gender and/or number (probed by the experimental manipulation) the emergence of a P600 when presented with clitic pronoun violations should be observed. In addition, participants also completed a behavioral battery including a language history questionnaire, a Spanish grammar task, and a memory task (O-Span).

Overall, there was no sensitivity to clitic pronouns violation. However, three major patterns emerged. For some participants, a P600 to gender and number violation was observed, suggesting more native-like sensitivity. Instead, for another subset of participants, an N400 component emerged, in line with previous work suggesting that processing through semantics. Overall, this data points towards a variable neural response in syntactic processing in heritage speakers. Data will be discussed under current neurobiological models of syntactic processing, and emphasis will be placed on the role of literacy as a variable to provide syntactic input.

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# [TS12] Literacy development in Canada: A bilingual focus

# The English literacy skills of children from minority-language homes who are enrolled in Early French Immersion programs.

Tamara Sorenson Duncan, Ann Sutton, Elizabeth Kay-Raining Bird, Fred Genesee, Becky Chen, Joan Oracheski, Stephanie Pagan

In many regions of Canada, English is the majority language. In these regions, all children, even those educated through French immersion programs, must develop English literacy skills. Evidence suggests that children who speak a minority language at home can succeed in immersion programs<sup>1,2</sup>. Yet, concerns persist that immersion may be too challenging for these children<sup>3,4</sup>. Thus, research addressing the appropriateness of immersion education for children who speak a minority language at home is still needed. Further, previous research has not examined individual difference factors associated with the literacy outcomes of these students. This study asks: (a) do children who speak a minority language at home develop comparable English literacy skills when they attend Early French Immersion (EFI) to those children who receive English language of instruction (ELoI)? (b) What factors contribute to English literacy outcomes?

We compared the English literacy skills of third grade children who speak a minority language at home and who were enrolled in EFI programs (n = 202) with those who were enrolled in ELoI programs (n = 177). English assessments of Reading and Writing, mandated by the Ministry of Education, were used to identify the number of students who met the provincial standard in each domain.

Children were more likely to meet the provincial standard in EFI than in ELoI programs for Reading (84% and 72% respectively) and Writing (75% and 68% respectively). Logistic regression revealed that children were more likely to meet the provincial standard for English reading if they: were not from a low SES neighborhood, had a higher reading self concept, and were enrolled in EFI.

This study adds to growing evidence that academic instruction via immersion programs is appropriate for children from diverse linguistic backgrounds, at least in terms of English literacy skills.

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# Predicting Reading Comprehension Performance with Strategy Use: Comparing Bilingual Children to their Monolingual Peers and to Bilingual Adults

**Deanna Friesen, Katherine Schmidt, Taninder Atwal, Angela Celebre**

According to the 2016 Canadian Census, more than 70% of immigrants have a home language other than English or French (Statistics Canada, 2017). Thus, it becomes vitally important to have supports available for second language development in the school system. Of interest here is how effective reading strategies manifest themselves in second language readers to support reading comprehension. The current study investigated the nature and role of reading strategy use in English monolingual and bilingual students use during a reading comprehension task. Of interest was which strategies accounted for successful comprehension for each group beyond vocabulary knowledge and decoding ability. 155 students in 4th through 6th grade (95 bilinguals and 60 monolinguals) were assessed on English vocabulary, word decoding, reading comprehension and on reading strategy use. An additional 38 bilingual adults who had English as a second language were also assessed on the same measures. Results indicated that for both children groups, vocabulary knowledge and decoding ability predicted reading comprehension scores. For adults, only vocabulary knowledge was a significant language predictor. For each group, strategy use also predicted reading comprehension performance, but to different degrees with more predictive ability in the bilingual groups. Findings highlight the strategies that successful readers rely on (e.g., inferencing, making connections, reference to text structure), suggest that bilinguals have greater need to rely on these strategies and emphasize the value of promoting effective strategy selection in addition to language instruction in the development of reading comprehension skill.

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# Reading performance in Canadian children enrolled in English-only versus French immersion schools: An eye-tracking investigation

Veronica Whitford, Marc Joanisse

Despite its importance to nearly all aspects of modern-day life (including academic, occupational, and social success), relatively few experimental studies have examined reading performance in children, and even fewer have focused on reading performance in bilingual children (Jared, 2015; Whitford & Joanisse, 2018). Given that more than 50% of the world's population is bilingual (Grosjean, 2010), and that this percentage is on the rise, it is crucial to develop a better understanding of how bilingual experience at a young age shapes key academic skills, such as reading. To further this understanding, the current study employed eye movement recordings to examine first-language (L1) and second-language (L2) reading performance in English-speaking children (7-12 years) enrolled in English-only ( $n = 34$ ) and French immersion schools ( $n = 33$ ). It also examined how individual differences in bilingual experience (indexed by different levels of current L2 exposure) shape L1 and L2 reading performance.

The main findings were threefold. First, L1 reading performance was less effortful for children enrolled in English-only versus French immersion schools (indexed, for example, by faster reading rates and shorter fixations), despite being matched on standardized measures of L1 reading fluency and comprehension. Second, reading performance was less effortful in the L1 than in the L2 among children enrolled in French immersion schools. Third, greater levels of current L2 exposure among children enrolled in French immersion schools improved L2 reading performance, but had no significant impact on L1 reading performance.

Taken together, these findings suggest that different language-learning experiences (indexed here by English-only and French immersion school systems), lead to important differences in reading behaviour that are not captured by traditional measures of reading. They also suggest that greater levels of bilingual experience among children positively influence L2 reading behaviour and, perhaps more importantly, have no negative influence on L1 reading behaviour.

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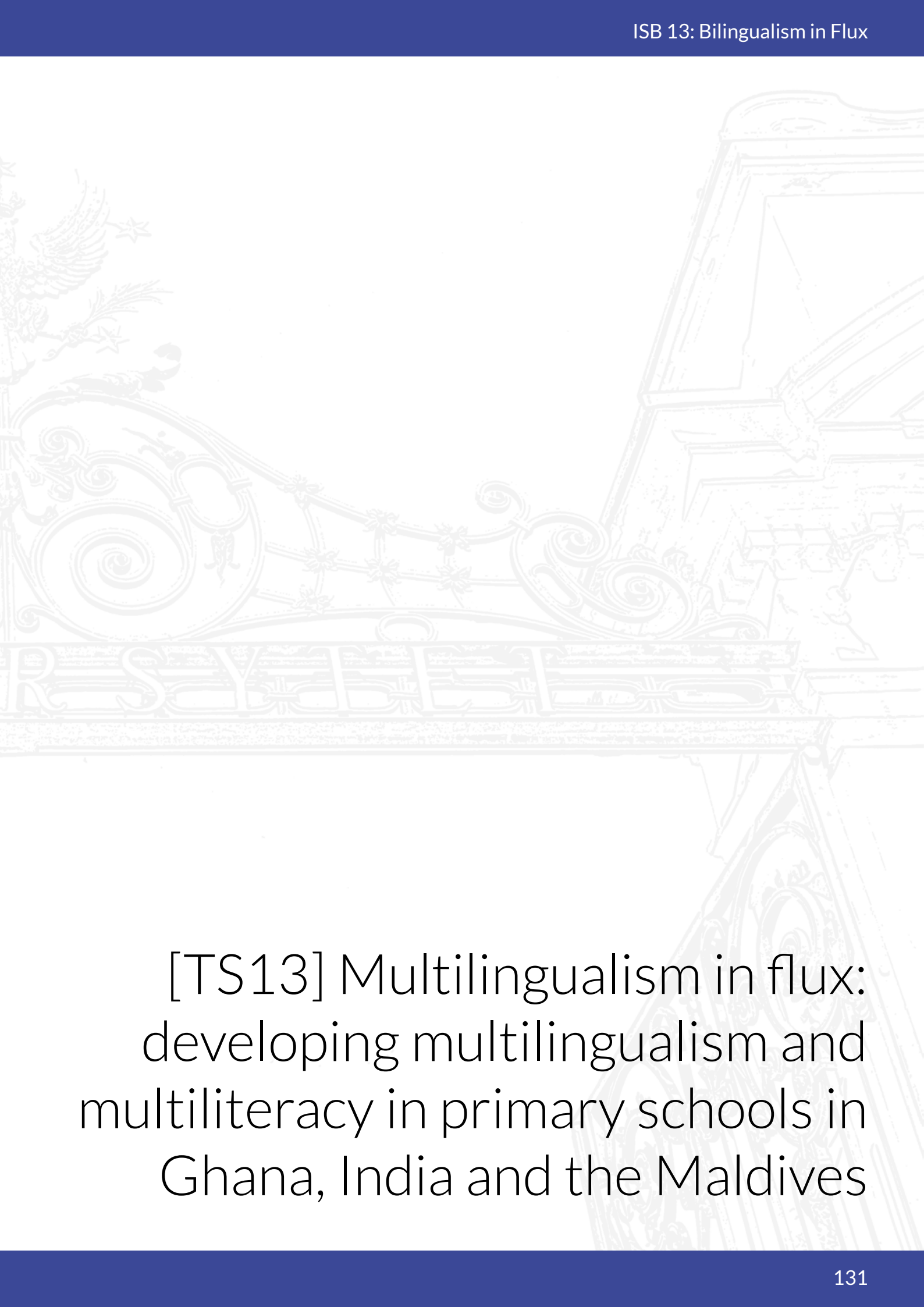
# An analysis of reading strategy patterns in bilingual think-aloud data

Bailey Frid, Deanna Friesen

For bilinguals, reading comprehension performance is associated with the ability to employ effective strategies in each language (Frid & Friesen, 2019; Jiménez et al., 1996; Muijselaar et al., 2017). However, the relative impact of each strategy tends to be investigated in isolation. Nonetheless, since readers do not employ strategies in isolation, it is important to uncover how these successful strategies are combined in one's first language (L1) and second language (L2) to produce good reading comprehension performance. The current research examined the patterns of reading strategies employed by English-French bilingual adults and children in both of their languages. An in-depth qualitative analysis on patterns of strategy use was conducted on data from a subset of readers from previous datasets with French Immersion children (Frid & Friesen, 2019) and soon-to-be French teachers (Friesen & Frid, 2021). These readers were selected because they had been identified as poor or skilled based on their reading comprehension scores. Think-aloud data was collected on short stories in English and French. It was reanalyzed for number of strategies, variety of strategies and pattern of strategy use as a function of age, skill level and language. Think-aloud data revealed that adults recruited more strategies and more varied strategies than children; likewise, skilled readers utilized more strategies and more varied strategies than poor readers. In particular, skilled readers paired more meaning-based strategies (e.g., summarizing, necessary inferencing) with complex strategies (e.g., elaborative inferencing, predicting). Skilled readers used "because" statements more often than poor readers and they used comprehension monitoring skills (i.e., connecting think-alouds) more often as well. Readers recruited similar amounts of strategies in each language and differences in performance was due to pattern of strategy recruitment as a function of reader skill. Patterns observed in skilled/poor readers will be discussed with implications for educators (i.e., reading strategy intervention).

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[TS13] Multilingualism in flux:  
developing multilingualism and  
multiliteracy in primary schools in  
Ghana, India and the Maldives

# The development of oral and written language skills in primary school children in India: a comparison between English-medium and regional language schools

Ianthi Tsimpli, Theodoros Marinis, Jeanine Treffers-Daller, Amy Lightfoot, Anusha Balasubramanian

Children who learn through the medium of a language which is not the same as their home languages have different levels of learning outcomes than those children whose home and school languages are the same (Romaine, 2013). In a linguistically highly diverse country, like India, millions of children are at a disadvantage in this respect: there are only 22 'scheduled' languages and a total of 463 languages spoken in the country (Eberhard et al. 2021). Although the draft National Education Policy (2020) document states the priority of mother-tongue education, in reality, several state governments (Andhra Pradesh, Telangana, Karnataka, Punjab and West Bengal) have already implemented EMI instruction in government schools, most often without the necessary resources and investment in teacher potential. Furthermore, children from disadvantaged backgrounds are not familiar with English suggesting that EMI creates more inequalities for children in government schools.

In our longitudinal study, we examined the development of literacy and narrative abilities of 660 children attending the fourth and the fifth grade of primary schools in Delhi and in Hyderabad. Almost half of the children attended English-medium of instruction schools while the rest attended regional language schools (Hindi and Telugu, respectively). Our results show that although most children improve in school skills in the fifth grade, English reading and narrative (oral) comprehension lag behind Hindi and Telugu in both school years. Oral language skills assessed in narrative production also reveal a significant gap between English and regional language skills, with only 90 children across the two school years choosing to retell a short story in English. Our findings suggest that educating primary school children coming from backgrounds with limited home literacy support in an unfamiliar medium of instruction hinders learning and creates further disadvantages in educational prospects.

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# Using English as the medium of instruction; a case study investigating language and learning outcomes of children in the Maldives

Jasmijn Bosch, Ianthi Tsimpli, Maria Teresa Guasti

Although most Maldivians speak Dhivehi at home, English is virtually the only medium of instruction in primary schools. While English is deemed valuable for academic and economic success, national school statistics show poor academic achievement (Education Sector Analysis Maldives, 2019), and teachers have expressed their concerns about the use of English for educational quality (Mohamed, 2013; Shiuna & Sodiq, 2013). In order to investigate whether the poor educational outcomes in the Maldives are indeed related to insufficient proficiency in the language of instruction, we examined the level of English, as well as literacy and numeracy outcomes, in 25 children attending the 5th and 6th grade of a public school on a small island in the Maldives. We aimed to investigate (1) the level of proficiency (vocabulary and morphosyntax) after five to six years of education in English, (2) to what extent reading abilities are related to the different components of English proficiency, and (3) to what extent performance on different types of mathematical problems are related to language and reading skills. The results showed relatively low performance on all tasks, despite normal nonverbal intelligence, with reading comprehension and mathematical word problems being especially problematic. Moreover, we found a significant relation between English vocabulary knowledge and reading accuracy. Our findings contribute to a growing body of research suggesting that using an L2 as the only medium of instruction may be detrimental to literacy development and learning outcomes. Considering the objectives of educational quality, language maintenance of Dhivehi and the pragmatic value assigned to English, we argue in favour of a bilingual model of education, in which the importance of native language development is emphasized.

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# Policy and practice in English Medium Instruction in science and maths classes in Ghana: the importance of supporting learning through children's first languages

Patrick Amoyaw, Jeanine Treffers-Daller

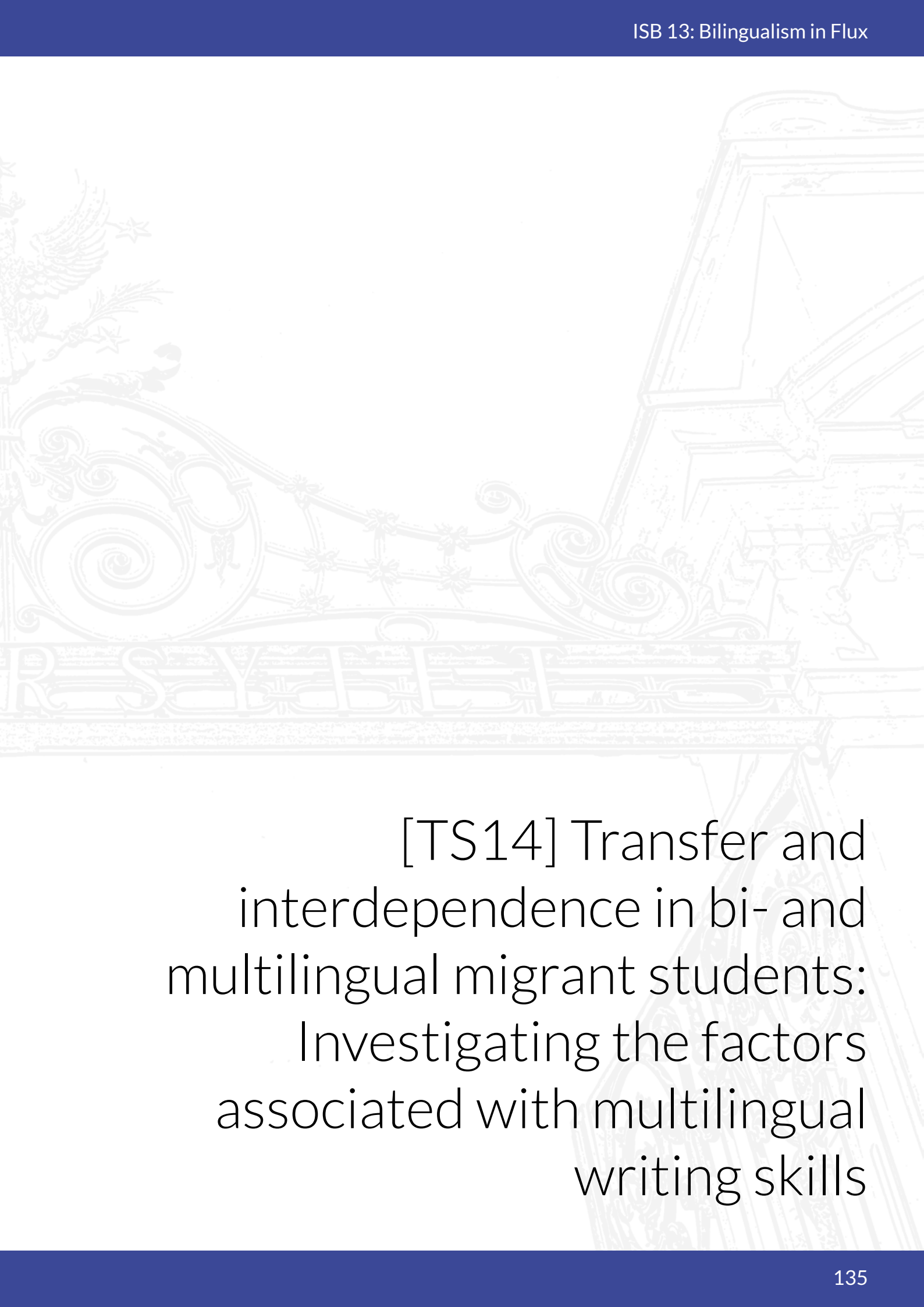
In this study we investigate the implementation of educational policies aimed at furthering English Medium Instruction (EMI) in lower and upper primary schools in Ghana, a highly multilingual country where around 49 different languages and dialects are spoken (Davis & Agbenyega, 2012). Since 2007 the use of local languages is allowed in the lower primary schools, but in the upper primary only English should be used. However, over the past 60 years the Language-in-Education policies (LEP) have fluctuated regularly between English-only and mothertongue-based policies (Erling, Adinolfi & Hultgen, 2017).

Fourteen science and maths lessons were observed between April and June 2019 in two rural public or government schools, one in the Eastern Region and one in the Greater Accra Region, where most children come from farming and fishing communities. In addition, fifteen teachers were interviewed about their teaching practices and the role of children's L1 in class. The study provides important new evidence that teaching exclusively through the medium of English is not possible in either the lower primary school or the upper primary because of the learners' low proficiency in English. Local languages (Twi and Ga-Adangme) were therefore used to explain key terms and to stimulate discussion by students. Students were often reluctant to reply in English and waited for the teacher to provide a translation. Implementing EMI policies was particularly challenging in those schools where teachers did not know the first language of the children: communication between teachers and students was then hampered by lack of a shared language.

Thus, the study provides new evidence that children's first languages should not just be used in the lower primary but continue to be used in the upper primary school, particularly in rural areas.

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[TS14] Transfer and interdependence in bi- and multilingual migrant students: Investigating the factors associated with multilingual writing skills

# Multilingual Writing: A Synthesized Competence. Empirically substantiated approximations to the construct “Multiliteracies”

Ingrid Gogolin, Thorsten Klinger, Birger Schnoor, Irina Usanova

In linguistically diverse contexts, individual language repertoires may embrace various levels of literacy skills in multiple languages and modes of representation, encapsulated as multiliteracies (New London Group, 1996; Cope & Kalantzis, 2000; 2009). This complex view of literacy urged the development of new theoretical perspectives on multilingual writing as being a synthesized competence, including all languages in a person’s repertoire, as dynamic and continuously evolving (Canagarajah, 2006; 2013; 2015). As of now however, no research reveals the empirical construct of multiliteracies. In our study, we aim to address this desideratum by investigating the relevant components of the construct of multilingual writing skills. We draw on data deriving from the German panel study “Multilingual Development: A Longitudinal Perspective” (MEZ) (Gogolin et al., 2017) on writing skills of multilingual students in three different languages: the majority language (German), heritage languages of migrants in Germany (Russian or Turkish) and the first foreign language all children learn at school (English). The MEZ study is a longitudinal cohort-sequence study with two starting cohorts (7th- resp. 9th-grade students) and with four waves of data collection. We will present the results of a structural equation modeling by which we investigated multilingual writing skills of 800 8th- and 10th-grade German-Russian and German-Turkish bilinguals from the second wave of data collection. The model includes the following indicators of writing skills in the three mentioned languages of the individuals: German, heritage language, first foreign language: task accomplishment, verbs, conjunctions, and number of written words. The results will transparently show the strength of our competence model of multilingual writing skills.

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# Transfer and interdependence in multilingual writing from a usage-based perspective

Nikolas Koch, Claudia Maria Riehl

The paper argues in favor of applying a usage-based perspective (Goldberg 2006) to discuss the relation between interdependence and transfer from L1 to L2 and vice versa. In this context, we collected a corpus of narrative and argumentative texts in L1 and L2 written by bilingual adolescents in Germany and a bilingual language awareness test. The data encompass 174 bilingual 9th and 10th graders with Italian, Greek or Turkish as L1 and German as an (early) L2. In a first step, we will define global assessment scores for written texts where we focus on routine-based macrostructural features. These scores are correlated according to text genre, language (L1 or L2) and language awareness. The results indicate a significant correlation between textual competences in both languages. Moreover, we identified a high correlation between text level scores and scores of the language awareness test.

To find out whether these results are an indicator for interdependence or transfer processes from one language to the other, we conducted a qualitative analysis with regard to the realization of textual procedures (Feilke 2014 and Feilke & Rezat 2020). We start from the assumption that textual procedures are rendered by a specific repertoire of constructions in a particular language grammar. If these lexico-grammatical patterns are not entrenched in a specific language (due to the lack of usage) the other language constructions are copied into the language system.

We can show that writers who have acquired the respective action schema to indicate a particular textual function in one language are able to apply this knowledge to all language systems of their repertoire. We argue that the knowledge about textual procedures is an interdependent proficiency while the constructions rendering it on the linguistic surface are language specific and as such subject to transfer.

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# On causal inferences regarding effects across heritage and second languages: theoretical and empirical analyses

Raphael Berthele

In this talk I focus on the positive instrumental function commonly attributed to heritage language (HL) skills. Many scholars and policy makers evoke interdependence and/or transfer of literacy skills from HL to second/additional languages when arguing for the importance of heritage language development.

I discuss theoretical and methodological questions that arise in the empirical investigation of interdependence. Whereas most variants of the interdependence framework presuppose causal influence between language skills, the nature of the data collected in typical inquiries into heritage language speakers' repertoires does not easily allow us to draw causal inferences.

I discuss the example of a longitudinal study carried out in Switzerland focusing on the acquisition of reading and writing skills in bilingual Portuguese-German and Portuguese-French primary school children (3rd – 4th grade). I discuss possible hypotheses that are derived from the interdependence idea and ways of testing them empirically (Berthele & Vanhove 2020). The dependent variables analyzed are global assessment scores for written texts, vocabulary assessment of these texts (lexical diversity and sophistication) and reading comprehension scores. Descriptive and inferential analyses of the linear associations of these variables across languages are discussed, as well the problems that emerge when the goal is to disentangle manifestations of transfer from the impact of other variables affecting the skills both in HL and SL.

The talk ends with a discussion of the conceptual vagueness of commonly used notions of interdependence and ways to clarify the notion and put it to the test more rigorously. Moreover, other values than purely instrumental ones should be considered in the context of HL instruction.

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# Shared or Appropriated? Examining the Evidence for Transversality and Transfer of Multilinguals' Writing Skills

Nicole Marx

Most multilinguals have literacy skills in at least one other language, and a central question of both bilingualism and plurilingualism research is whether – and to what extent – language skills may be interdependent. Previous research allows for a strong argument that some skills have an interlingual basis. However, it is notoriously difficult to investigate clearly language interaction and allow for pedagogical recommendations. For example, when such skills are addressed in between-group designs, comparing L2 speakers to L1 speakers of the same language – which is approach in the majority of research –, results indicating parallels (and differences) of language skills suffer under questionable validity.

This is particularly frustrating when investigating literacy skills in multiple languages, which may more directly reflect a shared proficiency in different languages (i.e. are transversal, cf. Berthele/Lambelet 2018) than a transfer (or transformation, cf. Larsen-Freemmann 2013) of skills from one language to another. Here, within-group research paradigms are called for. Such designs allow for a deeper understanding of multilingual literacy, as they can control for individual differences and potentially reveal how skills developed in different languages might parallel or even support each other. The paper first discusses research designs to investigate interdependence of literacy skills in different languages, differentiating between possible approaches to studying transversality vs. transfer. It then presents two research projects investigating both transversality and transfer of writing skills in very different multilingual populations: university students with either German or English as the main language of schooling and the other language as their university major, and Grade 6 Turkish heritage language speakers with German as the language of schooling (Marx 2020). The results of both studies indicate that, while certain aspects and processes seem to be transversal, specific task characteristics will affect the degree and type of transversality evident in the research data.

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[TS15] Developing beliefs and practices of translanguaging in online spaces

# Translanguaging in Dual Language Bilingual Education

Jamie Schissel, Nicole Dickson, Micaela Bermudez, Betsy Roman, Sandra Perez Olivares, Maria Seas Mora, Oneida Valentin-Gonzalez

Tests, assessments, and evaluation instruments have long been ill-equipped to account practices of translanguaging inherent within multilingual communities (Duran, 1989; Sánchez, 1932, 1934; Schissel, 2019). Within the field of testing and assessment, much more emphasis has been placed on ensuring design principles of the assessment. In making adaptations to existing monolingual content tests, for example, test developers have focused on reducing construct-irrelevant variance of test performance due to bi-/multilingualism or mitigating potential “differential boost” that where a bi-/multilingual person may perform better on an assessment than a monolingual person. Though presented as connected with fairness and equity, in practice these approaches further add to the long-standing lineage of assessment work that has sustained deficit perspectives of bi-/multilingual peoples (Schissel, 2020). Countering over 100 years of deficit positioning of bi-/multilingualism in testing recently has emerged in work that values the knowledge, beliefs, and experiences of teachers (Ascenzi-Moreno, 2018). This participatory action research project examines how four Spanish/English bilingual teachers working in elementary schools in the United States integrate their knowledge and expertise to critique existing assessment design principles and practices. Drawing from practices developed using our translanguaging repertoires, we present emerging themes derived from teachers’ beliefs during a 5-week online course on classroom assessment. Transcripts from online meetings, individual work samples re-envisioning assessment design, and data from a peer and individual meta-test critique serve as our key data sources. All authors on the paper were also participants in the course and have provided key insights throughout the research project from data analysis to dissemination. Although our findings report an overall position that supports the use of translanguaging in assessments rooted in translanguaging practices common amongst our group, we also delve into the structural constraints, in particular, the move for most schools to have computer-generated—rather than teacher-created—assessments.

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# Challenging the monolingual ways of looking at multilingualism

**Sandro Barros**

Since 2010, researchers have increasingly argued for translanguaging as an instructional approach that radically re-conceptualizes educators' views on multilingualism as an asset. Because teacher education programs play a pivotal role in preparing teachers who enact this vision, research on teachers' receptivity to translanguaging's epistemological (re)orientation is of importance. This presentation examines how mainstream preservice teachers took up translanguaging theories while enrolled in an online ESOL methods course required for TESOL certification. Through the analysis of interview data and participants' written reflections and coursework, we examined preservice teachers' beliefs and the evolution of their views on language learning, language, linguistic diversity, and translanguaging over the course of one semester. Findings highlight the challenges and potential benefits of including translanguaging theories in mainstream and TESOL teacher preparation programs' curricula.

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# From Purity to Plurilingualism: Shifting Views and Practices on Translanguaging in an Online Master's Program

**Bridget Goodman**

The purpose of this paper is to present action research on translanguaging beliefs and practices in an online graduate education program. The focal program is a Master of Arts of Multilingual Education program in an English-medium university in Kazakhstan that shifted to an online teaching mode in Fall 2020 due to the COVID-19 crisis. The course instructor is a white American native English speaker with spoken Russian proficiency and additional languages in her repertoire who teaches a course for first-semester Master's students on fundamentals of multilingual education, including a unit on translanguaging. The instructor-author transcribed and open coded data from three sources: 1) the Zoom recording of a lecture, discussion and online chat on translanguaging; 2) an anonymous Qualtrics survey administered after the course ended with open-ended questions regarding students' beliefs about translanguaging before and after the course, and factors which contributed to any changes in beliefs; and 3) instructor diary reflections on translanguaging practices during the course. Data are further interpreted through the lens of translanguaging beliefs as hegemonic, resistant, or transformative (Goodman & Tastanbek, 2021). The findings suggest there are a constellation of influences in and out of teacher education, online or face-to-face, that contribute to the array of student beliefs and changes in beliefs about translanguaging. One unique online contribution to shifting beliefs about translanguaging may be online workshops and seminars in distant locales that might not otherwise be accessible for students face-to-face.

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# Translanguaging for Transforming Kazakhstani Undergraduate Students' Academic Writing

Serikbolsyn Tastanbek

This paper aims to demonstrate the results of an experimental study on the impact of translanguaging on first-year Kazakhstani undergraduate students' writing competence and beliefs. The project involved one English language instructor teaching 62 students a course focused on academic writing in hybrid mode (on-campus and online) at an English-medium university in Kazakhstan. The students are users of Kazakh, Russian and English languages that translanguange both in and out of the classroom similar to other residents of Kazakhstan (Goodman & Tastanbek, 2020). Considering that, the posed research questions were: 1) How does translanguaging pedagogy affect the writing competence of students? 2) How does instructor's encouragement of translanguaging affect the students' beliefs about translanguaging? Then, in this study, the instructor who has a similar linguistic repertoire as most learners explicitly and implicitly encouraged 62 students to translanguange. Inspired by Canagarajah's (2011) use of translanguaging in essay drafts, he gave instructions on how to purposefully translanguange to complete the stages of writing one academic essay. The sources of data collected over the 10-week trimester are post-experiment survey completed by 37 students and submitted writing assignments. According to the survey results, students responded that translanguaging has a positive impact on their writing. They also appreciated the instructor's explicit and implicit encouragement to use translanguaging and found it empowering and academically helpful. Student essays demonstrated examples of translanguaging at different stages of writing. The implications of the study are: 1) for instructors, it is necessary to make instructions for translanguaging pedagogy more explicit and detailed; 2) university administration needs to address the use of translanguaging, firstly, to empower students and strengthen their academic skills, and, secondly, to let English language instructors be more linguistically and culturally responsive.

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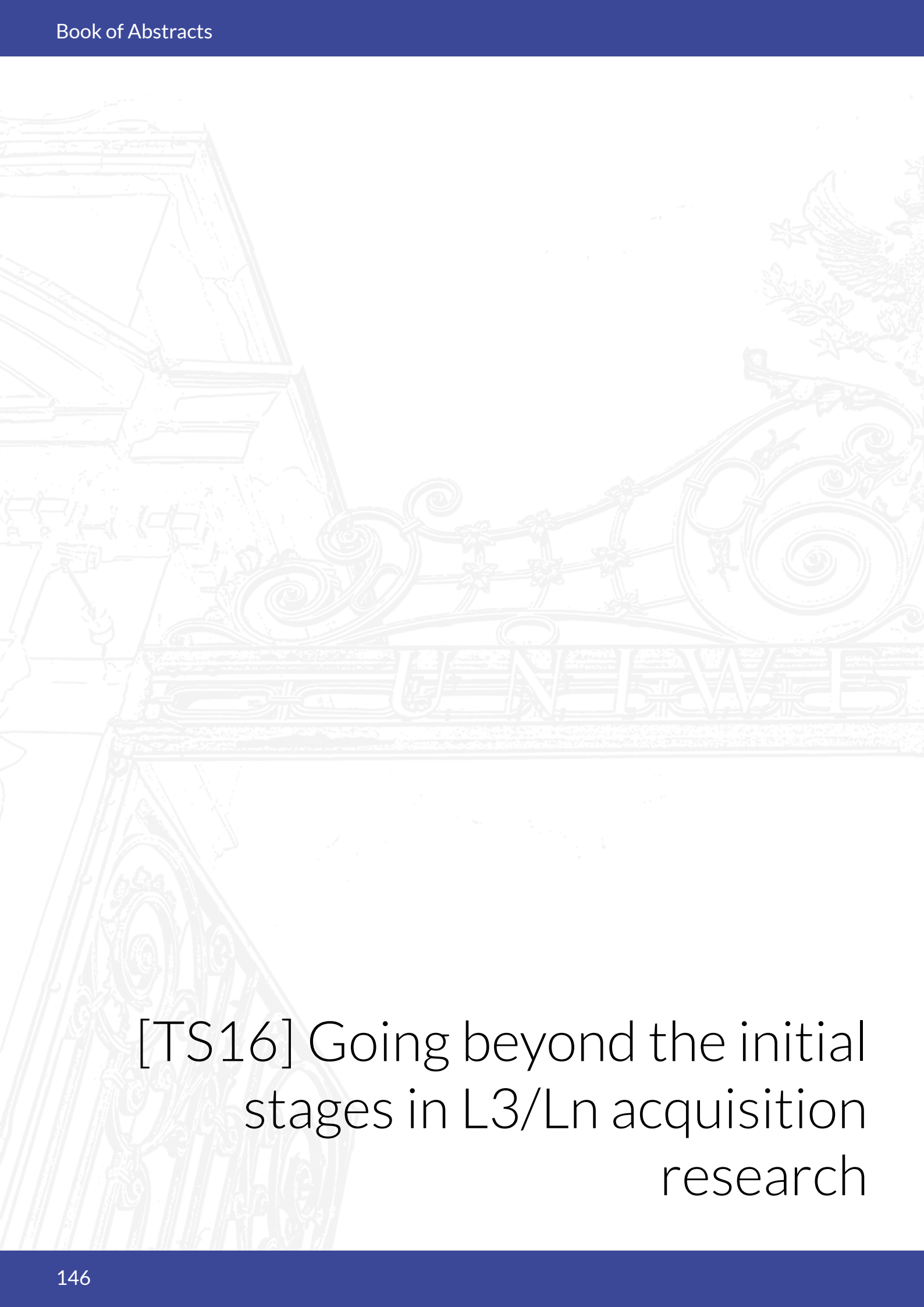
# Rural Norway in flux – multilingualism in Lithuanian labour migrants’ digital interaction with employers and colleagues

Kristin Vold Lexander

This paper applies polymedia theory (Madianou & Miller 2012) to present an integrated perspective on media and language use in the multilingual workplace, hypothesizing that interlocutors’ use of digital tools and linguistic resources together influence interpersonal relationship. Labour migration contributes to the development of a more heterogenous countryside in Norway (Rye 2018: 190), also when it comes to language practices. Lithuanian migrants make up an important group, as they often settle down outside the cities. The inclusion of migrants in the local communities frequently departs from interpersonal relations built at the workplace. In the rural setting studied, these relationships are often multiplex (Milroy 1980), and their negotiation frequently relies on multilingual interaction - increasingly mediated by digital tools. Tasks like farm work and cleaning are regularly carried out without the physical presence of the employer and are therefore organized through mobile communication. What language and media practices can be observed in this interaction? How are relationships between interlocutors negotiated? A total of 9 Lithuanian labour migrants, one of them employer herself, and 3 employers of Norwegian origin have been interviewed about their employer-employee communication, making use of mediagrams (Lexander & Androutsopoulos 2021). The participants have also provided examples of their digital work communication. The analysis of the two types of data, drawing on discourse analysis and interactional sociolinguistics in addition to polymedia, shows that digital tools like Messenger and SMS are employed in employer-employee relationship for specific practices of multilingual, multimodal interaction that stand out from other kinds of communication they engage in. These practices affect the relationships and the paper further discusses how they affect inclusion and social (in)equality in rural Norway.

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[TS16] Going beyond the initial stages in L3/Ln acquisition research

# L3 development: A longitudinal study on L3 German in Norway

Nadine Kolb, Gustavo Guajardo, Marit Westergaard

This longitudinal study investigates early stages of third language acquisition (L3A). At present, most L3A research focuses on cross-linguistic influence (CLI), i.e., whether properties are transferred based on linguistic proximity (e.g., Westergaard et al. 2017), typological primacy (e.g., Rothman 2015) or further factors. In our study, while also investigating CLI at initial stages, we focus on L3 development. According to the Cumulative Input Threshold Hypothesis (CITH) (Cabrelli & Iverson submitted), CLI from the L2 is overcome faster than CLI from the L1 (Cabrelli et al. 2018). Our research question is whether order of acquisition is a determining factor in overcoming CLI.

The L3 German learners (N=55) who participated after 7, 26 and 42 weeks of exposure are 15-17-year-old L1 Norwegian speakers with high proficiency in L2 English.

We conducted an acceptability judgment task with five conditions, two of which are structurally similar to Norwegian (adverb placement in subject-initial declaratives, V2 in non- subject initial declaratives), one to English (obligatory articles in generic contexts that allow article omission in Norwegian), one to both English and Norwegian (prenominal placement of possessive determiners), and one to none of the two languages (object-verb word order). We included twelve (un)grammatical items per condition.

We found a significant main effect of time and condition. Accuracy is increasing significantly over time for three conditions: Possessive condition with facilitation from L1 AND L2, object-verb condition with non-facilitation from L1 AND L2, adverb condition with non-facilitation from the L2 and facilitation from the L1. Thus, CLI from L2 English (i.e., adverb condition) is overcome at the same time as CLI from L1 Norwegian (i.e., possessive condition). However, the conditions vary with regards to frequency, complexity and markedness. The increase in the object-verb condition can be explained by learning and overcoming non-facilitation from both languages.

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# The relationship between phonological awareness, perceived foreign accent as well as perception and production of L2/L3 rhotic sounds in the first year of L3 learning

Magdalena Wrembel, Anna Balas

Metalinguistic awareness is posited as key factor in multilingual learning (Jessner 2014), however, relatively little is known about it in the realm of L3 phonological acquisition (cf. Kopečková 2018, Wrembel 2015). In this longitudinal study (see Kopečková et al. 2021), we explore the relationship between phonological awareness, perceived foreign accent and perception and production of L2/L3 rhotic sounds. A group of 14 L1 Polish adolescents (aged 12) with L2 English and L3 German were tested at the beginning and end of the school year. Implicit phonological awareness was prompted in a foreign accent mimicry task, in which they told a picture story in L1 while mimicking L2/L3 accents. An auditory analysis of the recordings was performed by two raters, who calculated a score of target changes of the L2/L3 phonetic features. The mimicked speech samples were subjected to an accent rating task performed by 28 L1 Polish raters. Randomised samples were evaluated for the degree of foreign accentedness and L1 identification. The multilinguals' performance was further tested in a production task involving delayed repetition in both their foreign languages at the two testing times, in which target words including rhotic sounds were elicited, and auditorily analysed. The perception of the L2 and L3 rhotics was tested in a forced-choice naturalness task, and scored for accuracy. The analyses showed an increase over time in the mean phonological awareness score for the L2 and L3, however not statistically significant. The learners exhibited better accent mimicry in their L2 than in L3. The results revealed weak to moderate correlations between general phonological awareness and production accuracy of rhotics at both testing times. No relationship between phonological awareness and rhotics perception accuracy was attested. The analyses of the perceived foreign accented ratings and their relation to the other performance measures complement the reported findings.

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# L3 Development in context: Where are we at?

Eloi Puig-Mayenco, Jennifer Cabrelli

To date, L3 acquisition research has mostly focused on examining the type (wholesale vs. property-by-property) and source of transfer (L1, L2, both, or neither) at the initial stages of acquisition (see Rothman et al. 2019, for a review). Based on a recent systematic review of L3 initial transfer studies (Puig-Mayenco, et al. 2020; Rothman, et al. 2020), we know that a good portion of research examining transfer selection in L3 acquisition use data from developmental stages (i.e., from post-beginner learners). Yet, only few of these studies explore (or even discuss) L3 developmental trajectories (e.g., Cabrelli et al., 2020; Cabrelli & Iverson, submitted, Puig-Mayenco et al., 2021).

The aims of this presentation are twofold. First, we will provide (a) a state-of-the-art overview of the field of L3 acquisition in general, (b) a comprehensive analysis of existing theories of L3 acquisition with special emphasis on how existing findings can inform L3 developmental theories and (c) a detailed review of the few studies that have attempted to explore L3 acquisition beyond the initial stages (i.e., L3 development and regressive transfer). In the second part of the presentation, we will discuss some methodological considerations that need to be adopted to successfully determine what cognitive mechanisms are involved in the modelling of L3 development. We will conclude by presenting some avenues and directions for future developmental research, as well as drawing attention to some important considerations for L3 acquisition research in general.

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# Longitudinal Aspects of Naturalistic L3 Lexical Acquisition

Lari-Valtteri Suhonen

Interaction of lexical items in the multilingual mental lexicon depends on the stage of development. In the beginning overt effects dominate, while when proficiency increases the effects are often related to aspects of word meaning rather than form (Bardel, 2015; Ringbom, 2007). Mental lexicons are in a constant state of change through learning, forgetting, and consolidation throughout the lifespan (Sharwood Smith, 1989).

The present study followed eight adult learners of Swedish (L1 German; L2 English) from beginner to advanced CEFR C1 level. The primary focus was on the effect of the stage of acquisition, aptitude, and psychotypology on the direction and quantity of CLI. Since gradual changes in representation do not necessarily lead to overt, noticeable changes in production, the experiments were designed to tap into the learner's unconscious representation and processing. Schmid and Köpke (2017) suggest that research should look at all directions of CLI in multilingual language acquisition. In the present study, all six potential directions of CLI (i.e., forward, lateral, and reverse) were tested throughout the learning process.

The primary dependent measure was a word-pair similarity perception task (modeled after Jiang, 2002) where the participants rated concrete noun pairs that vary in their level of relatedness across the speaker's languages. Two measures were collected: response times and similarity ratings (Likert 1-7 on a button box). Focus was on the change of these over time. The participants acted as their own controls.

CLI was found to be multidirectional, albeit operating differently for forward and reverse CLI. Forward CLI seemed to take place at the level of individual items and not be dependent of the modifying factors. On the other hand, reverse CLI seemed to take place at the level of inhibiting the language wholesale and was modulated by aptitude and psychotypology.

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# The nature of syntactic and phonological CLI beyond the initial state

Anika Lloyd-Smith

In the study of third language (L3) acquisition, it has recently been suggested that phonetic-phonological CLI is more likely to be affected by changes in the learner's environment than, e.g., syntactic CLI (Kopečková, Marecka, Wrembel, & Gut, 2016). Since most L3 studies have investigated CLI within a single domain, there has been a call for studies that systematically assess CLI across multiple modules of the grammar within the same population of speakers (Rothman, González Alonso & Puig-Mayenco, 2019, p. 256). To fill this gap, this study examines patterns of CLI across two contrasting domains, namely perceived global accent (phonetics-phonology) and acceptability judgements (syntax). The participants are 21 heritage speakers (HSs) of Italian who grew up in Germany (mean age = 23), and L1 Italian (n = 20) and L1 German controls (n = 10). All participants had learned English at school.

In the accent rating study, the HSs were rated as predominantly German-sounding as a group, indicating that accent stems from the typologically closer (and dominant) language. However, influence from Italian was detected in some individuals, which was shown in regression analyses to be predicted by the amount of HL use across the lifespan (measured using a HL questionnaire). In the syntax study, the HSs accepted embedded wh-questions with the Italian word order (S-V inversion in the embedded clause) significantly more often than L1 German controls, and at a similar rate as L1 Italian speakers. This is interpreted as non-facilitative CLI from Italian. In contrast to global accent, however, syntactic CLI from Italian was not predicted by HL use. These results speak for the availability of both background languages at the later stages of L3 acquisition, and for the idea that global accent is more strongly affected by individual variables than morphosyntax is.

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# Transfer or a Development Difference? The Case of Grammatical Gender Acquisition in L3 German

Megan Brown

This talk outlines the differing results of two experiments investigating L3 acquisition of Germanic grammatical gender concord by sequential Spanish/English bilingual learners, and emphasizes the key differences between true L3 initial state transfer and later developmental differences.


In Experiment 1 (Brown, 2020a), two sets of beginner L3 German learners (L1 English/L2 Spanish and L1 Spanish/L2 English) were compared in their ability to identify L3 grammatical gender agreement errors in a set of German sentences. Results showed that L3 learners who reported having Spanish, another gendered language, as an L2 significantly outperformed participants with L1 Spanish. On the surface, this finding might seem to suggest that these L2 Spanish participants are able to transfer their Spanish gender knowledge at the onset of L3 acquisition in a way that the L1 Spanish learners cannot, and could potentially fall in line with models of the L3 initial state such as the L2 Status Factor Model (Bardel & Falk, 2007). However, once it is considered that these participants had all had at least one semester of German instruction prior participating, it becomes unclear whether this L2 Spanish gender advantage is the result of initial transfer or some later developmental difference.

In order to test this, Experiment 2 (Brown, 2020b) considered true initial state L3 learners by exposing sequential English/Spanish and Spanish/English bilinguals to an artificial Germanic language and testing their ability to acquire the grammatical gender system. This study found no difference between groups, a result that contrasts with the findings in Experiment 1. This suggests that the Experiment 1 findings are not a reflection of initial state transfer, but rather demonstrate some form of later L3 developmental difference. These findings emphasize the importance of a distinction between L3 initial state transfer and early development.

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[TS17] Linguistic landscapes and multilingual materiality in flux: promoting language awareness in bi/multilingual education

# Characterizing language-unique words, cognates, and interlingual homographs in the linguistic landscape of four Canadian cities

Esteban Hernandez Rivera, Naomi Vingron, Olivia Mendelson, Katrine Bergeron, Sarah Lee, Jakob Leimgruber, Debra Titone

The linguistic landscape is “the language of public road signs, advertising billboards, street names, place names, commercial shop signs, and public signs on government buildings” (Shohamy, 2006). Here, we investigated the proportion of French and English words in the linguistic landscape of four Canadian cities whose residents had comparable bilingual knowledge of French and English but varied in whether French or English was the language of the home (Statistics Canada, 2017). Fredericton, NB and Ottawa, ON are highly English-speaking in the home, though Ottawa is more French. Montréal and Québec City are highly French-speaking in the home, though Montréal is more English. We exhaustively photographed signage of one street from each city (except Montréal where we photographed four streets). Signs were later coded for the number of French and English words, and the number of words that had the same meaning in French and English (COGNATES) or different meanings (INTERLINGUAL HOMOGRAPHS). As expected, the proportion of French was low in Fredericton and Ottawa, but high in Montréal and Québec City; though French was consistently high for governmental signs. More interestingly, the proportion of cognates was higher than interlingual homographs, and the size of this cognate effect varied with both city and sign type: It was maximal for government signs in Fredericton, Ottawa, and Montréal, but smaller in highly French Québec City; It was minimal for ad-hoc signs, especially in highly English Fredericton and Ottawa; It was intermediate for commercial signs across all cities consistently. This cognate effect is interesting given copious psycholinguistic research demonstrating that cognates are easier for bilinguals to read than interlingual homographs (Palma & Titone, 2020). We are currently exploring whether these trends arose from deliberate intent of sign creators, unconscious psycholinguistic processes of sign creators, or simply because governmental signs contain more Latinate words.

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# Mi calle favorita: linguistic multimodal landscapes in a plurilingual project with School, Families and Museums.

Raquel Carinhas, Maria Helena Araújo e Sá, Danièle Moore

Situated in the multilingual context of Montevideo (Uruguay), this contribution presents some findings resulting from a collaborative research partnership between a primary school, children's families and four museal institutions - the Cabildo Historic Museum, the Pre-Columbian and Indigenous Art Museum, the Migration Museum and the Photography Center - in the construction and implementation of a multi-situated Plurilingual Project (Almenar et al., 2021; Carinhas et al., 2020a, 2020b). The project is situated in an approach of plurilingualism as an asset (Grommes & Hu, 2014) that bridges learning in schools, families and communities, anchors the education of children in the ecological landscape of the place, and promotes the recognition of linguistic diversity and the multi-situated aspect of knowledge (Dagenais et al., 2009). In this presentation, we will focus on one particular multi-site set of activities involving teachers, families and curators around the documentation of the children's linguistic landscapes and the historical narratives that build their identities in relation to the neighborhood that surround them: the Ciudad Vieja.

Multimodal data sources include visual and sounds documentation of the linguistic landscape at and around the school and the museums in the Ciudad Vieja, as well as child-initiated digital photographs, drawings and collages, researchers' field-notes and photographic and video recordings of children's interactions while in the process of documenting their learning during the walks, workshops and exhibit visits.

The contribution should trigger a discussion on didactics implications of linguistic landscapes as tools (Cenoz & Gorter, 2008) in the construction of multi-situated and cross-disciplines pedagogical scenarios as well on the importance of the Plurilingual Education to foster learning bridges across contexts, and facilitate communities and families' engagement to create new and transformative learning spaces for young learners (6 to 12 years old).

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# From LoCALL to Global: Linguistic Landscapes as a means to raise awareness of linguistic (in)equity in education

Joana Duarte, Mónica Lourenço, Sílvia Melo-Pfeifer

In this contribution, the Erasmus+ project LoCALL (Local Linguistic Landscapes for Global Language Education in the School Context,) will be presented and the main activities and preliminary results will be shared with the audience. This three-year project (2019-2022) aims at bridging indoor and outdoor school activities to promote language learning, plurilingual education and enhanced language awareness. More precisely, it aims at bringing urban linguistic landscapes, as signs of plurilingual material culture (Aronin, Hornsby & G. Kiliańska-Przybyło, 2018), into the classroom as pedagogical tools to observe, reflect and act upon linguistic diversity.

Based on evidence collected in the five countries engaged in the project (France, Germany, The Netherlands, Portugal, and Spain), we will present pedagogical strategies based on the discussion of linguistic landscapes in the mainstream classroom and discuss how the use of linguistic landscapes can foster pupils' awareness of social linguistic equity and inequity. Data include transcriptions of classroom interaction during project implementation and assessment, pupils' written responses to classroom activities, and interviews with participating teachers. Through the presentation of purposely chosen activities and their classroom outcomes, in terms of pupils' learning achievements and teacher professional development,, we will analyse the potential of using linguistic landscapes to promote language awareness, globally, and its social and affective dimensions, more specifically.

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# Supporting Linguistically Expansive Orientations in the Classroom

Rahat Zaidi

The current era of diverse and constant transnational movement of people has resulted in classrooms filled with a cultural and linguistic superdiversity, containing both a high population of English Language Learners as well as alternative bi/multilingual programs. These shifting demographics are particularly relevant in Europe, North America, and Australia. As a result, educators, whether teaching in language or content areas, are now encountering the opportunity and the challenge to experience a multiplicity of linguistic levels and variations. This new reality intensifies the need to reimagine language and literacy pedagogies in light of the changing transcultural landscapes that characterize many schools today.

In this presentation I will discuss several collaborative knowledge mobilization initiatives in Alberta, Canada, aimed at fostering transcultural pedagogies, critical language awareness and linguistic landscape activities. In particular, I will incorporate educators' impressions and discussions resulting from a professional development initiative that took place in Spring 2021. Using their feedback with the developmental leadership I provided, I will describe some accessible frameworks that explore how these themes intersect with multilingualism, translanguaging, identity, and transcultural awareness in schools. I will also showcase how these are put into practice through some examples of lesson plans that build on these initiatives. These practices allow educators and their students to engage in activities that reflect today's global society and, in so doing, highlight the need for them to be adopted in the classroom in order to respond to the needs of contemporary language learners. The presentation promotes a learning process that includes critical reflectivity, social sensibility and the acknowledgement of in-betweenness many learners are currently experiencing. My presentation also uncovers strategies to help educators in classrooms that are faced with issues of representation, identity, and language ownership.


# New context for the use of minority languages: the (virtual) linguistic landscape

**Carmela Pertea**

Italian sociolinguistic panorama is made of, apart from the national language, numerous italo-romance dialects and different language minorities. After the approval of the law 482/1999, a national framework to minority language preservation and renaissance was obtained: the status and prestige of minority languages thus appeared to be strengthened. As a consequence, besides the use in informal and spontaneous contexts, they became a tool for communicating both in institutional, public and literary spheres. However, it should be noted the relative lack of studies on their way of forming a “Linguistic Landscape” (henceforth LL), i.e. the “visibility and salience of languages on public and commercial signs in a given territory or region” and “the language of public road signs, advertising billboards, street names, place names, commercial shop signs and public signs...” (Landry and Bourhis 1997: 23), a field of research that is “somewhere at the junction of sociolinguistics, sociology, social psychology, geography, and media studies” (Sebba, 2010). Moreover, the notion of LL tends to extend to other areas of communication, that is the Virtual Linguistic Landscape (VLL) which describes the linguistic cyberscape, just as LL describes the linguistic cityscape. In this perspective, a systematic and comparative evaluation of the vitality of minority languages remains to be attempted both in the LL and in VLL, in which, language contact phenomena could be detected. This is the aim of this paper, focusing on the use of Italo-Albanian varieties spoken in the South of Italy as to form LL and VLL. The multilingual data collected will be analyzed from a structural (Myers-Scotton 1993, 2002, 2006; Myers-Scotton / Jake 2009) and functional point of view (Auer 1998, 1999, Gafaranga 2009) trying to correlate the results to the macrosociolinguistic level.

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[TS19] Using parental reports  
to examine early language  
development in bilingual children:  
CDIs and beyond

# Early language development in bilinguals and monolinguals. There's an app for that!

Karolina Mieszkowska, Magdalena Łuniewska-Etenkowska, Agnieszka Dynak, Ewa Komorowska, Grzegorz Krajewski, Anna Sara Romøren, Nina Gram Garmann, Pernille Hansen, Hanne Gram Simonsen, Ewa Haman

Early language development sets the pace for further language acquisition. Studies on the earliest acquisition of language typically employ parental reports such as MacArthur-Bates CDIs. However, this method cannot characterize a child's language development comprehensively, as, for instance, children may speak the words not included in the CDI questionnaires. Also, CDIs may be time-consuming and demotivating for parents.

In this talk, we will (1) describe the StarWords project that will investigate the trajectory of early language development in monolingual and bilingual children, (2) describe a specially designed mobile app used in the study, (3) present preliminary data gathered in the study.

In the StarWords study, we will investigate the early language development in monolinguals and bilinguals. We will study Polish-Norwegian and Polish-English bilingual children and compare them to Polish monolingual peers. The bilingual children's early language - i.e. the words spoken - will be also investigated in both their languages (L1 Polish + L2 English/Norwegian). The main study tracks presented in the talk will include: (a) the comparison of bilingual and monolingual timing of reaching first linguistic milestones (i.e. babbling, first word production); (b) the characteristics of the early words produced by children (e.g. do the first words of bilingual children reflect phonological patterns of the second languages? How similar are the first words of monolingual children and children exposed to a second language?); (c) the exploration of the link between the quantity of regularly reported language exposure and child's language development.

In the talk we will also present the StarWords app (currently available in Polish, English and Norwegian, but adaptable to other languages) in which parents enter words their children produce in real time or shortly after the production, i.e. complete a speech diary in an attractive form.



# Do parents really know? The Efficacy of Parent-Report Data on Bilingual Child Language Outcomes

Isabella Speranza, Maya Aharon, Somayah Al-ees, Siobhan Galeazzi, Nicole Boles, Alisha Suri, Monika Molnar

Parent-report is a popular technique for collecting information on bilingual children's language background and proficiency. Previous research suggests parent-report data on monolingual children's language outcomes to be accurate, however less is known about parent-report data on bilingual children's language outcomes. The current study investigates the efficacy of parent-report data on bilingual children's expressive language abilities as measured by the standardized Expressive Vocabulary Test (EVT, Williams, 2007). Participants included 55 children (23 males, 32 females) between the ages of 4 and 8. We tested a heterogenous bilingual population where each child spoke English plus an additional language. The current study focuses on the English abilities of these children. Data on children's exposure to and usage of a second language was collected via the Language Experience and Proficiency Questionnaire (LEAP-Q) (Marian et al., 2007). The LEAP-Q was designed and validated for use with adults but has yet to be validated for use with children. Based on prior research, we hypothesized that several components of the LEAP-Q such as age of acquisition, language input, language output and language learning via reading would predict bilingual children's English expressive language abilities (Bohman et al., 2010; Buac et al., 2014; Gámez & Levine, 2013; Hammer et al., 2012; Patterson, 2002; Ribot et al., 2018). Preliminary results revealed differences in parent-reported proficiency ratings between parents who are dominant English and parents who are not dominant in English. As well, we found when parents who are dominant in English complete the LEAP-Q, several components of the questionnaire, including age of first words and language output, predict bilingual children's expressive language abilities. This study contributes to the growing literature surrounding language input and output factors that contribute to bilingual children's language abilities as well as investigates the reliability of parental reports in examining bilingual children's English language proficiency.

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# Development of CDI-III for children over the age of 3 years.

**Grzegorz Krajewski, Sonia Przygocka, Karolina Mieszkowska, Agnieszka Dynak, Magdalena Krysztofak, Magdalena Łuniewska-Etenkowska, Ewa Haman**

In this talk we will present the work on the Polish adaptation of CDI-III: the proposed form and structure of the tool, the adopted procedure for its development, and the current state of the work with the focus on the results of the pilot study.

PL-CDI-III will be based on the design of Swedish adaptation, keeping its division into a vocabulary scale with 100 items, a shorter grammar scale, and one general question on pronunciation (Eriksson, 2017). We will discuss the decision to drop a metalinguistic awareness scale and consider alternative wordings of the pronunciation question.

The general procedure for constructing the vocabulary and grammar scales is to generate initial pools of items approximately twice as large as the final scales, estimate their psychometric characteristics through piloting, and select the final sets based on those estimates. In generating potential items we have drawn from both SCIDI-III and the large dataset from the norming study of the Polish CDI W&S (IRMIK SiZ; Smoczyńska et al., 2015), in particular the corpus of sentences gathered in the “sample utterances” and “longest sentences” sections (IRMIK sentences corpus).

Lexical items come from four sources: (i) translations of words used in SCIDI-III and/or culturally appropriate alternatives from the same thematic categories, (ii) words from IRMIK SiZ that remain particularly difficult for the oldest children in the norming sample, (iii) content words from the IRMIK sentences corpus based on their frequency, and (iv) frequency lists from Haman et al. (2011). Grammatical structures and constructions are selected based on the analysis of the IRMIK sentences corpus.

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# Child-internal and child-external factors predicting early and later vocabulary size in L1 and L2: A longitudinal study.

Joanna Kořak, Ewa Haman, Zofia Wodniecka

Vocabulary size of bilingual children is influenced by a joint effect of both child-internal (child's age, lexical and phonological processing skills, working memory, analytical reasoning) and child-external factors (quantity and quality of input, child's language use, SES) (Hurtado et al., 2014; Paradis, 2011; Pham & Tipton, 2018). However, no study to date has explored the longitudinal impact of a large number of internal and external factors on the bilingual children's vocabulary size. In this talk, we will summarise the results of a longitudinal study on Polish-English bilingual children living in the UK and Ireland. Children's expressive vocabulary size was measured at the age of 24-36 months with the use of Polish and English CDI (Timepoint 1), and their receptive and expressive vocabulary size was measured at the age of 5;6-7;6 with the Polish and English Cross-linguistic Lexical Tasks (Haman, Łuniewska, Pomiechowska, 2015) (Timepoint 2). Background information about children's language environment was collected through parental reports and at T2 also through in-depth semi-structured interviews. The data on children's lexical and phonological processing skills, verbal and non-verbal working memory, and analytical reasoning skills was collected with the use of cognitive experimental tasks. The results show that children's expressive vocabulary in Polish at T1 was predicted by the child's age, and in English by child's language use. At T2, children's receptive and expressive vocabulary in Polish was predicted by children's phonological processing skills and their language use. Children's receptive vocabulary in English was predicted by their phonological processing skills, while children's English expressive vocabulary size was predicted by their phonological and lexical processing skills. We discuss how the role of internal and external factors in predicting vocabulary size changes over time and how the specific features of the Polish-English children's language environment might explain this phenomenon.

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[TS20] Creating language-  
assessment tools for North, South  
and in between

# Equivalent child language assessment instruments across languages: Southern Africa CDIs

**Frenette Southwood, Michelle White, Heather Brookes, Nina Brink, Olebeng Mahura, Martin Mössmer, Mikateko Ndhambi, Helena Oosthuizen, Michelle Pascoe, Sefela Yalala, Katie Alcock**

Parent reports have benefits that the other approaches to child language assessment do not have. These include parents being able to capture genuine performance otherwise unavailable to the researcher or clinician (Fenson et al., 2007); obtaining information on developmental expectations within the child's family and cultural context (Guiberson et al., 2011); and typically quick, easy, cost-effective administration (Sachse & Von Sudodoletz, 2008).

The MacArthur-Bates Communicative Development Inventory (CDI), one form of parent report, assesses vocabulary and gestures in infants and vocabulary and early grammar in toddlers. CDIs have been adapted for a range of languages, including under-studied languages (e.g., Alcock et al., 2015, Bleses et al., 2008, Reese et al., 2015).

A multi-site team is adapting CDIs for 11 Southern African languages – Afrikaans and South African English (Germanic languages), and isiXhosa, isiZulu, isiNdebele, Sepedi, Sesotho, Setswana, siSwati, Tshivenda and Xitsonga (Bantu languages) – following a collectively determined protocol. This approach allows examination of (i) universal aspects of child language development, (ii) language acquisition within and across language families, and (iii) how language and culture may shape language acquisition.

Since 2017, six language versions have been piloted with 280 children per language. Pilot data indicate a positive correlation between vocabulary size, age and grammar. Results of the first pilots enabled item reduction in preparation for the second pilots, after which validation and norming are planned.

A set of equivalent monolingual CDIs (not translations of each other) will enable assessment and tracking of the language of young South African children in two or more of the children's languages. Main challenges so far include determining exactly how the monolingual CDIs can be used with children raised in multilingual contexts, keeping the CDIs uniform across languages, and accounting for language variation and variation in exposure to language in rural vs urban contexts.

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# Multilingual assessment through pictures: Guidelines for material selection

**Pernille Hansen, Monica Norvik, Eva Soroli, Ewa Haman, Hanne Gram Simonsen, Frenette Southwood**

„Pictures are widely used to elicit language, for instance in studies on the lexical development of children, or on the language processing of neurologically healthy or clinical populations at various ages. However, pictures cannot be seen as neutral representations of the world: They are culture-specific, partial representations of reality, often presented disconnected from their context. Interpreting pictures is an acquired skill, dependent on social, cultural and cognitive factors.

Although these points are important to consider when pictures are used to assess language knowledge, particularly in multilingualism and cross-linguistic research, picture-based tools and experiments are often used uncritically across language groups and cultures. The result could be misleading conclusions about language proficiency, an important issue for both research and clinical contexts. In this paper, we discuss the development of picture material for lexical assessment, suitable for multilingual populations, focusing on an important step of the selection process: naming agreement.

Naming agreement involves empirically validating visual stimuli to ensure that language tasks are indeed appropriate for the intended purposes (e.g., for use across the languages of a multilingual individual). In this paper, we review recent naming agreement studies in several populations and languages. Crucially, we propose guidelines for creating and conducting naming agreement studies for designing assessment tools, including the development of a set of words with matching pictures, participant sampling and data collection. We also consider how naming agreement can be used to achieve comparability across languages, generations and societies.

There is a current lack of guidelines for naming agreement. In an increasingly multilingual world, there is both a growing interest in studying multilinguals and an urgent need for valid material to be used in clinical assessment tools suitable for this group. Our guidelines have applicability for anyone using picture stimuli to study language processing and language acquisition.”

# Meeting a need for tools: Experiences from two international network

Valantis Fyndanis, Ewa Haman, Magdalena Łuniewska, Hanne Gram Simonsen

Multilingualism necessitates creation of language assessment tools incorporating all languages of a multilingual individual. This pertains to very different situations when assessment/diagnosis is needed: children being at risk for language disorder (e.g. struggling in everyday communication or in educational context) or persons with aphasia (PWA) (e.g. in need for a precise diagnosis and appropriate treatment).

Even though official recommendations (e.g. RCSLT, 2007; ASHA, 1999) clearly indicate the need of assessment in all languages, there is a scarcity of tools enabling such assessment. First, available tools were mostly designed for monolingual populations. Second, in many languages no assessment tools are available at all. Considering the enormous diversity of language combinations in multilinguals (e.g. in countries experiencing immigration), the need for “multilingual tools” is evident. The design of such tools involves following a common set of criteria and procedures that enable the parallel development of comparable language versions. This is the case regardless of whether a multilingual tool is developed “from scratch” or by adapting an existing “monolingual tool” into different languages. Multilingual tools enable not only assessment of multilinguals, but also comparisons between different “monolingual” speakers/populations (e.g. Greek-speaking PWA vs. German-speaking PWA).

Two examples of such multilingual tools for different populations (preschool children and PWA) will be presented. Cross-linguistic Lexical Tasks (CLT) were designed for multilingual children, within COST Action IS0804 (Language Impairment in a Multilingual Society/Bi-SLI). The tool is now available in 29 languages. The Comprehensive Aphasia Test (CAT), which targets PWA, was originally developed in English (Swinburn, Porter, & Howard, 2005). It has been or is currently being adapted into 21 languages, within COST Action IS1208 (Collaboration of Aphasia Trialists/CATs). We will focus on key linguistic and cultural challenges we encountered during the development/adaptation of CLT and CAT in(to) different languages, and will describe the solutions we agreed on”.

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# Using children's response speed as a tool to identify bilingual preschool children at risk for language impairments

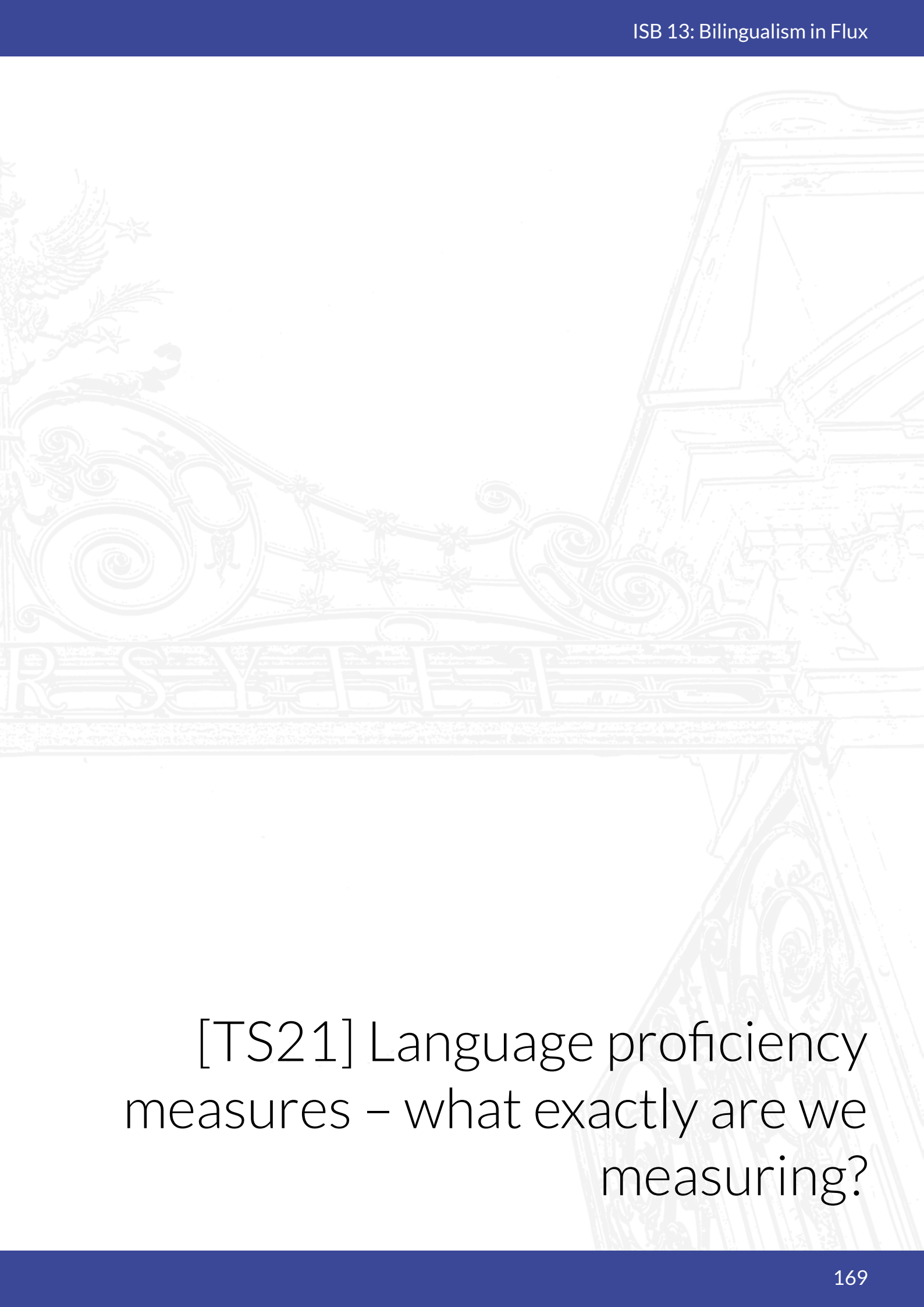
Pui Fong Kan, Anna Miller, Sierra Still

The purpose of the study was to examine whether monolingual adults can identify bilingual 4-year-olds with LI based on children's response speed to the examiner. It has been well-documented that there is a significant overlap in linguistic characteristics between typically-developing bilingual children and monolingual children with language impairment (LI; (Paradis, 2010). The variability of bilingual children's language development and the lack of valid measures make it difficult for practitioners to identify bilingual children with language impairment (Dollaghan & Horner, 2011). Previous studies have shown that school-age children's processing speed can be used to differentiate bilingual children with language impairment and their typically-developing peers (Ebert & Pham, 2019; Kohnert & Windsor, 2004). However, such processing tasks, which require attention control, motor, and perceptual skills to encode auditory/visual stimulus, might be difficult for preschool-aged children. Participants were 37 monolingual English-speaking adults. Stimuli were 48 audio clips from 6 bilingual children (48 months) who were predominately exposed to Cantonese (L1) at home from birth and started to learn English (L2) in preschool settings. The audio clips for each child were selected from an interactive story-retell task in Cantonese and English conditions. Three of the children were typically-developing, and three were previously identified as having a language impairment. The monolingual adults were asked to judge children's response times for each clip. Interrater reliability was high (.82 for L1; .75 for L2). Logistic regression and receiver operating characteristic curves were used to examine the data. Overall, 95% of the clips from the children with LI in the Cantonese condition were identified as slow, whereas 77% of the clips from the children with LI in the English condition were identified as slow. The results added to the literature that children's response speed can potentially be used to identify bilingual children at risk for language impairment.

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[TS21] Language proficiency measures – what exactly are we measuring?

# The influence of bilingual language proficiency and cognitive control in verbal fluency performance

Yasmine Ouchikh, Marcy Gordon, Zhamilya Gazman, Bernadette Ojukwu, Klara Marton

Bilingual individuals demonstrate advantages in nonverbal cognitive control tasks relative to their monolingual peers, but weaknesses in tasks measuring lexical retrieval (Bialystok, 2009). Verbal fluency (VF) tasks are typically used in neuropsychological assessments of cognitive control and lexical retrieval (Troyer et al., 1997). Yet, in bilingualism research, these tasks have been used as objective measures of language dominance (e.g., Shishkin & Ecke, 2018) and language proficiency (e.g., Blumenfeld & Marian, 2013). The purpose of this study was to examine the relative contributions of language proficiency and cognitive control to VF performance.

We compared the performance of bilingual ( $n = 6$ ) and monolingual ( $n = 4$ ) school-aged children on a VF task presented in the English language. Participants had one minute to list as many exemplars as possible per category. Parent-rated language proficiency was obtained with a language history questionnaire (LEAP-Q; Marian et al., 2007). Bilingual children were differentiated based on their non-English language proficiency. Cognitive control was gauged by examining clustering (i.e., sub-categories) and switching (i.e., switches between sub-categories) patterns in the VF task; indicators of lexico-semantic organization and cognitive flexibility (Troyer et al., 1997).

Preliminary results from a regression analysis indicated that percent exposure to the non-English language accounted for 88% of the variance ( $R^2 = .8828$ ,  $F(1,4) = 38.68$ ,  $p < .01$ ) in VF performance for the bilingual groups. Although bilinguals with high non-English proficiency produced the fewest words compared to both groups, this difference was not significant ( $F(2,6) = .436$ ,  $p > .05$ ). By analyzing patterns in clustering and switching we expect low- and high- proficiency bilinguals to produce fewer clusters and more switches between categories in comparison to the monolingual group, demonstrating their enhanced cognitive flexibility. Examining the differential patterns in total output, clustering, and switching patterns with a larger sample may illustrate the interplay between cognitive control and bilingual language proficiency in VF tasks.

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# Measuring language dominance in bilinguals based on task sustainability

Guadalupe A. Mendoza, Eve Higby, Taomei Guo, Samantha Ramos Gomez, David A. Rosenbaum

Measures of language proficiency and dominance have become increasingly important in the study of bilingualism. Yet, there is still no agreed-upon measure of language proficiency and dominance. A critical challenge is isolating language abilities from cognitive control abilities and from subjectivity related to introspective processes. We introduce a new method of measuring bilinguals' language proficiency and language dominance based on the sustainability hypothesis, which has been used to measure perceived task difficulty (Rosenbaum & Bui, 2019). According to the sustainability hypothesis, when assessing task difficulty, individuals may retrieve information about how well they think they can do the tasks repeatedly such that task difficulty is inversely related to task sustainability. We applied this concept to the study of language dominance in bilingualism. Mandarin-English bilinguals ( $n = 120$ ) completed a picture naming task in Mandarin and English and then answered 2-alternative forced choice questions about which of two tasks seemed easier: naming some number of pictures,  $n(M)$ , in Mandarin or some number of pictures,  $n(E)$ , in English. The same participants also indicated which of the two tasks they would prefer to do first. By pairing the values of  $n(M)$  and  $n(E)$  in all possible ways, we calculated the point of subjective equality (PSE) for the difficulty of naming pictures in Mandarin or English and for the preferred ordering of the two languages. The PSEs for both decisions were closely related to individual differences in language proficiency as measured by picture naming accuracy, verbal fluency, and self-report. Our results indicate that sustainability is an important characterization of language task proficiency and dominance. Including both an objective language assessment score and a subjective evaluation of difficulty holds promise for assessing language proficiency and dominance in ways that do not rely on introspection or cognitive control.

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# The roles of cognitive control and language proficiency in bilingual language switching

Lia Pazuelo, Thorfun Geheba, Rula Faour, Klara Marton

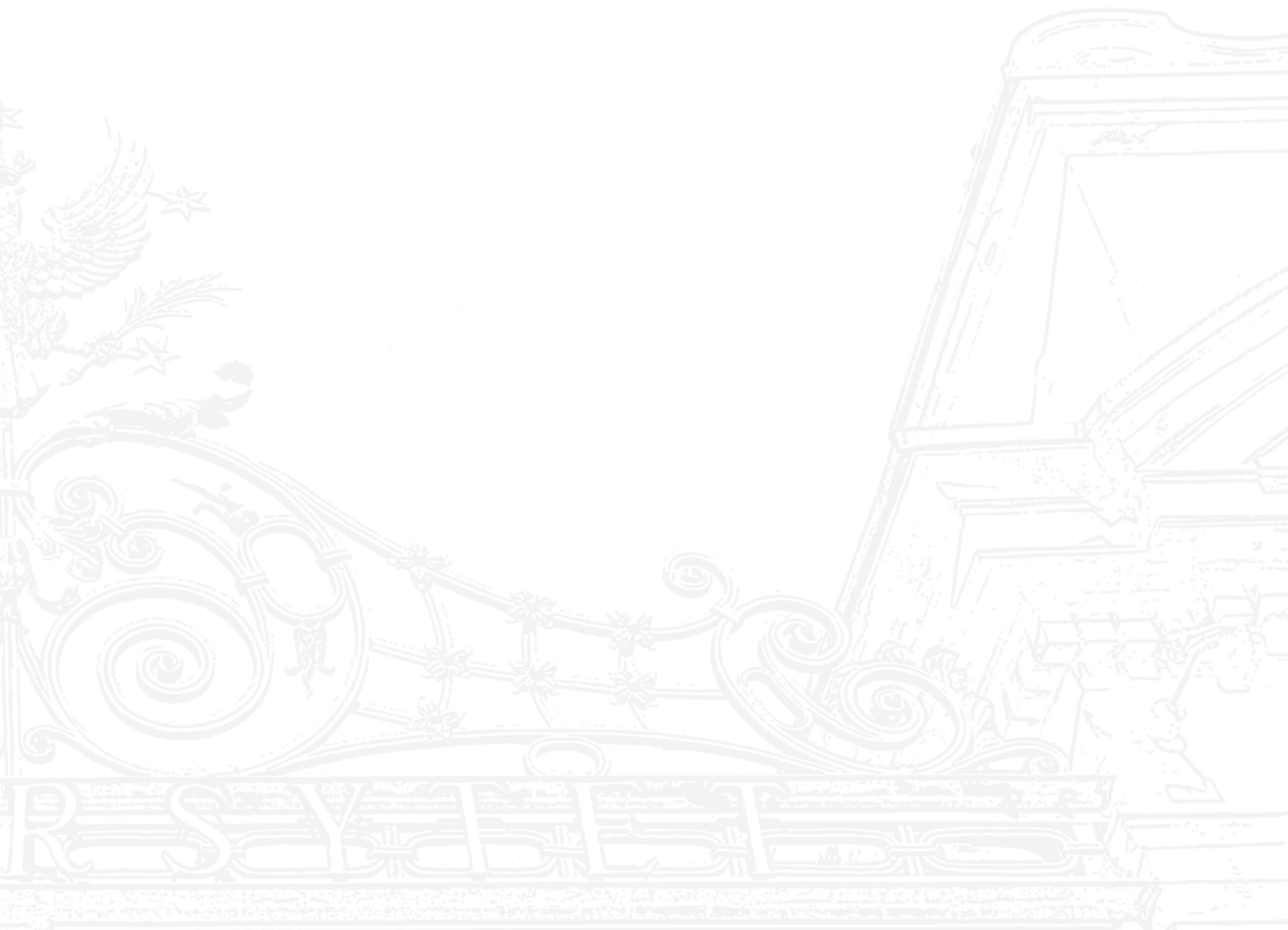
Bilingual individuals utilize cognitive control (CC)- monitoring, switching, and suppressing their languages on a daily basis (Abutalebi & Green, 2007). Language-switching has been extensively studied in the bilingualism literature, including studies that compared language and non-linguistic task switching (e.g., Calabria et al., 2012) and those that used language-switching as a measure of language proficiency (e.g., Vivas et al., 2017).

The aim of this study was to examine the roles of language proficiency and CC in a language-switching task. This study is ongoing and the following results are based on 23 Thai-English, 4-6 years old children's performance. The switching task includes mixed blocks with a light-switching condition where the stay-trials are more frequent than the switch-trials, therefore the task requires more CC; and a dense-switching condition (more frequent switch-trials), where language-switching is more automatic. Switch-cost was measured as the difference in reaction-time between stay-trials and switch-trials. We also used the Language Experience and Proficiency Questionnaire (LEAP-Q; Marian et al., 2007) as a measure of proficiency and the Cross-linguistic Lexical Tasks (CLT; Haman et al., 2017) to assess receptive and expressive vocabulary (nouns and verbs).

Linear mixed-effects regression analysis revealed a three-way interaction between switching frequency X language X trial type ( $p < 0.01$ ). This result indicated that the switching effect was larger in the light-switching condition that required more CC than in the dense-switching condition, that required less control. Further, the role of language proficiency in language-switching was supported by a moderate correlation between the switch-cost in the light-switching condition for Thai and the Thai CLT scores ( $r_s = -0.52, p < 0.05$ ), suggesting that children who performed better on the vocabulary task also performed faster on the stay trials during the light-switching condition that resulted in a higher switch-cost. These findings indicate that language-switching involves multiple processes and is highly demanding on both CC and language proficiency.

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[TS22] Consequences of  
bilingualism: Embracing the  
complexity

# Investigating language entropy as a predictor of cognitive control in bilinguals using pupillometry

Thomas Tienkamp, Floor van den Berg, Jelle Brouwer, Josje Verhagen, Merel Keijzer

Effects of bilingualism on cognitive control have regularly been found in children and older adults, but are much less consistently found in young adults [1]. Three reasons for these inconsistent findings have been proposed. First, cognitive control peaks in young adulthood resulting in less pronounced individual differences, especially in reaction times [2]. Second, bilingualism is often operationalised as a binary variable, while no two bilinguals have exactly the same language experience. This potentially masks individual differences [3]. Third, recent work has stressed that different communicative contexts place varying cognitive demands on the speaker and should be taken into account in research targeting the effects of bilingualism on cognitive control [4].

The present study investigates these possible explanations. The cognitive control of young adults with varying language backgrounds (N=45) was measured using a colour-shape switching task. To address the first reason, behavioural data of the switching task was supplemented with pupillometric data to gauge a sensitive online measure of cognitive effort. To address reasons two and three, we administered an extensive background questionnaire and computed language entropy scores. Language entropy has recently been put forward as a quantitative measure of bilinguals' language use across different communicative contexts [5].

Our ongoing analyses will address whether language entropy modulates cognitive control and pupil dilation in a varied group of bilinguals. If more balanced use per context positively affects cognitive control, we expect to find faster reaction times and smaller pupil dilation for switch trials in more balanced bilinguals as compared to bilinguals who use their languages in a more compartmentalised way. Furthermore, if the pupillometric data uncovers subtle differences in cognitive effort as a function of language use per context, then these data would stress the usefulness of online measures like pupillometry to investigate effects of bilingualism on cognitive control in young adults.

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# The Effects of Bilingualism and Working Memory Capacity on Autobiographical Memory Retrieval

Emma Libersky, Kimberly Crespo, Autumn Reppe, Margarita Kaushanskaya

Prior work has found effects of language context on bilingual autobiographical memory (Schroeder & Marian, 2014; Schrauf, 2000), but, to our knowledge, no studies have directly compared bilingual and monolingual autobiographical memory. In this study, we investigated the effect of bilingualism on autobiographical episodic memory. We also explored the role of working memory in moderating the relationship between bilingualism and autobiographical memory. Thirty-four Spanish-English bilinguals and 38 English-only monolinguals participated in the cued-recall task and completed a measure of verbal working memory. Participants saw 10 images intended to invoke personal memories (e.g., an image of a wedding) and described a relevant memory aloud, in whichever language they chose. Offline, responses were transcribed, and response times were extracted and log-transformed. To quantify differences in participants' autobiographical memory quality, we calculated idea density scores (memory "richness") for each response via two automatic idea density calculators. Results indicate that bilinguals began relaying autobiographical memories faster than monolinguals ( $B = -0.12$ ,  $SE = 0.06$ ,  $t = -2.13$ ,  $p = .04$ ), suggesting that bilinguals retrieve memories more efficiently than monolinguals. However, these differences in retrieval speed did not translate to differences in memory richness, with bilinguals and monolinguals producing comparable idea density ( $p > .05$ ). Counterintuitively, higher working capacity was associated with slower memory retrieval ( $B = 0.08$ ,  $SE = 0.03$ ,  $t = 2.90$ ,  $p = .005$ ). However, it was not associated with propositional idea density ( $p > .05$ ) and did not interact with the effect of bilingualism ( $p > .05$ ). Ultimately, these findings suggest a potential bilingual advantage for autobiographical memory, though the advantage appears to be limited to retrieval speed and does not result in more detailed recollections. Future research is needed to identify the mechanisms that underlie the effect of bilingualism on autobiographical memory.

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# Judging likelihood of outcomes in health communication: How does Russian bilinguality affect the understanding of risk and certainty adverbs in English?

Renata F.I. Meuter, Vanda Nissen

Miscommunication in healthcare is increasingly likely given the growing numbers of patients and health practitioners worldwide negotiating linguistic and cultural barriers during consultations. When communicating about risk and certainty, practitioners often use epistemic adverbs (e.g., possibly, likely etc.). Previous work revealed subtle differences in understanding their meaning (in English) between monolingual English speakers in Canada and Australia (Segalowitz et al., 2016) and, for bilingual speakers of French and English, a differential impact of L1-French and L2-French status (Meuter et al., 2021). Here we explore whether, and how, bilinguality in another Indo-European language (Russian) impacts the semantic representation of epistemic adverbs. To explore the possible effect of language usage and context, we compared Russian-English bilinguals in Australia and Russia (Study 1). To explore the impact of bilinguality we compared Russian bilinguals and English-speaking monolinguals in Australia (Study 2). Participants performed a dissimilarity-rating task on sentence pairs, in English, presented as doctors' opinions differing only with respect to the embedded epistemic adverb. Analyses of the dissimilarity ratings, using cultural consensus analysis (factor analysis across participants), weighted-data classical-MDS, and cluster analysis, established within- and across-community consistencies and differences in the semantic mapping of risk and certainty when Russian is the 'other' language (L1 or L2). Study 1 showed a more nuanced understanding for the Russian-English bilinguals living in the L2 environment (Australia) versus the Russian-based bilinguals (effect of language context). An effect of bilinguality was apparent from the different cluster patterns observed between the Australian-based Russian-English bilinguals and their monolingual peers (Study 2), with a reassuring agreement on certainty adverbs in all speaker groups. Our findings suggest that adverbs of uncertainty have more nuances in meaning than adverbs of certainty and underscore the importance of checking for understanding when working with multilingual clients, especially when discussing risk and uncertainty in healthcare settings.

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# Categorization of the bilingual world: grouping the reality based on linguistic context

**Jon Andoni Duñabeitia, Eneko Antón**

The languages we speak are the glasses through which we perceive the reality, and language functions as the filter through which we understand what we experience and we apperceive. Recent evidence has shown that a variety of cognitive abilities, like categorization and perception of different elements, can be affected by their linguistic characteristics, such as their grammatical or lexical features. The existence of language-specific categorical boundaries modulates categorical perception across languages, but can languages serve as categories themselves? In the current study we asked whether children's categorization of reality could be influenced by the language in which said reality is experienced. To explore this, we presented 162 Basque-Spanish bilingual children (ages between 10 and 17 years old) with speaking avatars talking about themselves and giving some personal information such as their favorite food or animal. Some avatars presented this information using only Spanish and others used only Basque. After a single exposure, participants were asked to assign the previously presented elements (i.e., food and animals) to new silent avatars without any specific instruction for element grouping. Participants intuitively classified the elements they were presented with based on the language of exposure. Children showed a marked preference for grouping the elements presented in the same language together, and they did so intuitively and after a single exposure. The present study offers new insights on the extent to which language can influence other higher cognitive abilities, such as our categorization of the reality. Languages themselves can act as element categorizers, given that children grouped together neutral elements based on the language used when first introduced to those elements.

# Bilingualism changes how we perceive and process information

Viorica Marian, Sayuri Hayakawa

Experience learning and speaking more than one language can have a pervasive impact on perception, cognition, and behavior, ranging from automatic sensory processing to higher order cognitive functions. We highlight several recent findings from our lab on the consequences of bilingualism in various domains. We begin with a discovery that early bilingual experience influences how individuals process and control auditory input. Measures of otoacoustic emissions reveal that bilinguals exert greater top-down control over the mechanics of the cochlea relative to monolingual controls, enhancing their ability to essentially “turn down the volume” of noisy auditory stimuli (Marian, Lam, Hayakawa, & Dhar, 2018). Next, we discuss our finding that bilingual experience can alter the process of audiovisual integration. Hearing a speech sound, such as “ba” while seeing an incongruent lip-movement, such as “ga,” often results in the perception of an entirely different sound, such as “da”. We find that this illusion, known as the “McGurk Effect,” is more prevalent among bilinguals than monolinguals, suggesting that early experience communicating in complex multilingual environments can have a lifelong impact on audiovisual processing (Marian, Hayakawa, Lam, & Schroeder, 2018). We conclude with a discussion of research exploring how language experience affects judgment and decision making, by examining the consequences of using different languages in clinical and medical settings (Hayakawa, Pan, & Marian, 2021). These recent discoveries illustrate the widespread impact of bilingualism, beginning with how we experience basic perceptual inputs, followed by how we integrate information across modalities, and extending to how we make choices that impact our lives. We conclude that language experience is a significant source of plasticity and change for human function.

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# Consequences of bilingualism are differentially shaped by literacy in a language: Evidence from Hindi-English users

Jyotsna Vaid

To fully understand consequences of bilingualism it is important to consider how language use intersects with characteristics of a language. For bilinguals who know two distinct orthographies what are the consequences for how spoken words in the two languages are perceived? Adult users of Hindi and English were tested on a sound deletion task in which stimuli were cross-language homophones presented auditorily in separate blocks per language condition. Upon hearing each word, participants were to take away “the first sound” in the word and say aloud what remained. How participants construe “the first sound” was expected to be influenced by their knowledge of how the words are written in each language. Specifically, a grapheme-based representation of sounds in English would favor a phoneme-based interpretation of units of sound whereas an akshara-based representation of sounds in Hindi would favor a syllable-based interpretation. The results supported this hypothesis. Thus, on hearing the word “hum” presented as English, participants deleted the initial phoneme and reported “um” as what remained, whereas for the same word presented as Hindi the initial sound was construed as the syllable “hu” leaving “m” as the remaining sound. This pattern characterized bilinguals whose first learned orthography was Hindi. When Hindi was the second learned script, phoneme deletion was the prevailing response for English and Hindi alike though with increasing study of Hindi a syllable-based construal was apparent for Hindi words. Thus, consequences of bilingualism differ depending on the type of knowledge of orthographic characteristics of the languages and on the circumstances of language acquisition and use. The same word when heard as a word in Language A vs. Language B is perceived differently depending on the extent to which the bilingual is literate in both languages, and on how sounds are represented in a given orthography.

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# Translation and Language Switching—The Costs and Benefits of Working in Multiple Languages

Jeanette Altarriba

Some of the most basic uses of language among bilinguals involves the acts of translating and switching between languages. Both are taxing on the cognitive system, as they involve engaging lexical and conceptual/semantic systems in two languages—sometimes simultaneously. The focus of the current work is to discuss challenges in translating that include issues with word finding (Basnight-Brown & Altarriba, 2014) and issues related to the ease with which one switches between languages, particularly with regards to emotional contexts (Basnight-Brown, Kazanas, & Altarriba, 2018). In one study, fluent Mandarin-English bilingual speakers were asked to translate concrete, abstract, and emotion words as quickly and as accurately as possible. For emotional stimuli, it was found that translating from the first language (L1, Mandarin) into English (L2) was accomplished more quickly and with greater accuracy than translating other types of words, in the same direction. That is, there are costs when translating between languages that are moderated by language direction and word type. In other instances such as with L2-L1 translations, emotion word translation appears to be more difficult or challenging often because these words are less likely to have one-to-one correspondences across languages. The current work will demonstrate how translation is at once an advantage for bilingual and multilingual speakers in many applied contexts, but also, poses challenges when translations are unknown and when the type of word is emotionally charged in the native or second language. Implications for enhancing the learning of words in a new language and facilitating the development of translation skills will be discussed, in light of new findings that suggest that providing a learning context that engages survival processing and adaptive memory can reduce the processing and retrieval costs involved in learning to attach new words to known concepts in emerging bilingual speakers (Kazanas, Altarriba, & O'Brien, 2020).

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# Bilingualism: Gains, losses and something in between

Ludmila Isurin

In this talk, I provide an overview of two decades of my research in the field of bilingualism, focusing on the effects that learning of a new language (L2) has on the first language (L1). Learning a new language often comes at a price of losing some control over the first language. My research on language loss, attrition, or forgetting in children and adults has produced unique findings that are often difficult to replicate within the limitations of experimental settings. One of those studies was done on a Russian adoptee in the U.S (Isurin, 2000). The correlation between the rate of L1 forgetting and L2 acquisition and the suggested semantic overlap responsible for the loss of vocabulary were further tested in a simulated experimental study (Isurin & McDonald, 2001). The likelihood of losing access to L1 lexical items for which one acquires a translation equivalent in L2 was supported by both studies. L1 loss, however, does not necessarily concern such extreme situations as linguistic isolation in case of young international adoptees. It can happen to any adult living in the L2 environment. Here findings in difficulties with lexical access (Isurin, 2012), morphosyntactic changes (Isurin, 2007) or choice of lexical terms to express belonging (Isurin, 2011) were registered in Russian immigrants residing in the U.S., Israel, and Germany and having three different languages affecting their L1. These psycholinguistic considerations tie with my sociolinguistic work, where I looked at the inherent link between bilingualism and identity in immigrants who came to a new country as children, adolescents or adults (Isurin, 2011, 2015; Isurin, Furman, & White, 2015; Isurin, 2017). Self-reported perception of identity loss due to immigration and subsequent bilingualism and reported attitudes to language maintenance in younger generation provide fascinating narratives that elucidate the statistical data.

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# Plurilingual Creativity: Expanded framework for research in the consequences of acquisition and use of multiple languages for creative behavior

Anatoliy Kharkhurin

This presentation focuses on the consequences of multilingual practice for creative behavior. Interest in the relationship between multilingualism and creativity has been revived about 15 years ago. This relationship was formalized in the Multilingual Creative Cognition (MCC) framework and received extensive empirical support showing a positive effect of multilingualism on creative behavior. However, the MCC paradigm appears to take a rather narrow perspective on these two phenomena. Since it was developed within the traditional bi-/multilingualism and creative cognition frameworks, respectively, it focuses primarily on the cognitive mechanisms underlying creative capacity, which could benefit from an individual's multilingual practice. At the same time, scholarly reflection on learning and use of multiple languages has introduced a broader perspective with work in translanguaging, linguistic multi-competence and especially plurilingualism. The latter presents a holistic view, which considers languages as composing single dynamic language repertoire, thus shifting the focus from the languages to the agency of the individual in the interaction of languages. Similarly, reflection on creativity has expanded towards a broader and more articulated conceptualization, with a number of models being developed that all stress the complex and multidimensional nature of creativity. Both shifts paved the way to a reconsideration of the relationship between linguistic and cultural diversity on one side and creativity on the other. In this talk, after briefly recapitulating the MCC paradigm, we present an argument supporting the need for a broader perspective on the relationship between multilingual and creative practices. We introduce some of the plurilingual factors related to multicultural and emotional experiences, which may shape personality traits fostering creativity. The presentation culminates with a discussion of the applications of the expanded Plurilingual Creativity paradigm in education and introduces Plurilingual Intercultural Creative Keys (PICK) program, which constitutes a unified teaching model blending language-learning and creativity-fostering instructions into school curriculum.

# Bilingual advantage for memory: Why now you see it, now you don't?

Luna Filipovic

We have known at least since Loftus & Palmer's 1974 study that language affects witness memory. What is more controversial is that a particular language can affect memory in a language-specific way. This Whorfian possibility has been investigated in different experiential domains and an increasing number of studies confirm that it is not a matter of whether language-specific effects exist but rather when they may be detected and how strong they can be on different occasions.

In this talk I show how speaking more than one language affects memory for events in a universal cognitive domain - motion. When it comes to testing witness memory, verbalisation is inherently present, either actively or tacitly. Witnesses are thinking-for-speaking and thinking-for-remembering (Slobin 1987, 1996, 2003) using specific patterns of their language(s). For instance, an English speaker can say 'The man dropped a bag' without having to specify whether this was done on purpose or not. In contrast, a Spanish speaker has to make a choice between two different structures - one with intentional and one with non-intentional meaning. So what happens when a bilingual speaks two languages of different types? Is one or both used to encode information in memory and with what impact?

I present experiments on recognition and recall memory, featuring different types of English-Spanish bilinguals (early, late L2 English, late L2 Spanish) and I explain why a bilingual advantage for memory of events seems to be there sometimes but not always (Filipović, 2019). Using the multi-factor model CASP (Complex Adaptive System Principles) for Bilingualism (Filipović & Hawkins, 2019) I demonstrate how language typology, the specific type of bilingualism (early vs. late) and the type of communicative situation (single vs. dual language activation) jointly lead to varied yet predictable language and memory outputs.

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[TS23] Modulators of cross-language influences in learning and processing



# What are the modulators of cross-language syntactic activation during natural reading?

Naomi Vingron, Pauline Palma, Jason Gullifer, Veronica Whitford, Deanna Friesen, Debra Jared, Debra Titone

Bilinguals juggle knowledge of multiple languages, including syntactic constructions that can mismatch (e.g., the red car, la voiture rouge; Mary sees it, Mary le voit). We used eye-tracking to examine whether French-English (n = 23) and English-French (n = 21) bilingual adults activate non-target language syntax during English L2 (Experiment 1) and L1 (Experiment 2) reading, and whether this differed from functionally monolingual English reading (Experiment 3, n = 26). People read English sentences containing syntactic constructions that were either partially shared across languages (adjective-noun constructions) or completely unshared (object-pronoun constructions). These constructions were presented in an intact form, or in a violated form that was French-consistent or French-inconsistent.

For both L2 and L1 reading, bilinguals read French-consistent adjective-noun violations relatively quickly, suggesting cross-language activation. This did not occur when the same people read object-pronoun constructions manipulated in the same manner. Surprisingly, English readers exposed to French in their lifetime but functionally monolingual, also read French-consistent violations for adjective-noun constructions faster, particularly for some items. However, when we controlled for item differences in the L2 and L1 reading data, the effects seen there were similar as the original data pattern. Moreover, individual differences in L2 experience modulated both L2 and L1 reading for adjective-noun constructions, consistent with a cross-language activation interpretation of the data.

These findings are consistent with the idea of syntactic cross-language activation during reading for some constructions. However, cross-language syntactic activation during comprehension may be overall more variable and challenging to investigate methodologically compared to past work on other forms of cross-language activation (i.e., single words).

# Assessing and Processing English Calques by Native Speakers of Polish at Various Levels of English Proficiency: a Behavioural and ERP investigation

**Marta Marecka, Agnieszka Otwinowska, Joanna Durlík, Jakub Szewczyk, Marcin Opacki, Zofia Wodniecka**

Collocations are fixed, non-idiomatic phrases, such as “take a picture”. As a result of Cross-Linguistic Influence (CLI), bilinguals who have intensive contact with the second language (L2) can transfer L2 collocational patterns to their L1. By frequently using such collocational borrowings (called calques), bilinguals can introduce them into their native language. For example, Polish speakers often use calques from English in their L1, even when they are incorrect from a prescriptive standpoint. Because Poles learn English as an L2 at schools, their L2 proficiency can influence the use and attitude towards English calques. To test this, we asked whether English collocational calques are acceptable to Polish speakers of varying English proficiency and whether they are processed similarly to Polish collocations by this group. Thirty-two native speakers of Polish with varied English proficiency judged the acceptability of sentences in Polish on a 5-point Likert scale via an online questionnaire. The sentences contained either 1) well-formed Polish verb + noun collocations (e.g. *ma sens* – \*has sense), 2) collocations calqued from English, where the English verb was replaced by a Polish translation equivalent (e.g. *\*robi sens* – makes sense), or 3) incongruous verb + noun expression, where the verb did not collocate with the noun (e.g. *\*zjada sens* – \*eats sense). Then thirty other native speakers of Polish with varied English proficiency read these sentences presented on a computer screen word by word. We measured the N400 amplitude on centro-parietal electrodes in response to nouns in collocations, since the N400 is typically detected in response to novel, ill-formed, and metaphorical expressions. Preliminary results indicate that while native speakers of Polish assess calques from English as less acceptable than well-formed Polish collocations, there is no difference in the online processing of these two types of expressions. Further analyses will indicate whether English proficiency moderates this effect.

# Cross-language similarity modulates clitic processing in a second language: Evidence from gender and number processing

Eleonora Rossi, Jorge Valdes-Kroff, Lauren Halberstadt, Judith Kroll, Giuli Dussias

The processing of referential expressions in second language (L2) is notably difficult (e.g., Sabourin & Stowe, 2008), yet possible in high-proficient L2 speakers as demonstrated in a number of ERP studies looking at clitic pronouns processing (Rossi et al., 2014; Rossi & Prystauka, 2020). Crucially, those studies did not track what strategies are at play during on-line processing, and only focused on comprehension. Here, using eye-tracking and a production task we test sensitivity in comprehension and production to gender and number agreement in L2 processing.

Eighteen L1 Spanish (eight females; mean age: 28.72 yrs.; SD = 5.26), and 14 English-L2 Spanish bilinguals (eight females; mean age: 20.86 yrs.; SD = 1.03) were tested. During the eye tracking study participants read sentences that 1) correctly matched the antecedent i.e., *Maria pela la manzana fem. sing y la fem. sing come*; 2) violated grammatical gender, 3) violated number, and 4) violated both gender and number. During the sentence production task, participants were prompted with a picture and a sentence containing a clitic depicting an action, and needed to complete the sentence using another pronoun.

Eye tracking data revealed that native Spanish speakers are sensitive to gender and number violations (gaze duration  $F(1,17)=6.73$ ,  $p=0.0189$ ; right-bounded duration  $F(1,17)=4.52$ ,  $p=0.0483$ ; regression path duration  $F(1,17)=4.61$ ,  $p=0.0465$ ), while Spanish L2 speakers were sensitive to the double violation (regression path duration  $F(1,13)=6.89$ ,  $p=0.0210$ ). Data from the production task revealed a significant difference in performance between the L1 and L2 groups, with L2 learners producing fewer correct clitics (58% against 95%), and producing substitutions of the clitic with the full noun phrase (9.5% of errors). Overall, these data suggest that even L2 speakers show some level of sensitivity during on-line processing of gender and number agreement in the comprehension and production of referential expressions.

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# Cross-Linguistic Influence on L2 before and after extreme reduction in input: the case of Japanese returnee children

Maki Kubota, Caroline Heycock, Antonella Sorace, Jason Rothman

This study investigates the choice of genitive forms in English monolingual children and Japanese-English bilingual returnees; namely, children who returned from L2 (English) dominant environment to their L1 (Japanese) environment. There were two objectives in our study. First, we compared relative preferences for genitive forms (s-genitive: the table's leg vs. of-genitive: the leg of the table) and verb/argument word orders in English between Japanese-English bilinguals and English monolinguals. The results showed that bilinguals differed from monolinguals only in the genitive conditions, specifically in those that required processing of semantic factors that are in conflict. These findings suggest that general processing difficulties in resolving such conflicts provide a better explanation for the observed behaviour than does CLI from L1 per se to L2. The second objective was to investigate how severe change in language input over time from the point of re-immersion in the L1 community affects returnee bilinguals' L2 grammars over their first year after return to Japan. We examined if there were any changes in the evaluation of genitive forms and of the verb/argument orders in both their English and Japanese, and if so, whether change(s) could be explained by increased CLI effects. Results showed that there was no change in the preference for verb/argument orders; there was a change in the preference for genitive forms over time, but it was restricted to a single condition—namely, a condition that shares similar linear structure to the Japanese no-genitive and involves conflicting semantic cues. Combining the results from across the two studies we show that the dual effect of processing complexity and influence from dominant to non-dominant language work in tandem to explain monolingual to bilingual differences as well as longitudinal changes within bilinguals over time.

# Cognate effects in auditory and visual word processing in child and adult beginning L2 learners: Electrophysiological evidence

Janet van Hell, Ping Li, Fatemeh Abdollahi, Katharine Donnelly Adams

A key finding in research on cross-language lexical activation is that both languages are activated during lexical processing, even when bilinguals process words in only one language. A substantial part of this evidence comes from studies showing that cognates (words that share semantics, phonology, and orthography across languages) are processed faster than noncognates (Van Hell & Tanner, 2012). Previous studies typically presented cognates and noncognates visually. Recently, we presented cognates and noncognates in behavioral auditory and visual lexical decision tasks, and observed a cognate facilitation effect in visual but not in auditory lexical decision. This suggests that bilinguals can use language-specific auditory cues to direct processing towards one language only. In two ERP experiments, we examined the neural time course of cross-language activation during visual and auditory lexical processing, and the role of language-specific auditory cues. English adult beginning L2 learners of Spanish read (Experiment 1) or listened to (Experiment 2) cognates and noncognates presented in Spanish or English while performing a go-no go task. Results for visual presentation showed a delayed N400 for the Spanish words, which was more negative-going for noncognates than for cognates. Visual presentation of English words showed a small increased negativity (N400) for noncognates relative to cognates. For auditory presentations, there were no ERP differences between cognates and noncognates in either language. Presenting these materials in visual (Experiment 3) and auditory (Experiment 4) go-no go tasks to child beginning L2 learners of Spanish yielded an enhanced P300 to noncognates relative to cognates for visual presentation in Spanish, but not English. No ERP cognate effects emerged in auditory presentations in either language. These results indicate that mode of presentation (visual or auditory) modulates the co-activation of languages, and that adult and child beginning L2 learners employ phonological cues to constrain lexical access to only one language.

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# Factors affecting acceptability judgments in the native language: Proficiency, language exposure, lexical frequency, and grammaticality in the second language

Eve Higby, Nelson Tian, Valerie Shafer, Eva Fernández

In this study, we examined whether grammatical constructions unique to the second language influence native-language sentence comprehension and the role of individual differences. We obtained acceptability ratings (on a scale of 1-5) for auditorily-presented Spanish sentences that mimic the English causative structure (e.g., \*El entrenador corrió a la deportista alrededor de la pista [The trainer ran the athlete around the track]). We hypothesized that bilinguals might be more tolerant of lexical causative structures in Spanish than Spanish monolinguals because the structures are grammatical in English. We compared three groups of highly proficient Spanish-English bilinguals: 15 heritage Spanish bilinguals, 14 early bilinguals, and 12 late bilinguals, and three control groups: two native Spanish-speaking groups with limited English proficiency living in the U.S. ( $n = 15$ ) and in Ecuador ( $n = 16$ ), and English monolinguals (listening to English versions) ( $n = 25$ ).

Early and late bilinguals rated causative sentences as low in acceptability (mean ratings: 2.3 and 2.2, respectively), similar to Spanish controls (2.7 and 2.3), while heritage bilinguals (3.2) were more like English controls (3.7) in judging the sentences to be of higher acceptability. Higher Spanish proficiency was associated with lower acceptability ratings ( $r = -0.46$ ,  $p = .002$ ). Causative ratings were higher for participants who reported mostly thinking in English ( $p = .03$ ) or in both languages ( $p < .001$ ) compared to those who reported thinking in Spanish. Sentences with higher frequency verbs were rated higher than sentences with lower frequency verbs. Acceptability also increased over the course of the experiment, suggesting further adaptive mechanisms in comprehending and interpreting novel sentences.

In sum, cross-linguistic influence of sentence acceptability was modulated by language proficiency and lexical factors. Our findings reveal that cross-language interactions may change the perceived grammaticality of the native language.

# Cross language influences in third language grammar processing

Nawras Abbas, Tamar Degani, Anat Prior

We investigated interaction among the languages of multilingual speakers, and the degree to which processing of one language relies on knowledge of other languages (i.e., cross-linguistic influence, CLI). Specifically, it is as yet unsettled in the literature whether L3 processing is modulated by CLI from the L1, the L2 or both. The current study investigated this issue in morpho-syntactic processing, and tested whether CLI is similar in online and offline measures. The study focused on syntactic processing of English as an L3 among Arabic-Hebrew-English university student trilinguals (n=44). Importantly, both L1 (Arabic) and L2 (Hebrew) of participants are typologically distant from L3 (English), which allows overcoming confounds of previous research. The performance of trilinguals was compared to that of native English monolingual controls (n=37). Participants read grammatical and ungrammatical sentences in English while their eye-movements were recorded. Sentences included morpho-syntactic structures in English which differed from L1, from L2 or from both L1 & L2. Participants also performed grammaticality judgements on each sentence (offline measure).

L1 interference was evident in first pass sentence reading, and marginally in offline grammaticality judgment, and L2 interference was robust across second pass reading and grammaticality judgments. These results suggest that either L1 or the L2 can be the source of cross-language influences in L3 processing, but with different time-courses. The findings highlight the difference between online and offline measures of performance: processing language in real-time reflects mainly automatic activation of morpho-syntactic structures, whereas offline judgments might also involve strategic and meta-linguistic decision making. Together, the findings show that during L3 processing, trilinguals have access to all previously acquired linguistic knowledge, and that the multilingual language system is fully interactive.

# Cross-linguistic influence (CLI) of lexical breadth and semantic depth in the vocabulary of bilingual preschool children: An intervention study

**Carmit Altman, Minna Lipner, Sharon Armon-Lotem**

This study explores how bilingual narrative intervention with vocabulary instruction in each language separately may modulate crosslinguistic influence (CLI) between the two languages of bilingual kindergarten children, focusing on CLI of lexical and semantic knowledge, and the factors that modulate performance. Forty-one typically-developing English-Hebrew bilingual children ( $M = 64.63$  months) participated (22 experimental and 19 control). A bilingual adaptation of the Story Champs narrative intervention program (Spencer & Petersen, 2012) was used to deliver vocabulary instruction in blocks of home language (HL) and school language (SL) sessions. Different words were targeted in each language intervention, but the children were tested on all target words in both languages. Vocabulary knowledge was assessed with a definition task four times throughout the study: prior to intervention, after each block of intervention, and six weeks later. Learner characteristics (chronological age, age of onset of bilingualism and length of exposure) and proficiency in each language (standardized tests, familiarity with the vocabulary introduced in the intervention at baseline) were examined as possible modulators of performance. Children showed growth in lexical breadth and depth in their HL/English after HL intervention and in lexical breadth in the SL/Hebrew following SL intervention, with CLI for semantic depth observed via a qualitative analysis, but not quantitatively. Better HL/English performance was correlated with later AoB (later acquisition of SL) and higher HL language proficiency scores. The higher HL/English proficiency group also responded better to the SL/Hebrew intervention, gaining more than those with lower English proficiency. Children with SL/Hebrew vocabulary dominance at the outset of the study also gained more from the HL/English intervention. No correlations were found between learner characteristics and SL performance. The current study indicates that bilingual narrative intervention with vocabulary instruction may be efficacious for improving the lexical breadth and depth of bilingual kindergarten children.

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# Cross-linguistic influences in the processing of binomials: From a first language to second and back

Lingli Du, Irina Elgort, Anna Siyanova-Chanturia

The present study investigated cross-language influences in the processing of binomial expressions (knife and fork), from a first language (L1) to a second language (L2) and from L2 to L1. Two groups of unbalanced bilinguals (Chinese/L1-English/L2 and English/L1-Chinese/L2) and a control group of English monolinguals performed a visual lexical decision task that incorporated unmasked priming. To assess cross-language influences, we used three types of expressions: congruent binomials (English binomials that have translation equivalents in Chinese), English-only binomials, and Chinese-only binomials translated into English. Lexical decision latencies to the last word (fork) in a binomial (knife and fork) were compared with response latencies to the same word in a matched control phrase (spoon and fork). We found that (1) Chinese-English bilinguals showed a significant priming effect for congruent binomials but no facilitation for English-only binomials, (2) English-Chinese bilinguals showed a trend toward priming for congruent binomials, which did not reach statistical significance, and no priming for English-only binomials, (3) English monolinguals showed comparable priming for congruent and English-only binomials. With respect to the Chinese-only binomials, none of the three participant groups showed priming for translated Chinese-only binomial over controls. These findings suggest that L1 influences the processing of L2 binomials, and that there may be some cross-linguistic influence in the opposite direction, i.e., from L2 on L1, although to a lesser extent.

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# Two L1-s or two L2-s? The consequences of L2 immersion for cross-language interference in bilinguals

Joanna Durlík, Teresa Bajo, Zofia Wodniecka

Available evidence shows that living outside the native language environment and being intensively exposed to L2 changes patterns of processing of both L2 and L1: not only enhances L2 proficiency but also limits access to L1 and thus modulates the way in which two languages of a bilingual interact with each other (e.g. Linck, Kroll, & Sunderman, 2009; Martin, 2011, Baus et al., 2013). In the present study, we investigated how L2 immersion modulates cross-language interference. We tested two groups of adult Polish-English bilinguals: 87 bilinguals living in the UK and experiencing immersion in their L2 and 85 bilinguals living in Poland, in their L1 environment.

All participants were tested with a set of behavioral tasks: Two semantic relatedness tasks with interlingual homographs (English version measuring interference from L1 to L2, and Polish version measuring interference from L2 to L1), LexTALE (Lemhofer & Broersma, 2012) in L1 and L2 to measure passive proficiency in both languages, picture naming and verbal fluency tasks to measure production abilities and language background questionnaires.

Both groups demonstrated comparable L1 and L2 general proficiency, but differed in lexical access in production: the immersed-group performed similarly in both languages, whereas non-immersed scored higher in L1 than L2. This suggests that the balanced lexical access in the immersed group is likely attributable to the immersion experience rather than general language proficiency. Additionally, the immersed bilinguals outperformed the non-immersed in L2 and underperformed in L1 in language production tasks.

In the interference tasks, the immersed-group showed similar strength of interference in both directions, whereas the non-immersed experienced much stronger L1->L2 than L2->L1 interference. We also observed stronger L2->L1 and weaker L1->L2 interference in the immersed-group than in the non-immersed one. Overall, L2-immersion seems to lead to the balanced activation across languages but limited L1 access.

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# Eye movement measures of cross-language activation during reading in bilingual children and adults: A focus on neighborhood density effects

Veronica Whitford, Marc Joanisse

Several eye-tracking studies have examined cross-language activation during reading in bilinguals (reviewed in Kroll et al., 2016; Lauro & Schwartz, 2017; Whitford et al., 2016). This work has found that bilinguals have an integrated memory system, wherein both their languages are concurrently represented and non-selectively accessed. Although this work has advanced our understanding of bilingual language processing, it has almost exclusively focused on cognate and/or interlingual homograph processing (which involves overlapping representations across languages) among young adult university students (which may lack generalizability to other populations).

Here, we employed a more conservative measure: cross-language orthographic neighborhood density to examine cross-language activation in bilingual children and adults across their known languages. Thirty-three English-French bilingual children (aged 7 to 12) and 30 English-French bilingual adults (aged 18 to 21) read four ~100-word texts in their L1 and L2 while they were eye-tracked (Whitford & Joanisse, 2018). Each word was coded for total cross-language orthographic neighborhood density (an updated measure that includes substitution, addition, and deletion neighbors), length, frequency, and predictability.

We had three main findings. First, children exhibited facilitatory cross-language neighborhood density effects across the L1 and L2 (during late-stage and early-stage reading, respectively). Words were easier to process when they had many vs. fewer cross-language orthographic neighbors. Second, adults exhibited largely null cross-language neighborhood density effects; however, facilitatory effects occurred in the L2 (during early-stage reading). Third, the magnitude of cross-language neighborhood density effects was larger in children than in adults. Similar patterns were also found for L1 and L2 within-language neighborhood density effects.

Taken together, our findings suggest that the activation of orthographically similar word forms (neighbors) across languages facilitates word processing and reading behavior, especially among developing readers (children) and in the weaker language (L2).

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# Cross-language interactions during novel word learning: The contribution of form similarity and participants' characteristics

Mariana Elias, Tamar Degani

The current study sets out to examine cross-language influences in the lexical domain, by testing how form-meaning overlap between learners' first-language (L1) and the to-be-learned language influence learning. In particular, the study examined whether false-cognates, which overlap in form but not meaning across languages, are easier to learn due to form overlap (Lotto & de Groot, 1998), or harder to learn due to meaning competition (Rodd et al., 2012), compared to unambiguous control and cognate words. The study further tested how individual differences in phonological short-term memory and L1 verbal fluency modulate vocabulary learning in general, and the susceptibility to cross-language influences due to form overlap. Fifty-four native Hebrew speakers learned 14 cognates, 14 false-cognates, and 28 control Arabic words in one session, such that each Arabic word was presented auditorily along with its Hebrew translation. Learning trials incorporated retrieval attempts to increase learning (Karpicke, 2012), followed by translation recognition test trials. Retrieval and recognition blocks were repeated until an 80% accuracy criterion was reached (Bartolotti & Marian, 2012) or up to 4 cycles.

Results show a robust cognate advantage in learning, in that learning criterion was reached first for these items, and cognates were recognized more quickly and accurately in the recognition test. At the same time, there was no overall difference in learning false-cognates relative to controls, suggesting that form facilitation and meaning competition cancelled each other out. Interestingly, individuals with higher phonological short-term memory, or those with lower Hebrew verbal-fluency, did exhibit a false-cognate learning-advantage, suggesting that these characteristics increased susceptibility to facilitation due to form-overlap, more so than to meaning competition. The findings reveal how individual differences modulate cross-language influences during initial stages of vocabulary learning and highlight the importance of jointly considering item-based and learner-based characteristics during the initial stages of vocabulary learning.

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# The influence of working memory span and experience on syntactic reformulations during sight translation

Agnieszka Lijewska, Agnieszka Chmiel

Sight translation requires silent reading of the text in the source language and the concomitant oral production of equivalent content in the target language. This task is often performed by professional interpreters at meetings when written texts need to be translated orally on the spot. Sight translation becomes particularly demanding when the source text contains syntactic structures that are not equivalent across languages, so they cannot be simply copied from the source language into the target language but require reformulation. As shown in earlier sight translation research, increased task demands (e.g. resulting from cross-linguistic differences) may influence not only the quality of the target text but they may also affect the source text viewing patterns (Chmiel & Lijewska, 2019; Jakobsen & Jensen, 2008; Korpala, 2015; Shreve et al., 2010). The purpose of the current study was to test whether working memory (WM) span (Engle, 2002) and the length of interpreting experience can modulate sight translation performance of a demanding text that contains cross-linguistically incongruent syntactic structures (requiring reformulation). To this end, a group of professional conference interpreters (N=24) was asked to sight translate a text from Polish (their A language/L1) into English (their B language/L2). The Polish text included compound sentences with object-verb-subject structures where reformulation was necessary or the sentences would become unnatural in English. During task completion, the participants' output was recorded and their eye movements were tracked. The analysis of the output data showed that larger WM span but not experience lead to better task performance (more reformulation). In contrast, no effects of WM capacity or experience were found in the eye movement data. These findings seem to suggest that when sight translating a syntactically demanding text, professional interpreters may capitalize on their increased WM capacity rather than on a more extensive professional experience.

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# Can Typologically different L1 grammar modulate L2 oral language production: Evidence from Hebrew-speakers narrative in English as a foreign language?

Susie Russak, Elena Zaretsky

English is widely spoken as an additional language in the world today (Eberhard, Simons, & Fennig, 2021). This has led to increased demand for high-quality English oral language skills. Yet, research on the specific cognitive and linguistic processes that may mitigate acquisition of solid oral skills in English as a Foreign Language (EFL) (Derakhshan, Khalili & Beheshti, 2016) are sorely lacking.

Existing research suggests typological proximity between L1 and L2, as well as L1 proficiency, positively impact L2 acquisition (De Angelis, 2007; Cummins, 2014). More recent research in cognitive neuropsychology provides evidence that both languages, regardless of their typological proximity are simultaneously active in the minds of bilingual individuals (Kroll & Gollan, 2014; De Groot, 2016; Putnam et al., 2018), therefore suggesting the existence of mitigating factors and processes that may actively promote L2 acquisition.

In the present study, 86 (60 M; 26 F) L1 Hebrew-speaking 6th graders in their 4th year of learning EFL were assessed on cognitive skills (e.g., Raven's colored progressive matrices, phonological working memory), L1 lexical and morphosyntactic knowledge, and reading comprehension. Similar skills were also assessed in EFL. In addition, the "Cookie Theft" task (Goodglass & Kaplan, 1983) served as a measure of elicited oral EFL narratives.

Results suggested cross-linguistic transfer of morphological awareness and reading comprehension. Regression analyses indicated significant contributions of English reading comprehension to narrative production. Hebrew pseudo-word morphological awareness played a mediating role in the relationship between English reading comprehension and oral narrative.

Our results highlight the cross-linguistic significance of morphological skills in the production of oral narratives in EFL. In line with the Interdependence Hypothesis, and the Linguistic Coding Differences Hypothesis, Hebrew and English morphological knowledge exist concurrently, despite the typological distance between the two languages. Moreover, morpho-syntactic knowledge in Hebrew indirectly facilitates the production of oral narratives in English.

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# Input characteristics as modulators of cross-linguistic influence in child Heritage Language acquisition

Natalia Meir, Bibi Janssen

Cross-linguistic influences, or language-internal factors, have been proposed to account for the success/ failure in the acquisition of certain linguistic phenomena in bilinguals based on the properties of the two languages of bilinguals. Yet, it is still an open question whether cross-linguistic influence is triggered solely by language-internal reasons (Hulk, 2017), or alternatively language-external factors (i.e., input characteristics, Age of Onset of Bilingualism, language dominance) moderate the extent of cross-linguistic influence (Rodina et al., 2020; Unsworth et al, 2014).

First, the study investigates cross-linguistic influence (i.e., the influence of the properties of the Societal Language (SL) onto the acquisition of the Heritage Language (HL). Second, the study evaluates language-external factors which might potentially mitigate the effects of cross-linguistic influence in bilinguals.

Three groups of preschoolers were compared on the production of case inflectional morphology in HL-Russian (accusative and genitive cases): 39 Russian-Dutch bilinguals, 36 Russian-Hebrew bilinguals and 41 monolingual Russian-speaking controls. For bilinguals, parental questionnaires provided indices of input characteristics.

The inherent differences between Russian, Hebrew and Dutch enabled us to test the existing models of cross-linguistic influence (e.g., the Full Transfer-Full Access Hypothesis (Schwartz & Sprouse, 1996); the Feature Re-assembly Hypothesis (Lardiere, 2009)).

The results showed that HL acquisition is impeded under the influence of the properties of SL which is evident in the lower performance of both bilingual groups as compared to monolingual controls who show a ceiling performance on both tasks. More specifically, the acquisition of morphology is impeded when there are differences in the mapping of the functional features (like in case with Russian-Hebrew bilingualism) and/or the absence of this feature marking (like in case of Russian-Dutch bilinguals). Furthermore, the findings point at the language-external factors (such as input characteristics) and language dominance as important factors driving the strength of the negative effects of cross-linguistic influence.

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# Cross-language influences in long-term memory

Wendy Francis

The questions of whether transfer of learning across languages truly reflect true cross-language influence and whether languages coactivated at encoding impact long-term memory performance are considered by reviewing relevant evidence from bilingual memory research.

Several studies indicate that content learned in one language can be retrieved in the other language, whether intentionally or automatically, but these effects appear to be based on non-linguistic representations or processes. In explicit memory, findings that words or sentences studied in one language are easily recalled or recognized at test through other known languages can be explained through encoding and retrieval of shared concepts or intentional translation. In implicit memory, where tests do not involve the intentional retrieval of studied items, transfer across languages can be explained by repetition of non-linguistic processes, such as object identification, semantic associate selection, and response selection. Cross-language effects are also observed in more complex tasks that involve both explicit and implicit memory elements, such as savings in learning, false memory, and analogical transfer, also exhibit, but are similarly explained by shared conceptual representations rather than cross-language influence.

In word production, co-activation of a non-target language might be expected to impact immediate processing. However, neither co-activation nor actual spoken production in one language has a lasting impact on spoken production in another language. Similarly, explicit memory does not appear to be affected by spreading activation across languages. Although these factors do not appear to impact long-term memory, there may be other ways in which knowledge of another specific language, language contexts, or studying mixed-language material impacts encoding and retrieval processes, but these possibilities have not been a focus of investigation. Although it is tempting to assume that cross-language influences in long-term episodic memory would be the same as in language processing, there is ample evidence to the contrary.



# Individual differences in chunking ability predict L2 sentence processing: eye-tracking evidence from multiword units and relative clauses

Manuel Pulido

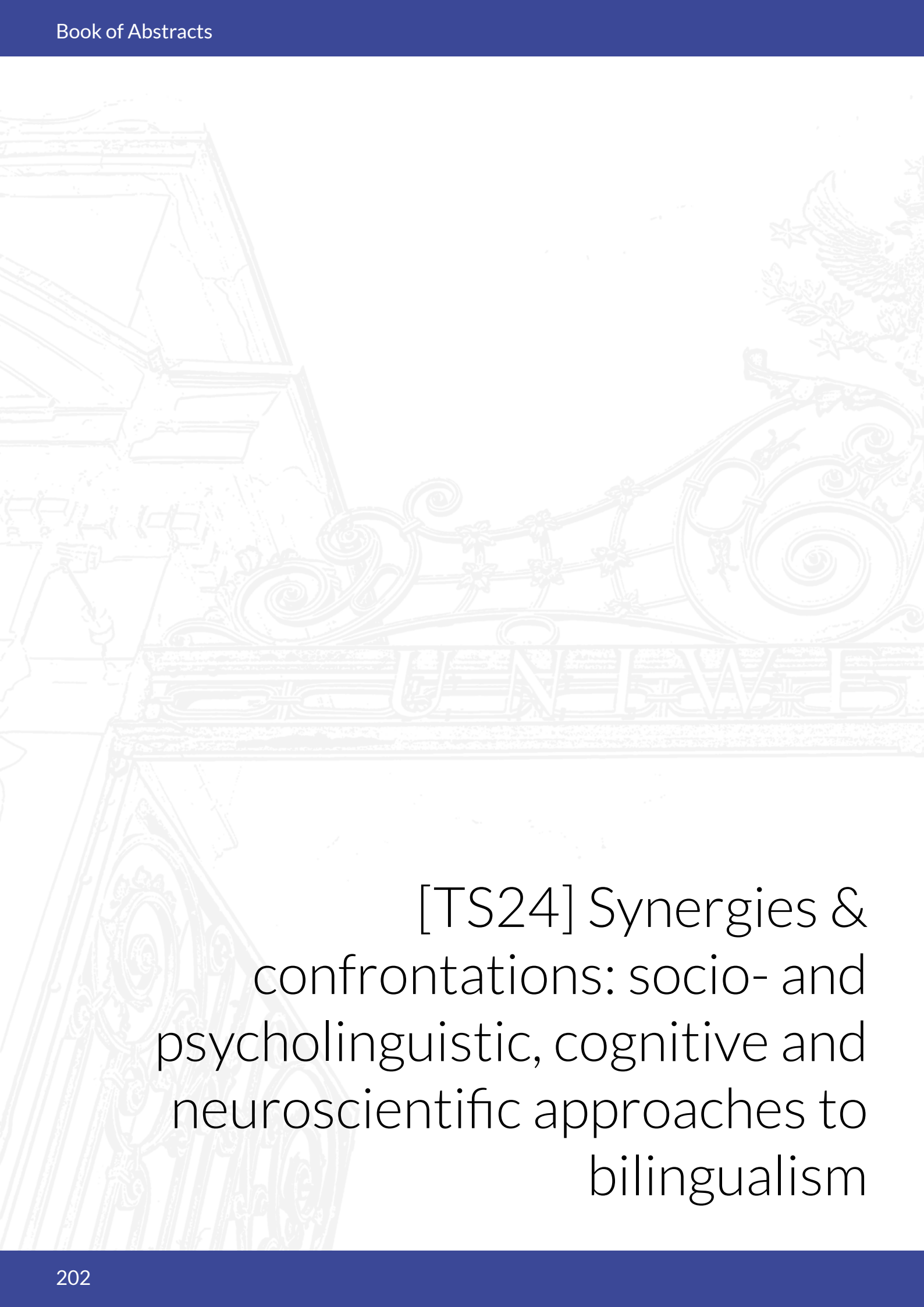
Recent studies on reading in native speakers have identified a new modulator of sentence processing, namely, chunking ability (McCauley and Christiansen 2015; McCauley, et al., 2017). Measures of chunking ability index an individual's sensitivity to statistical regularities in the input (e.g., frequently co-occurring multiword units) and predict the efficiency in integrating and processing "chunks" of discourse online. However, it is unclear whether measures of chunking ability predict second language (L2) processing, or modulate reading times during processing of cross-linguistic differences (Kaan et al., 2015).

In the present study, a measure of chunk sensitivity was collected in both of the languages of L1 English-L2 Spanish participants. An eye-tracking reading task was administered to examine participants' processing of L2 sentences containing target L1-L2 incongruent multiword units. Half of the target multiword units were specific to the L2, e.g., *pedir una hamburguesa* (which literally translates as 'request a hamburger' but is equivalent to 'order a hamburger'). Target multiword units were composed of a verb and a noun; however, sentences included an embedded relative clause in which the verb-noun phrase was reversed, with the critical incongruent verb following the noun (e.g., 'the hamburgers they will order').

Mixed-effects models revealed that early measures for processing of the verb (i.e., gaze duration) were modulated by native-language chunking ability. However, late measures (i.e., total duration) were correlated with L2-specific chunking ability only, indicating language experience-based effects. Critically, L2 chunking ability predicted the presence or absence of effects induced by cross-linguistic differences. Furthermore, significant interactions between chunking ability and proficiency revealed an inverse U-shaped pattern, with faster reading times both in learners with the highest and the lowest scores, suggesting fast integration in the former, and lack of integration in the latter. The findings point at chunking ability as an important modulator of cross-linguistic differences in L2 processing.

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[TS24] Synergies &  
confrontations: socio- and  
psycholinguistic, cognitive and  
neuroscientific approaches to  
bilingualism

# Bilingualism is a long-term cognitively challenging experience that modulates metabolite concentrations in the healthy brain

**Christos Pliatsikas, Sergio Miguel Pereira Soares, Toms Voits, Vincent Deluca, Jason Rothman**

Cognitively demanding experiences, including complex skills acquisition and processing, have been shown to induce brain adaptations, at least at the macroscopic level, e.g. on brain volume and/or functional connectivity. However, the neurobiological bases of these adaptations, including at the cellular level, are unclear and understudied. Here we use bilingualism as a case study to investigate the metabolic correlates of experience-based brain adaptations. We employ Magnetic Resonance Spectroscopy to measure metabolite concentrations in the basal ganglia, a region critical to language control and reshaped by bilingualism. Our results show increased myo-Inositol and decreased N-acetyl aspartate concentrations in bilinguals compared to monolinguals. Both metabolites are linked to synaptic pruning, a process underlying experience-based brain restructuring. Interestingly, both concentrations correlate with relative amount of bilingual engagement. This suggests that degree of long-term cognitive experiences matters at the level of metabolic concentrations, which might accompany, if not drive, macroscopic brain adaptations.

# Assessing Mentalizing among Bilinguals as a Result of Individual and Ecological Language Diversity

Mehrgol Tiv, Ethan Kutlu, Elisabeth O'Regan, Debra Titone

Mentalizing, or reasoning about others' mental states, is strengthened by language experience. For example, bilinguals categorically outperform monolinguals on mentalizing tasks, and some attribute this link to greater social-pragmatic flexibility that bilinguals gain from engaging with diverse linguistic contexts. We assessed the role of language diversity on mentalizing across two studies. In Study 1, we examined whether individual differences in language diversity, quantified through language entropy, continuously patterned with mentalizing ratings during first (L1) and second language (L2) reading. Sixty-one bilingual adults in Montreal read sentence-pairs involving mental state and logical inferences, and they rated each item on mentalizing. Results indicated that greater language diversity patterned with higher mentalizing ratings of mental state inferences generally, and that L2 readers attributed more mentalizing to logical inferences than L1 readers. These results suggest that the relationship between bilingual language diversity and mentalizing is related to individual-level language diversity. In Study 2, we examined language diversity through social network structure and ecological exposure to multiple languages by testing participants living in high (Montreal, Canada) and low (Gainesville, USA) language diversity regions. Bilingual adults in Gainesville (N=28) and Montreal (N=25) completed the same mentalizing task as study 1, and they also reported their language of interaction with 8-12 people in their social network. We calculated the degree to which bilingual participants bridged connections between distinct language communities in their social networks, finding that greater language bridging patterned with higher mentalizing scores among Montreal participants (i.e., embedded in ecological linguistic diversity). This pattern may reveal mentalizing as an effective cognitive strategy for individuals who regularly manage unique linguistic perspectives in a region where language may cue social group identity. Together, the two studies highlight the multidimensional and dynamic nature of bilingual experiences and the important role of social context in shaping bilingual cognition.

# The power of discovery science: Articulating the research enterprise of bilingualism

Christian A. Navarro-Torres, Anne L. Beatty-Martínez, Judith F. Kroll, David W. Green

An important aim of research on bilingualism is to understand how the brain adapts to the demands of using more than one language. Although several important discoveries and insights about the consequences of bilingualism have been generated over the last two decades, concerns about replicability, largely driven by the replication crisis of the previous decade, have shifted attention, and narrowed the scope of discussion, almost exclusively to the application of prescriptions about sample size and methodological uniformity. We critique this approach and reformulate the issues by placing them in the broader context of science as a discovery process, in which incremental understanding, methodological diversification, the framing of our questions, and even small sample studies, are essential for advance. We articulate what we believe are the goals of our scientific enterprise for the foreseeable future. We propose that such goals require practices and tools that provide a rich characterization of the participant sample to explore the cognitive and neural bases of bilingual phenotypes: the adaptive variety induced through the interplay of biology and culture. Under this notion, interactions rather than main effects become of interest, and questions eliciting binary outcomes (e.g., is there a bilingual advantage?) become inadequate as they mask the richness of the science and potentially obscure identification of dynamic cognitive processes recruited during language processing and their longer-term consequences.

# Structural and extralinguistic aspects of code-switching: Evidence from Papiamentu-Dutch auditory sentence matching

Luuk Suurmeijer, Maria del Carmen Parafita Couto, Marianne Gullberg

Despite a wealth of studies on effects of switch locations in code-switching (CS), we know relatively little about how structural factors such as switch location, and extralinguistic factors such as directionality preferences, may jointly modulate CS (cf., Stell & Yapko, 2015). Previous findings in the nominal domain suggest that within-constituent switching (within the noun phrase) may be easier to process than between-constituent switching (a structural effect), and that there may also be

directionality effects with switches preferred only in one language direction (an extra-linguistic effect). In this study we examine the verbal domain, and how VP-external (preverbal) vs. VP internal (postverbal) switch location and switch directionality affects the processing of Papiamentu Dutch mixed subject-verb-object (SVO) sentences. We manipulated switch location (preverbal/postverbal), and directionality of switch (PD/DP) and tested 50 Papiamentu-Dutch bilinguals on an auditory sentence matching task. The results from the mixed conditions showed no effect of switch location. Instead, we found only an effect of directionality and in an unexpected direction for this population, with switches from Dutch to Papiamentu being processed faster than switches from Papiamentu to Dutch regardless of switch location. The results highlight the importance of taking extralinguistic factors into account, but also the challenges of studying CS, particularly in lesser studied speech communities, and the need for a data-driven, cross-disciplinary approach to the study of CS.

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# Effects of different language switching habits on bilingual cognitive control

Xuran Han, Wei Li, Roberto Filippi

Bilingualism is a dynamic process that includes multifarious individual differences that may affect cognitive control. This study explored how bilingual language switching habits affect cognitive shifting and inhibition. The constant practice of selecting the appropriate language to use without being interfered by the co-activated alternative language is broadly regarded as a training of bilingual's cognitive control efficiency. The Adaptive Control Hypothesis (Green & Abutalebi, 2013) and the Control Process Model (Green & Li, 2014) further predicted that the ways in which bilinguals habitually mix and switch their languages may have different impacts on their various aspects of cognitive control.

Language habits data from 31 Chinese-English bilingual adults were collected through the bilingual language experience questionnaires (i.e., the LSBQ (Anderson et al., 2018) and the BSWQ (Rodriguez-Fornells et al., 2012)). All participants performed verbal and non-verbal switching tasks, including the verbal fluency task, a bilingual picture-naming and colour-shape switching task. The Go/No-go task was administered to measure the inhibitory control of participants. Both the Bayesian and multiple regression models were used to explore the relationship between language experience, switching habits and cognitive demands.

Supporting the predictions of ACH and CP models, results revealed a positive association between the efficiency of cognitive shifting and language switching frequency. Frequent bilingual switchers showed less efforts and time costs in switching into naming pictures in Chinese as well as switching across different nonverbal tasks in the colour-shape switching task. Besides, these frequent bilingual switchers managed the nonverbal interferences and conflicting responses more efficiently in the Go/No-go task. They performed higher accuracy of withholding their responses to the no-go signals, reflecting the modulation effects of intensive language switching experience on inhibitory control.

This study is an attempt to refine objective measures of switching habits in bilingual speakers and disentangle how different multilinguistic experiences affect human cognition.

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# Social effects on code-switch processing: A neural oscillation study

Aleksandra Tomic, Edith Kaan

Code-switching, i.e. the alternation between languages in a conversation, is a typical practice in many bilingual communities, yet socially constrained. For instance, code-switching is only acceptable in the presence of other bilinguals. For felicitous code-switching, one not only needs to control both languages, but also monitor the social context. In this study, we analyzed time-frequency representations (TFR) of neural oscillations to investigate the cognitive-neural mechanisms underlying code-switch processing in the presence of co-comprehenders of varying language background.

Spanish-English bilinguals read code-switched and unilingual sentences in the presence of a Spanish-English bilingual or an English monolingual (Kaan et al., 2020). We found that code-switch processing was associated with broad effects. Among others, there was a power decrease in the Lower Beta band (15-18 Hz; cf. Litcofsky & van Hell, 2017), suggesting that code-switching causes a disruption of structure building and restructuring of the sentence representation.

We found a power increase in the Alpha band (8-12 Hz) when processing with a bilingual versus monolingual partner, suggesting dynamic attention and language control (Bice et al., 2020), likely due to juggling multiple languages. Furthermore, there was a power decrease for code-switch vs. non-switch in the Upper Gamma (40-50 Hz) band in the presence of a bilingual vs. a monolingual. Gamma power decreases have been related to semantic unification issues (Lewis et al., 2015). Such a decrease not occurring in the presence of monolinguals suggests that bilinguals do not attempt to semantically integrate the code-switch information when the presence of a monolingual makes this obsolete or uninterpretable.

Our findings corroborate and extend previous TFR findings on code-switch processing. Moreover, they suggest that the co-comprehender language identity affects language processing both globally, as indexed by the partner effect, and in terms of code-switch processing. We discuss the results in relation to bilingual language control models.

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# Bilingualism as a lens and a hotspot: What is controversial and what is not

Judith Kroll

In the upsurge of research on bilingualism in the last two decades there have been some remarkable discoveries. Many of these findings have been replicated in subsequent studies, with little doubt remaining as to their veracity. To illustrate, we now assume that the bilingual's two languages are continually active, creating a dynamic interplay across the two languages. What remains controversial about that? There continues to be controversy about the consequences of that cross-language exchange for how cognitive and neural resources are recruited during language use and whether native speakers of a language retain privilege in their first acquired language. Likewise, we now assume that in the earliest months of life, minds and brains are tuned differently when exposed to more than one language from birth. That tuning has been hypothesized to open the speech system to new learning. Why is that controversial? When initial exposure is to a home language that is not the majority language, the experience common to heritage speakers, the value of bilingualism has been challenged, in part because we are lacking an adequate account of the variation in language experience. The controversies that have arisen around research on bilingualism have had two sides. One is to provide an illuminating lens to the science and the other is to create a hotspot for opposing views. The best face of controversy is to reveal the limits of the past science, to push theory-driven discussion, to embrace serendipity, and to search with humility for the source of failures to replicate. By questioning the generality of accepted findings, recent studies have shown that the minds and brains of bilinguals are inherently complex and social, taking into account the variation in contexts in which the two languages are learned and used, and shaping the dynamics of cross-language exchange across the lifespan.

# In praise of plurals: “executive function” versus “executive functions” and why this matters in bilingualism research.

**Thomas Bak**

After giving a general introduction (as delineated in the proposal to the thematic section) to the history of the relationship between sociolinguistics and applied linguistics on one hand and psycholinguistics and cognitive neuroscience on the other, this presentation will focus on the central and highly controversial topic of “executive functions” and their relation to bilingualism. It will trace the roots of this concept in politics, organisational studies and computer science, its introduction into neuroscience in 1970’s, its application to frontal lobe dysfunctions in 1980’s and the increasing role it plays in theories of bilingualism and cognition from 1990’s onwards. It will argue, that although the central underlying idea of executive functions is shared by the vast majority of researchers coming from different backgrounds, there are subtle differences in their interpretation, often reflecting the character of the populations (from patients with frontal lobe disorders to mono- and bilingual pupils in schools) and methodologies (from single case studies to factor analyses of large cohorts). These differences, and in particular the contrast between an “executive function” as a unified concept versus a wide range of dissociable “executive functions” as a heterogeneous category become relevant in the context of the “bilingual advantage debate”.

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# The idea of Translanguaging and its implications for the neuroscience of bilingualism

Wei Li

Translanguaging has emerged as an alternative conceptualisation of bilingualism where the language users engage in dynamic linguistic practices for meaning-making without regard to named languages and where named languages are deemed as political and ideological constructs rather than linguistic facts or psychological realities. What does it mean for the 'bilingual brain'? How do politically constructed named languages get 'represented' cognitively? These are the questions that will be explored in this presentation. It will also discuss the methodological implications with regard to the research design. In particular, I will argue that the ability to separate and discriminate different languages should not be used as the measure of bilingual competence, and comparisons between bilinguals and monolinguals do not contribute to any real understanding of bilingualism.

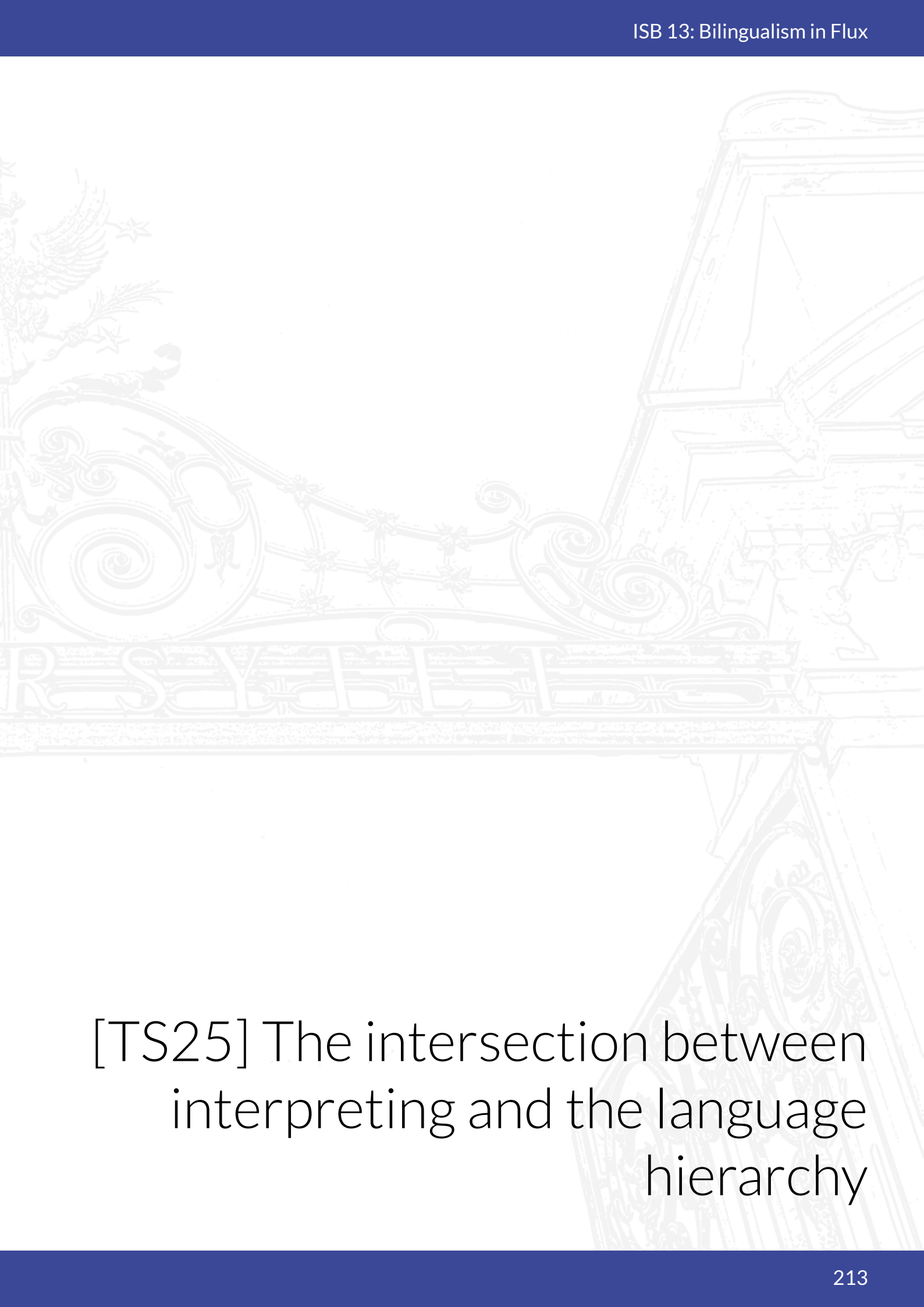
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# From bench to lab: the cognitive neuropsychology of bilingualism

Marco Calabria

Psycholinguistic research on bilingualism has demonstrated to be a powerful approach to investigate language and cognition in bilinguals. Neuroimaging findings have been crucial to define the underlying brain networks of linguistic and nonlinguistic control of a bilingual's two languages. However, much less is known about the relationship between these two perspectives, namely the role of neuropsychology in the context of language disorders in bilinguals with brain damage. This perspective has the potential to provide robust evidence for the models of bilingual cognition and to test the predictions of the bilingual brain models. In this talk I will discuss some brain-behavior relationships to define a more broad perspective of bilingualism by means of cognitive neuropsychology. In particular, I will discuss three main ideas that have been explored so far and the most relevant findings that this research has gathered. First, the importance of including single-case studies to bilingualism research. Single-case studies are very useful to explore the predictions from the cognitive models of bilingualism and I will provide some examples of this kind of approach. Second, neurodegenerative diseases help improve our knowledge about how bilingual language control works. Recent findings from the study of the language switching abilities in patients with Parkinson's and Huntington's disease have opened new perspectives to investigate executive functions and cognitive reserve in bilinguals. Finally, I will discuss the psycholinguistic perspective on the research of lexical retrieval deficits in aphasia. In this context, it is crucial to use robust experimental paradigms intended to explore in a more fine-grained way each level of the linguistic processing, from semantic to lexicon to phonology.



[TS25] The intersection between interpreting and the language hierarchy

# Does expertise in simultaneous interpreting influence multimodal language comprehension?

Eléonore Arbona, Kilian Seeber, Marianne Gullberg

Manual co-speech gestures can facilitate spoken language comprehension in monolingual and L2 settings (Hostetter, 2011; Dahl & Ludvigsen, 2014; Sueyoshi & Hardison, 2005). Simultaneous interpreters produce verbal output while simultaneously comprehending spoken and multimodal input. Interpreting expertise has been shown to positively influence cognitive performance, e.g. dual-task performance (Strobach et al., 2015) or cognitive flexibility (Yudes et al., 2011). It can therefore be hypothesised that simultaneous interpreters might be able to attend more to multimodal utterances than other bilinguals. However, it remains unknown whether gestures influence language comprehension in simultaneous interpreters and how degrees of expertise may modulate such an influence. This study explored these questions. Twenty-four L1 French professional simultaneous interpreters and twenty-four L1 French professional translators completed an audiovisual viewing task. Materials comprised spoken utterances accompanied by a) representational gestures depicting speech content expressed in verbs (semantically matching speech-gesture pairs), b) pragmatic gestures expressing stance (semantically mismatching speech-gesture pairs), c) no gestures. Gestures were timed with the spoken verbs. After watching videos of utterances, participants were asked to select a picture corresponding to the utterance from an array containing a target and a distractor. Participants' response accuracy and reaction times were measured and their eye movements to face vs. gestures were tracked. Both groups were significantly more accurate when presented with semantically matching speech-gesture pairs than with audiovisual utterances without gestures. Both groups answered significantly faster in semantically matching speech-gesture pairs compared to semantically mismatching speech-gesture pairs. Both groups also overtly attended to semantically matching speech-gesture pairs significantly longer than to semantically mismatching speech-gesture pairs. This suggests that language processing during audiovisual comprehension is sensitive to gestures' semantic relationship with the spoken utterance. Interestingly, our data did not reveal any significant differences between groups, thus expertise in simultaneous interpreting did not seem to affect behaviour in this set-up.

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# A longitudinal study on prediction in simultaneous interpreting

Rhona M. Amos, Martin J. Pickering, Kilian G. Seeber

Experience in simultaneous interpreting may confer verbal and executive advantages upon simultaneous interpreters, and longitudinal studies have detected neural differences in interpreting trainees before and after training. This suggests that interpreting training may improve regions of the brain associated with language processing.

Prediction routinely takes place in language comprehension, and has long been considered a skill or strategy in simultaneous interpreting. We hypothesized that training might lead to an increase in predictive processing during an interpreting task.

Two cohorts of a total of 23 interpreting students participated in our study over a two-year period. Students heard, and simultaneously interpreted into their most dominant language, an English sentence containing a highly predictable word, for example, “mouth”, in the sentence, “The dentist asked the man to open his mouth a little wider”. In a visual-world design based on Ito et al. (2018), students’ eyes were tracked as they viewed a visual scene, which appeared 1000ms before the onset of the predictable word. It contained four objects, one of which was either the predictable word (mouth) or an unrelated word (bone). Students participated in the study before and after two semesters of simultaneous interpreting training. Two versions of the study were used, with different stimuli. Their order was counterbalanced between participants.

We modelled the time-course of fixations to the critical object in the target condition as compared to the baseline condition. Before training, students began to predict -550ms before the onset of the critical word. After training, students began to predict -450ms before onset of the critical word. There was no significant difference between the timing or extent of fixation proportions on the target object compared to on the unrelated object before and after training.

We discuss the implications of these findings for theories of prediction in psycholinguistics and interpreting.

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# Subcortical adaptations in interpreters and translators compared to bilingual controls, and their relationship to bilingual experiences

Michal Korenar, Christos Pliatsikas, Jeanine Treffers-Daller

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 specific bilingual experiences (e.g., Pliatsikas, 2020). Less is known about similar effects in interpreters, 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 basal ganglia and thalamus. Second, we analyse the data using generalised additive models (GAMs), which can identify non-linear patterns in brain volumes as a function of a continuous measure of bilingual experiences. We compared volumes of the ROIs between Czech-English interpreters (n=29), translators (n=37) and bilingual controls (BC, n=47). BCs showed smaller volumes of ROIs compared to professional bilinguals. There were no significant volume differences between translators and interpreters. GAMs analyses run on the entire sample revealed that the volumes of caudate and accumbens plateau after a certain level of bilingual experience has been reached. For putamen and thalamus, the bilingual experience appeared to be a significant linear predictor. These findings offer support to existing theories on bilingualism-induced neuroplasticity, which postulate dynamic brain adaptations induced by bilingualism (Pliatsikas, 2020). We will discuss the implications of the current findings for the future research on bilingualism-induced neuroplasticity.

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# Interpreting experience and working memory effects on L1 and L2 morphological prediction

Cristina Lozano Arguelles, Nuria Sagarra, Joseph Casillas

In order to understand the role of working memory (WM) to predict morphology, we investigate the relationship between WM and prediction of verbal morphology in L2 speakers of Spanish with and without interpreting experience, and Spanish native speakers. This issue is key to clarify: (1) how cognitive resources support L1 and L2 prediction of morphology and (2) how WM and additional anticipatory experience independently contribute to L2 prediction. We conducted a visual-world eye-tracking study. They saw two words on the screen while listening to a sentence and were asked to select with a button press which of the two words appeared in the sentence as soon as they could recognize it. The eye-tracking task measured prediction of verbal morphology (present, past) based on suprasegmental cues (lexical stress: paroxytone, oxytone) and segmental cues (syllabic structure: CV, CVC). Results revealed that WM facilitated prediction when cognitive load was higher (more lexical competitors) for monolinguals and interpreters and WM affected prediction under less cognitively demanding conditions (fewer lexical competitors) in the case of non-interpreters. These findings inform L1 and L2 prediction models by showing that morphological anticipation is cognitively taxing. Anticipatory experience and WM independently contribute to explain differences in L2 prediction. Finally, our findings emphasize the relevance of prosody as a key for efficient access to semantic and morphological information in Spanish. This is an important issue with pedagogical implications. Given the difficulties that L2 learners of Spanish have perceiving and producing stress (Face, 2005, 2006), reinforcing prosody in the L2 classroom is necessary to foster more efficient processing.

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# The Emergence of a Complex Language Skill: Evidence from the Self-organization of Interpreting Competence in Interpreter Trainees

Yanping Dong, Zhibin Yu

Research on interpreting competence development provides an insightful perspective to explore how L2 learners develop complex language skills. To date, it remains unclear how relevant cognitive resources are mobilized in interpreting training to produce the intended progress. To clarify this issue, the present study conducted a longitudinal experiment exploring the change of relationship between English-to-Chinese /Chinese-to-English consecutive interpreting (CI) competence and two related capacities (language competence and memory capacity) for beginning interpreter trainees. Thirteen tasks were adopted at both the 2nd and 10th month of CI training (Time 1 and 2) to measure interpreter trainees' CI performances, language skills and working memory spans. There were two major results. First, Pearson correlation analyses revealed the general pattern that more interpreting training would result in more cognitive abilities getting correlated with CI performance. Since there was little L1-L2 CI training for these beginning interpreting trainees, CI performance was only correlated with general English proficiency at Time 1, and then at Time 2, with three indexes (English listening span, source language listening comprehension and summary writing). As for L2-L1 CI that these participants were mostly trained on, CI performance was correlated with the same six indexes at both Time 1 and Time 2: General English proficiency, source language listening comprehension and summary writing, English listening and speaking span, Chinese speaking span. Second, structural equation modeling showed that a valid model of CI competence could only be established in the post-test, with working memory working on CI performance via language competence (which works directly on CI performance). We may therefore conclude the development of interpreting competence results from the self-organization of interpreting competence systems, in which relevant components get mobilized, and a better coordinated structure emerges. Implications for the development of complex language skills are discussed, and directions for future research are pointed out.

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[TS26] Usage-based approaches  
to bilingual contact phenomena

# Less direct, more analytical: investigating L2 idiom processing with eye movement data

Marco Silvio Giuseppe Senaldi, Kristina Kasparian, Kyle Lovseth, Debra Titone

Idioms (e.g. shoot the breeze, play with fire) are widely used formulaic expressions with a figurative non-compositional meaning.[1,2] L1 speakers appear to process idioms in a hybrid fashion, with early comprehension facilitated by variables modulating direct retrieval from the lexicon (e.g. familiarity), and late comprehension inhibited by factors promoting compositional parsing (if component words are semantically related to the overall figurative meaning).[3,4] Here, we investigated the role of direct retrieval and compositional analysis when idioms are processed by L2 speakers. Specifically, we investigated if decomposability effects are guided by the verb (prospectively) or by the noun (retrospectively), and whether direct retrieval of L2 idiom forms is driven by the existence of a corresponding idiom in the L1.[5-7]

A total of 37 French-English bilinguals read 60 English idioms embedded into figuratively and literally biasing sentences, while we tracked their eye movements (idiomatic: Vicki knew the score well enough not to ask for an extension on the project vs literal: Vicki knew the score because she had been following the playoffs closely).

Linear mixed-effects models of eye movement data revealed a three-way interaction between condition, cross-language overlap and verb-related decomposability in idiom gaze duration ( $p < .05$ ). Accordingly, verb (prospective) decomposability guided early-stage L2 idiom recognition, especially when a corresponding idiom could not be directly retrieved from French. In idiom total reading time, condition interacted with noun-related decomposability ( $p < .05$ ) and cross-language overlap ( $p < .05$ ), revealing that late comprehension of L2 idioms was facilitated by noun (retrospective) decomposability and by the direct retrieval of a corresponding L1 idiom.

Taken together, L2 idiom processing is mostly compositional,[8,9] with direct retrieval effects emerging only at later stages. The facilitating effect of cross-language form overlap on late-stage retrieval suggests that multiword units' representations are integrated across languages in memory, which has interesting theoretical implications.

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# Schematicity in Language Transfer

Marie Barking, Ad Backus, Maria Mos

People who migrate to another country and start to use the new country's majority language, frequently experience changes in the way they use their native language, oftentimes due to transfer from their second language. This transfer tends to occur to varying extents for different types of constructions, with transfer generally occurring more frequently in the case of lexically specific constructions (e.g., words or word combinations) than in the case of more schematic constructions (e.g., word order patterns). To test this experimentally, this project directly compares transfer from Dutch to German by native German speakers living in the Netherlands for lexically specific constructions (light verb constructions, for example, \*Wecker setzen instead of Wecker stellen transferred from the Dutch wekker zetten, 'to set an alarm'), partially schematic constructions (use of the complementizer *um/om*, for example, *versuchen \*um* instead of *versuchen -* transferred from the Dutch *proberen om*, 'to try to'), and fully schematic constructions (word order patterns, for example, \*hat gesagt instead of gesagt hat transferred from the Dutch *gezegd heeft*, 'has said'). The results suggest that there are differences in the transfer patterns of these three construction types: while the lexically specific constructions were transferred individually (i.e., whether or not speakers used the transferred \*Wecker setzen was not related to their use of other transferred light verb constructions), transfer seemed to be related across items for the more schematic constructions, with many speakers either never using any transferred constructions or using these constructions in the majority of the cases. We discuss these results in terms of what they can tell us about the cognitive mechanisms of entrenchment, categorization, and generalization, and how taken together, these mechanisms might explain why our results show that a higher level of schematicity can lead to both less and more language transfer.

# Directives and the presentation of embodiment clues in child-directed speech: implications for heritage language acquisition

**Dorota Gaskins, Maria Frick**

Bilingual children are most likely to speak their heritage language if they hear it at home from both parents (De Houwer, 2007). If it comes from only one parent, the cost of its acquisition outweighs disproportionately its communicative value and results in children's resistance to communicating in that language. Our study probes further into the qualitative advantages of multi-speaker contexts over those where children interact with only one speaker of the heritage language. We are particularly interested in how interactions with more than one speaker of the given language can contribute to the clarification of verb meanings.

We examine five hours' worth of video recorded interactions between a child aged 1;8-2;4 acquiring Polish as a heritage language in the UK, her Polish-speaking mother, and another speaker of Polish. We use conversation analysis to identify 35 scenarios in which the bilingual child is presented with Polish verb-based directives and explain six of them in more detail. Our focus falls on how both of her caregivers contribute to the presentation of such directives (requests, proposals, and suggestions) where one of them utters a linguistic expression (e.g., *Otwórz butelkę* 'Open the bottle') and the other physically acts upon it (i.e., opens the bottle), thus clarifying the verb meaning in situ. We argue that this trait is unfeasible in interactions with only one parent, which takes away from the quality of meaning illustrated for the purpose of acquiring verb-based constructions. We argue that multi-speaker contexts and gestural clues to meaning are more important for the acquisition of verbs than nouns, for example, as the meaning of the latter is already supported by the physical environment.

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# Low-level-generalizations in bilingual language acquisition

Katharina Günther, Nikolas Koch

Much evidence in usage-based research on language acquisition suggests that when acquiring a language, children use low-level generalizations instead of abstract patterns (Ambridge & Lieven, 2015). Bilinguals could rely on low-level-generalizations even more since the ready-made patterns are more easily processed. First data with bilingual children also suggests that code-mixed utterances consist of specific chunks (Endesfelder Quick et al., 2018).

The present study aims to further investigate the use of low-level-generalizations in German-French bilingual children (4, 6 and 8 years, N= 118) in comparison to monolingual control groups (N= 119) focusing on the expression of caused motion. The corpus consists of elicited data from object displacements of four different types (Hickmann & Hendriks, 2006).

First, the verb use in each type of caused-motion event was analyzed in order to check whether one prototypical verb emerges for the different caused-motion events, which in turn can be indicative of a low-level-generalization with a lexicalized prototypical verb. Results showed the frequent occurrence of one specific verb for some events. High variation was observed, especially regarding the factors language (French vs. German) and age.

Secondly, the variation in the slots of verb and directional phrase was measured, counting the number of different combinations in each subject, in order to draw conclusions about the degree of abstraction. Low variation was considered an indication for the use of frame-and-slot patterns. The goal was to investigate whether variation in lexical content increases with age and whether differences between mono- and bilinguals are observed. While results showed no variation when considering age, the groups differed in German, where the monolinguals showed more variation.

The results enable us to take a developmental perspective on the use of low-level-generalizations in bilingual children and will be discussed in the light of current research in usage-based language models.

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# A case-study in individual Latvian-Estonian bilingualism

Elīna Bone

The aim of the current paper is to analyse the speech of three Latvian-Estonian bilinguals. The focus is on individual bilingualism because it is where contact-induced language change starts. Estonian-Latvian bilingualism is a rare phenomenon which has not been in the attention of research. The goal is to investigate how and why bilingual speech of the three participants is different or similar. The data are analyzed in a code-copying framework (Johanson 2002), taking into consideration bidirectionality of change: imposition (Impact L1 > L2) and adoption (Impact L2 > L1). Framework provides a holistic view on all language levels (lexicon and morphosyntax are not separated). The data were collected by recording natural conversations and interviews lasted for 20h 40 min in total. Interviews with participants were held in both languages. Although the languages are the same, the repertoires of the three participants differ. For one of the participant's speech there is no difference between imposition and adoption. She demonstrates alternation and code-copying without any visible difficulties in adoption (Latvian L2 > Estonian L2) and imposition (Estonian L2 > Latvian L1). For the other participant copying and code-alternation occur mostly in adoption (Estonian L2 > Latvian L1). She uses a lot of metalinguistic comments and demonstrates high language awareness. Also in the third participant's speech there is a difference between adoption and imposition. Code-copying and alternation occur mostly in adoption (Estonian L2 > Latvian L1). She also demonstrates language awareness. Based on the data, it can be assumed that differences of language use depends on individual and social factors. And there is no bilingual community to speak about and no community norms and individual's linguistic behavior may differ with and without community (Verschik, Bone 2018).

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# Conceptualizing order of contact-induced language change

Anna Verschik

According to the generalizations made by Thomason and Kaufman (1988), contact-induced language change in language maintenance starts from the lexicon, then progresses to semantics, phonology, non-core morphosyntax and, if sociolinguistic circumstances are favourable, results in a profound morphosyntactic restructuring. So far no explanations of this particular order have been suggested. The paper “translates” the borrowing scale (Thomason and Kaufman 1988) into the metalanguage of code-copying framework (Johanson 1992) that describes all types of contact-induced language change (in lexicon, meaning and structure) in the same terminology. Every linguistic item has material, semantic, combinational and frequential properties. When all properties are copied, it is called global copy, and when only some properties (meaning, combination of elements, argument structure, function etc.), it is called selective copy. Focusing on the meaning of copied elements, one notices that specific or expressive items yield global copying, while more abstract meaning (grammatical) yields selective copying. Apparently, processing, entrenchment and conventionalization of more abstract meaning requires more time. This explains why structural changes (selective copies) appears later. Based on data from Estonian-Russian and English-Estonian language contact situation, a conclusion can be drawn that there are different types of selective copying that form a continuum as far as the degree of abstractness of meaning is concerned. Estonian impact on Russian produces selective combinational copies that “disrupt” some areas of monolingual grammar, while English impact of Estonian is mainly non-structural, and selective copies appear either in fixed expressions or in functions of some Estonian constructions.

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# Pragmatic gap in Estonian-English-Japanese Facebook Communication: a Usage-Based Approach

Geidi Kilp

This paper analyzes the effects of pragmatic gap in Estonian-English-Japanese multilingual communication, within the framework of a usage-based approach to contact-induced language change (Backus 2015). The term pragmatic gap was proposed by Verschik (2010: 297), and while a lexical gap occurs due to the absence of a lexical item or concept, a pragmatic gap occurs when there are (pragmatic) means in the model code that the user is accustomed to, e.g. for expressing politeness, that do not exist or are not common in the base code. Examples of this would be using the Japanese honorific *senpai* 'senior', 'upperclassman' to refer to one's older and/or more experienced peers in Estonian or English, or an alternation to Japanese to say (or repeat the meaning of) a phrase such as *tanjōbi omedetō gozaimasu* 'happy birthday' with humble grammatical forms to show one's respect towards their co-speaker.

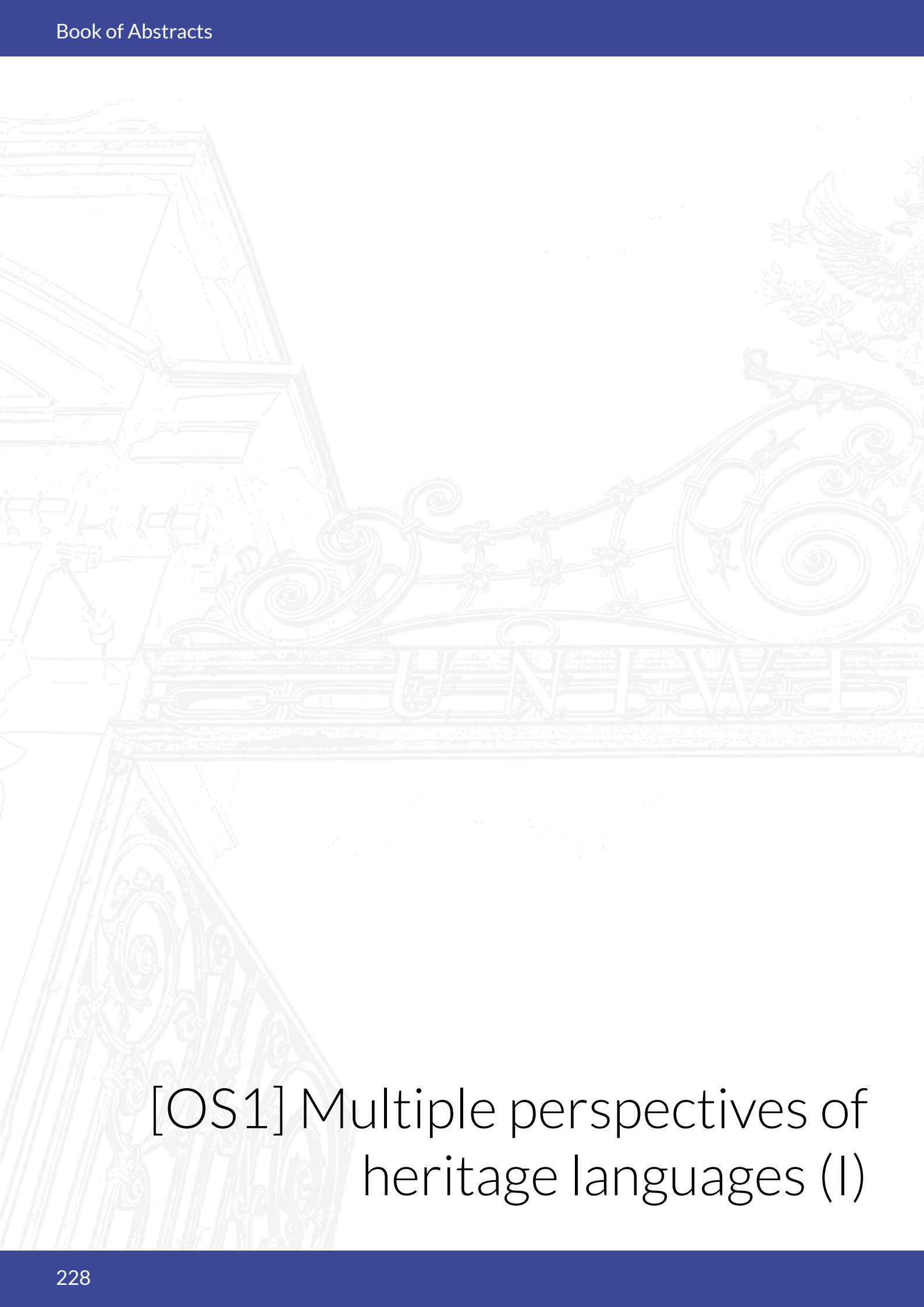
Estonian-English-Japanese trilingual communication is a relatively new phenomenon largely brought about by the globalization of Japanese media, as well as the growth of Facebook as a conversational medium. I am using an Estonian-English-Japanese Facebook communication corpus that I collected and annotated for a prior work (Kilp forthcoming), with new added data. The corpus consists of synchronous private Facebook messages between 2015 and 2021, a total of 14,681 tokens. A qualitative analysis is applied to determine what types of elements are used to fill pragmatic gaps in this corpus, which may be words or phrases, also morphemes, literal translation or code alternation. The preliminary results show usage of honorifics, polite expressions, references to registers, (dialectal) sentence-ending particles and colloquial grammatical forms.

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# Open sections



[OS1] Multiple perspectives of  
heritage languages (I)

# Comprehension of Rhetorical Questions by Heritage Speakers of Italian

Maria Francesca Ferin, Miriam Geiss, Tanja Kupisch, Theodoros Marinis

Rhetorical questions (RQs), such as ‘Who likes paying taxes?!’ signal the speaker’s attitude rather than requesting information. They can have the same syntactic surface structure as information-seeking questions (ISQs), from which they can be disambiguated by context, prosody, and syntactic cues (Biezma & Rawlins, 2017). Phenomena that integrate information across different domains, so called “interfaces”, are known to be especially challenging in language acquisition, and bilingual acquisition in particular (Platzack, 2001; Sorace, 2011). To date, there is no work on the acquisition of RQs in bilingual language acquisition.

This study fills this gap by investigating the comprehension of RQs in adult heritage speakers (HSs) of Italian living in Germany. We address the following questions: 1. Can HSs identify RQs and ISQs in Italian based on prosodic cues? 2. What role do lexical/syntactic cues play in the identification of RQs?

41 HSs and 37 monolingual controls participated in a forced-choice experiment, in which they heard string-identical wh-questions and had to decide whether it was an RQ or an ISQ. Questions were manipulated prosodically (RQ vs. ISQ prosody) and syntactically (no cue; ambiguous cue: clitic right dislocation; rhetorical cue: particle *ma* plus right dislocation). The rhetorical cue was only crossed with RQ prosody (e.g., *Ma chi lo mangia il melone?* ‘But who eats melon?!’).

Overall accuracy was very high for both groups (monolinguals: .96, HSs: .94). However, monolinguals were significantly more accurate ( $\beta=2.10$ ;  $SE=0.99$ ;  $z=2.10$ ;  $p<.05$ ) and accuracy was significantly higher with ISQ prosody ( $\beta=8.74$ ,  $SE=4.17$ ,  $z=2.09$ ,  $p<.05$ ) in the no-cue and ambiguous conditions. Within RQ prosody, we found a significant interaction between group and syntactic cue ( $\chi^2=7.5$ ,  $df=2$ ,  $p<.03$ ): the effect of the strong rhetorical cue was greater for HSs than for monolinguals (see figure). This suggests that HSs can discriminate RQs based on prosody, but they rely on syntactic/lexical cues to a greater extent than monolinguals.

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# Adult Heritage English speakers: Baseline-like morpho-syntax, divergent lexicon

Sid Gordon, Natalia Meir

Heritage Languages (HLs) show divergence from the baseline (the language spoken in the country of origin or by first-generation immigrants dominant in that language). HL morpho-syntax has been extensively investigated and seems to be particularly fragile (Montrul 2016; Polinsky 2018; Albirini, Benmamoun, & Chakrani 2013). Less attention has been paid to HL lexical aspects.

The innovation of the current study is in its comparison of morpho-syntactic and lexical abilities in adult HL-English speakers.

Three groups of adult English-Hebrew bilinguals living in Israel participated: HL-English speakers with two English-speaking parents (N=25), HL-English speakers with one English-speaking parent (N=22), and a baseline group of English-speaking immigrants (N=20). All the participants were exposed to English from birth, but the first two groups began acquiring Hebrew before age 5, while the baseline participants immigrated to Israel as adults. The Boston Naming Test (Goodglass et al., 1983) was administered to measure lexical proficiency. An auditory Grammatical Judgment Test (GJT) measured morpho-syntactic proficiency. Ungrammatical sentences included a variety of morpho-syntactic violations such as tense, predicate order, subject-verb agreement and use of articles. Detailed histories of the speakers' linguistic exposure were recorded (e.g., AoO, sibling order, school environment).

Results of the GJT demonstrated near-ceiling performance across the three groups (Baseline: M=93%, SD=5%; HLE-2P: M=94%, SD=4%; HLE-1P: M=91%, SD=7%), while differences were observed between the baseline and the two HL groups in the lexical domain (Baseline: M=90%, SD=5%; HLE-2P: M=70%, SD=14%; HLE-1P: M=65%, SD=14%).

The current study suggests that morpho-syntactic divergences are not the hallmark of all HLs. We bring novel evidence that vocabulary divergences might be more salient in some HLs. We suggest that morpho-syntactic structures acquired in childhood, reinforced periodically in the societal environment (formally in school, informally in public media), may be maintained at near-ceiling level because of the language's ubiquity and relatively sparse morphology

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# Morpho-syntax in Heritage Russian: The effect of cross-linguistic influence and AoO of bilingualism

Natalia Meir, Tanja Verkhovtceva

Heritage Language (hereafter HL) grammars systematically differ from the corresponding baseline grammars (Benmamoun et al., 2013; Montrul, 2008, 2016; Polinsky, 2018; Rothman, 2009). Triggers of divergences observed in HL grammars are still debated (Polinsky, & Scontras, 2019, 2020). HL divergences are attributed to processing limitations, and/or representational differences between the HL and its baseline.

The current study aimed to assess the effect of processing load (whether split sentence condition may influence the processing), cross-linguistic influence, and Age of Onset of bilingualism (AoO) on morpho-syntactic acquisition.

An audio grammaticality-judgment task (GJT) was administered to 76 Russian speakers divided into 4 groups: monolingual baseline speakers and 3 groups of Russian-Hebrew bilinguals with varying AoOs (before 5, between 5-13, after 13). The GJT manipulated match/mismatch of three features ([PERSON] in subject-verb agreement, [NUMBER] and [CASE] in adjective-noun agreement) across split/ non-split conditions. Russian and Hebrew show similarities in [PERSON] and [NUMBER] agreement. However, only Russian has rich case morphology and case concord, while in Hebrew case morphology is sparse. The three investigated phenomena are early-acquired in monolingual Russian-speaking children (see Gvozdev, 1961).

All the groups were less accurate on split constructions, in which the agreeing elements were separated by an intervening phrase. On all conditions, early HL speakers (AoO before 5) showed lower performance than the monolingual baseline controls as well as late HL speakers (AoO between 5-13) and 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, yet lower performance on [NUMBER] agreement and case concord in adjective-noun phrases.

The results confirmed the vulnerability of morpho-syntax in HL-Russian with early AoOs. Theoretical implications of HL formation and mechanisms triggering HL divergences will be discussed in the light of the obtained findings by relating to processing and representational accounts.

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# How heritage children and adults acquire Spanish imperatives: an examination of syntax and morphology

Julio Cesar Lopez Otero, Michele Goldin

Imperatives, associated with directive meaning, are a universal sentence type (Portner, 2016; Sadock & Zwicky, 1985) hosted in the CP-layer (Alcázar & Saltarelli, 2014; Rivero & Terzi, 1995) (A&S) (R&T). Adult-like imperatives appear in early child language (Ezeizabarrena, 1997; Grinstead, 1998; Licerias, Valenzuela & Diaz, 2006) and feature subject-verb number agreement in addition to complex syntax. We examine how child and adult Spanish heritage speakers (HSs) acquire the checking of imperative features in the CP-layer in comparison with number agreement. Additionally, we investigate patterns of language use and exposure effects on their knowledge of imperatives.

We conducted two studies that addressed comprehension and interpretation of imperatives. In the first study, 42 child HSs, all aged 3-7, completed a picture-matching task (PMT) and an acceptability judgment task (AJT). In the second study, 58 HSs across proficiency levels completed an elicited production task and an acceptability judgment task (AJT). The first study found 3-year-old children accept imperatives in the AJT with 60% accuracy while they perform at chance selecting accurate number morphology on the PMT ( $p < .01$ ) (Fig.1). In the second study, all adults showed comprehension and production of CP-layer features in imperatives, but number agreement was only mastered by advanced HSs (Figs.2&3). Additionally, both groups' patterns of language use and exposure modulated their acceptability (Fig.4).

These results suggest that syntax precedes morphology in child acquisition and continues into adulthood: children comprehend the directive meaning of imperatives before they can distinguish singular and plural morphology, and adults comprehend and produce imperative verb forms before they acquire number morphology in the imperative verb paradigm. These are the first experimental studies to test and find consistent results for the syntactic accounts proposed for Spanish imperatives (A&S, R&T). Additionally, our findings are consistent with Putnam and Sánchez's (2013) activation approach on heritage language acquisition.

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# Grammatical Gender Agreement in Italian as a Heritage Language: A Self-Paced Reading Study

Grazia Di Pisa, Theodoros Marinis

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 high proficient HSs with both languages with gender (e.g., Bianchi, 2013). We examined sources of morphological variability in Italian HSs, with a focus on morphological markedness and task type (explicit vs. implicit knowledge).

Fifty-four adult Italian HSs and 40 Italian controls participated in two experiments. Experiment 1 examined HSs' gender agreement in an offline grammaticality judgement task (GJT) (explicit knowledge) involving sentences with grammatical/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 / defaults forms (masculine/singular). Experiment 2 examined the same conditions in a self-paced reading (SPR) task (implicit knowledge) to address how HSs process gender agreement violations.

In both tasks, controls performed at ceiling and showed faster reading times (RTs) compared to HSs (see Figures 1 and 2). In the GJT, HSs were more sensitive to violations realised on marked adjectives and showed an effect of markedness for number (more accurate with singular) and for gender (more accurate with masculine). In the SPR, both groups showed sensitivity to violations realised on marked vs. unmarked adjectives but only in the masculine (longer RTs).

These results suggest that there are no qualitative differences in the processing of grammatical gender between high proficient HSs and native speakers who are not HSs. Importantly, markedness impacts grammatical gender in both explicit and implicit tasks in both groups.

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# Emotions and heritage language maintenance: the case of Lithuanian diaspora

**Meilutė Ramonienė**

The Lithuanian diaspora consists of people who left Lithuania in various periods and their descendants, who live in different continents: Europe, North and South America, Australia. According to various sources, about 1.3 million people of Lithuanian descent reside outside Lithuania. When looking at the periods of Lithuanian emigration, usually three major waves of emigration towards the West are identified: the first at the end of the 19th century up to 1939, the second during World War II, the third after the restoration of independence of Lithuania in 1990. These three waves differ not only in the time of emigration but also in motives for it. All these aspects effect the different language behaviour and language attitudes that are characteristic to a particular wave of emigration.

The data that forms the basis of this paper was drawn from two large and complementary research projects funded to investigate the language behaviour, the maintenance of the heritage language and the links to the Lithuanian identity of the Lithuanian communities abroad. The paper explores the data of both quantitative surveys and qualitative in-depth interviews. The sample of two surveys had in total 2610 respondents of different generations and emigration waves. The in-depth interviews with emigrants have been conducted face-to-face or via skype. The paper will consider the issues of language choice by different emigration waves and language attitudes towards the Lithuanian heritage language. The paper will focus on the affective component of the triadic model of attitudes, on family language policy, and heritage language maintenance in Lithuanian diaspora.

# The relation between heritage speakers' language use and their perception of societal attitudes towards multilingualism and multiculturalism

Gözde Mercan

Research on Turkish as a heritage language (HL) has traditionally been conducted primarily in European settings as a natural result of the history of immigration (see Bayram, 2020). However, with an increasing number of individuals with Turkish origins moving to the US and Canada in the last few decades, now there is also a considerably sizeable Turkish-English speaking bilingual population in North America (Government of Canada, 2020; US Census Bureau, 2019), including speakers of Turkish as a HL. In addition to the differences in geographical proximity to Turkey, there is presumably substantial variation between and within these general sociolinguistic landscapes in Europe and North America.

The present study is comparative in nature and focuses on Turkish-English bilinguals, specifically heritage speakers (HSs) of Turkish, living in the UK, the US and Canada. Based on the assumption that there may be differences in these three broad settings in terms of societal attitudes towards multilingualism and multiculturalism in general and towards the Turkish language in particular, this study will address the following research questions:

- (1) Focusing on speakers of Turkish as a HL in the UK in Europe; and in the US and the officially bilingual Canada in North America, are there differences between these Turkish HSs' perception of the societal attitudes towards multilingualism and multiculturalism in the sociolinguistic settings in which they are immersed?
- 2) Are Turkish HSs' perception of societal attitudes towards multilingualism and multiculturalism related to their actual use of the Turkish language?

To answer these questions, this study will involve the administration of a detailed ad hoc online questionnaire based on standardized questionnaires on language use, also including specific questions about how speakers perceive societal attitudes towards multilingualism and multiculturalism. Analyses of the results will reveal whether a positive perception of societal attitudes is correlated with high language use.

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# “Russian Elicits an Emotional Response, English Hardly Does”: Language Emotionality and Emotional Expression in 1.5 Generation Russian Australians

Beatrice Venturin

The present study examines a group of heritage speakers belonging to the 1.5 generation, namely speakers who start learning their L2 between the ages of 6 and 12, after migrating to a new country (Rumbaut & Ima, 1988). In bilingualism research, 1.5ers are considered together with other childhood sequential bilinguals. In heritage language studies, they are analysed with other heritage speakers, who have different acquisition trajectories (Anstatt, 2017; Isurin, 2017). However, because of their peculiarities and in-group heterogeneity (Frodesen, 2002), many scholars have insisted on considering 1.5ers as a generation per se (Benesch, 2008; Rumbaut, 1994, 1997, 2004).

This study presents the results of data collected with 16 1.5 generation Russian Australians, i.e. speakers born in a Russian-speaking country who, in terms of order of acquisition, learned Russian as their L1, and English as their L2, after migrating to Australia in primary school years, and are now aged between 18 and 41. Semi-structured interviews were conducted with the participants and underwent qualitative thematic analyses, which aimed to explore the relationship between their bilingualism and emotions, focusing in particular on their perceptions on language emotionality and language preferences to express emotions. The findings show that, for this group of participants, the L1 has maintained a strong emotional resonance and is the language preferred to communicate with children, while the L2 is favoured to express anger and positive feelings.

This study contributes to the understanding of this neglected category of bilinguals, and reconfirms their heterogeneity and liminal status. Furthermore, while research on the relationship between bilingualism and emotions has mainly focused on adult migrants and language learners, who are generally L1-dominant (Dewaele, 2010, 2016; Panicacci & Dewaele, 2018a, 2018b; Pavlenko, 2005), the present study offers a novel perspective on this topic, giving voice to participants who are mostly L2-dominant and L1+L2-dominant bilinguals.

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# Heritage Russian in Contact with Hebrew: A Study of Requests

Marina Avramenko

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 (n=52) 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 *pozhalujsta* “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 *pozhalujsta* “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.

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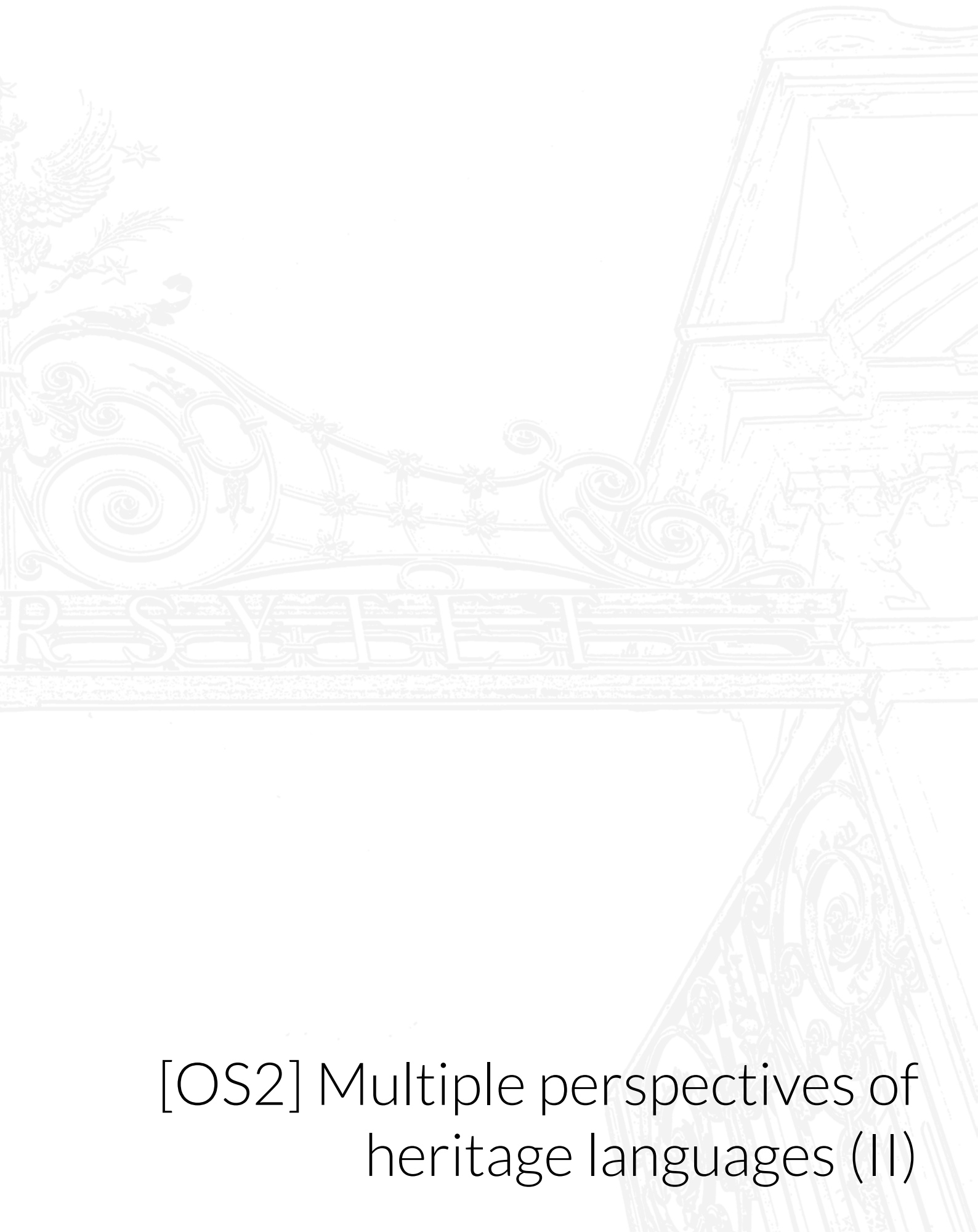
# Attitudes and identities in learning English while maintaining heritage languages: Perspectives of migrant students in New Zealand schools

Naashia Mohamed

Informed by linguistic ecological theory, this study investigates language attitudes, language use and identity construction among migrant students in New Zealand schools. Using in-depth interview data from 30 students of varying linguistic and ethnic backgrounds, this study examined their language attitudes and identities in relation to English and their heritage languages. The findings reveal that participants hold hybrid identities that were affected by their social worlds and the symbolic power they associated with each of their languages and ethnic groups. While the motivation to learn English was fuelled by instrumental needs, the participants in this study varied in the extent to which they wished to be associated with their heritage language and cultures. The findings also indicate that participants strategically employed their language repertoire for different identification purposes, and exercise symbolic power in various ways in order to be heard and respected. These findings enhance our understanding of the diversity of identity experiences of bicultural persons and provide insight into how school and home environments can affect their ethnolinguistic identity development.

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[OS2] Multiple perspectives of  
heritage languages (II)

# Individual variation in heritage speakers' morphosyntax: A corpus study of Bosnian in Norway

Aleksandra Tomic, Yulia Rodina, Fatih Bayram, Cecile De Cat

We present a corpus study identifying vulnerable areas of Bosnian morphosyntax in the spoken language of two Bosnian-Norwegian families across three generations, to inform future psycholinguistics experiments. Bosnian diaspora in Norway offers a unique opportunity to study the effects of individual differences on heritage language (HL) development and maintenance, allowing us to disentangle divergent acquisition/new variety emergence from attrition. Most Bosnians in Norway fled the nineties' Balkan wars. Entire multi-generational families experienced a dramatic decrease in Bosnian exposure and started learning Norwegian. Subsequently, new generations acquired Bosnian as HL, through exposure to L1 Bosnian often undergoing some attrition and L2-driven restructuring. Moreover, Bosnian and Norwegian come from distinct language families with varying overlap of understudied HL morphosyntactic structures, e.g. second-position clitics and object shift.

The two families were recorded during a family interview and spontaneous at-home conversations. They filled out an adapted Language and Social Background Questionnaire. The families, two aging L2 Norwegian speakers/Bosnian attriters, and two adult L2 Norwegian speakers and three adolescent heritage bilinguals, feature a range of language experience characteristics. Preliminary results show substantial instances of non-monolingual usage of Bosnian morphosyntactic structures: gender agreement, clitics, overt subject, case, word order, corroborating and extending previous findings on related languages. Contrary to order-of-acquisition attrition accounts, these core-syntax properties seem to be also vulnerable in attriters. We discuss potential causes underlying these examples, focusing on individual variables, such as age of Bosnian/Norwegian acquisition, proficiency, extent of schooling in Bosnian/Norwegian, language attitudes, amount and type of Bosnian/Norwegian exposure, working memory and processing pressures, code-switching frequency, L3 exposure, etc.

Provisional correlations between morphosyntactic patterns and individual characteristics will inform hypotheses regarding the cause of the vulnerability, contrasting attrition from divergent acquisition. These hypotheses will be tested in subsequent experimental research, characterizing how these factors influence processing and acquisition variation in heritage bilinguals.



# Generational attrition: first language attriters and heritage speakers on Italian clitic pronouns

Roberta Spelorzi, Giuditta Smith, Antonella Sorace, Maria Garraffa

Clitic pronouns are pronominal elements which, unlike other referring expressions, present specific syntactic features and derivation, which require syntactic operations such as movement and checking. Therefore, they are an area of variability in monolingual typical acquisition, atypical language, and in bilingual populations (e.g. Leonini, 2006, Bortolini et al., 2002, 2006, Garraffa et al., 2019;). Given that bilinguals show sensitivity to structures at the syntax-pragmatic interface (cf. Sorace, 2011), this study investigates the comprehension and production of Italian clitic pronouns in two bilingual groups: thirty first-generation Italian speakers and thirty second-generation (heritage) Italian speakers living in an English-speaking environment. Through a set of offline tasks we tested clitic comprehension and production, where production features elicitation of an array of clitic pronouns on a gradient of complexity: direct object (DO) > indirect object (IO) > double-object clitic (1st/2nd person and 3rd person). Results show that while the abstract representation of the clitic is available to both attriters and heritage speakers, with ceiling performance on comprehension tasks, and both populations show absence of errors of feature and placement on the clitics in production, first-generation Italian speakers produce a high number of occurrences of this complex structure as a single argument, however they infrequently cliticize two arguments at the same time. Instead, second-generation Italian speakers, prefer the production of lexical NPs over clitics most of the time, and rarely produce clitic combinations, thus showing a preference for the maintenance of canonical argument structure. Our data shows that, if a structure that requires complex syntactic operations allows for optionality, even if structure comprehension is not problematic, bilingual speakers will select a less computationally-demanding alternative, in different capacities depending on the place they occupy on the bilingual continuum.

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# Heritage language complexity in flux: An information-theoretic analysis

Ashvini Varatharaj, Gregory Scontras, Naomi Nagy

Heritage languages are of interest because of the ways they differ from the relevant baseline language. Many conceive of these differences as a process of simplification: a loss of inflectional morphology, less lexical richness, etc. Inspired by the finding that decreased complexity in one area of a language may lead to increased complexity in another (e.g., Koplenig et al., 2017), we take up the question of whether the changes during the development of heritage languages involve general simplification, or whether complexity trades off in heritage languages as it does in other languages: as speakers rely less on word-internal structure, word order matters more, and vice versa. We apply information-theoretic measures of complexity in the domain of word structure (morphology) and word order (syntax) to the Heritage Language Documentation Corpus (Nagy, 2011), which includes speech samples from multiple generations of eight heritage languages and homeland comparators. Preliminary results for 39 Ukrainian speakers, following the methods introduced by Juola (1998), show a marked decrease in complexity from the homeland to the heritage speakers, as well as a complexity tradeoff within the heritage speakers: as the generations progress, word structure complexity decreases while word order complexity increases; there is a strong negative correlation between these two variables ( $r(37) = -0.4, p < 0.05$ ). From our analysis, we conclude that the homeland speakers' data is rich in morphology, which degrades as we move chronologically toward later generations of heritage speakers; as the morphology degrades, word order becomes more informative. In continuing work, we are applying the same metrics to five other typologically-diverse heritage languages (Cantonese, Faetar, Italian, Korean, and Russian) to see if complexity behaves similarly.

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# Interfaces in the Returnees' Heritage Language: Is the complete (re-)activation possible?

Elena Antonova-Unlu, LI WEI, Didem Kaya-Soykan

The study aims to contribute to the research on the heritage language (HL) development of returnees after the onset of puberty to understand whether the complete (re-)activation of interface domains in the HL is possible or whether interface domains are likely to preserve features typical for the HL even after many years of residing in the country of origin. We present the group analysis of the perception and use of direct objects in Turkish, which is a morphology-syntax-pragmatics interface, comparing Turkish-German returnees, who returned to Turkey after puberty and have been residing in the country for a minimum of 10 and a maximum of 34 years, with the control group consisting of Turkish speakers who have been living in Turkey all their lives. The performances of the participants on a narrative production, an item completion and a grammaticality judgement task were analyzed quantitatively and qualitatively. The results showed that the returnee participants used case-marking on direct objects in their narratives depending on the discourse and syntactic position of the direct object in their heritage Turkish. However, their perception of grammatical and ungrammatical items in the grammaticality judgement task and their use of direct objects in the structured item completion task diverged from those of the control group. These findings can be considered as a piece of evidence that interface domains stay obstinate to complete (re-)activation and may preserve features typical for the HL many years after the return to the country of origin.

# Contact linguistic phenomena in Croatian as a heritage language across four continents

Jim Hlavac, Diana Stolac

This paper presents data on a large-scale, multi-site project across 9 countries that focuses on the use of Croatian as a heritage language amongst first-, second- and third-generation speakers. The project features 10 corpora of heritage Croatian in contact with English, German, Italian, New Zealand Maori, Norwegian and Spanish. A contact linguistics perspective is adopted in this paper that examines spoken data with reference to four groups of phenomena: lexical transference, code-switching, loan translation and morpho-syntactic innovations. The ten samples contain examples relating to all four groups and the occurrence of such language contact phenomena is well documented in studies of heritage languages.

Across most samples with different host languages, the following common features are reported as emergent, at least amongst some younger speakers: use of 'null' subject pronouns; long form object pronouns rather than clitics; extended use of perfective aspect verbs; *jedan* 'one' as a nascent indefinite article; elevated use of prepositions to convey syntactic relations; employment of *od* 'of'/'from' as an analytic marker of possession with/out GEN; changes in case marking congruent to Đurovič's (1983) implicativity scale. Between some contact situations the same phenomenon can result in different outcomes: intra-VP code-switching shows 'combinability' of Croatian auxiliary verbs with Italian or Spanish main verbs, but not with German main verbs. Specific to the Italian situation is use of Croatian reflexive adjective *svoj* in clause-initial position in a NOM NP based on the influence of the Italian equivalent *suo*. Specific to samples in contact with English only are: multi-item possessive constructions with intermediate projections internal to a larger NP; Croatian DO-verbs with English-origin nouns/gerunds replicating English VP structures.

Select examples are examined according to descriptive models of bilingual speech (Myer-Scotton, 2002); discussion is informed by recent contributions to heritage language description (Polinsky, 2018; Aalberse, Backus & Muysken 2019).

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# Lexical access in L1 attrition: frequency vs. competition

Monika Schmid, Gülsen Yilmaz

Lexical access and lexical diversity are often assumed to be the most vulnerable part of the linguistic repertoire in the context of first language (L1) attrition. However, they also differentiate monolinguals from bilinguals for whom the development of the second language (L2) is not accompanied by a decrease of input and use of the L1, that is, speakers who remain immersed in the linguistic environment of their origin. This raises the question whether attrition can be ascribed to erosion due to non-use or to competition between the two linguistic systems.

We compare two populations of late L2 learners of Dutch living in the Netherlands. One of them was largely monolingual prior to emigration (Turkish migrants,  $n=26$ ) while the other comes from a highly multilingual society (Morocco,  $n=26$ ). Both populations are matched on background factors such as age, age at emigration, length of residence and amount of use of the L1 and Dutch in their daily lives. Both groups are compared to a reference group in the country of origin, which is monolingual in the case of the Turkish participants and multilingual in Morocco. Lexical retrieval is measured through response latency in a Picture Naming Task, as well as through lexical diversity (VOCD) and fluency in free speech.

We predict that, while both experimental populations should similarly be affected by erosion due to non-use of the L1, competition effects should be more strongly pronounced when compared against a monolingual vs. a multilingual baseline population, that is, to be stronger in the Turkish than in the Moroccan migrants. The results show that this is not the case and that, furthermore, there is no impact of individual measures of frequency of exposure or language attitudes among the attriters. We conclude that being immersed in an L2 environment leads to weakening of lexical access.

# The impact of industrial development on Sakha as reflected in lexical loss and change

Ninel Malysheva, Igor Danilov

The present study provides an overview of the impact of language contact and change by focusing on the animal vocabulary of Sakha in the industrial regions of the Republic of Sakha (Yakutia). Our research shows that the lexicon is undergoing extensive restructuring due to changes in lifestyle and culture.

Our results are based on a survey of over 1500 Sakha speakers to the use of animal names in everyday life. The survey was carried out for the following age groups: a) from 14 to 20 years old, b) from 21 to 35 years old, c) from 36 to 49 years old, d) from 50 to 65 years old, e) from 66 to 79 years old, f) from 80 and above. The survey revealed the following changes in animal vocabulary: 1) active replacement of Sakha words with Russian: S. ehe ‘bear’ ~ miise, miška (< Misha, R nickname for ‘bear’), deduška ‘grandfather’, and others; 2) loss of Evenkisms among the age groups (a), (b), (c), from speakers under the age of 50: S amakaan ‘bear’ (from Evenki amaakaa), and others; 3) expansion of specialized animal terminology referencing sex and age to other animals in the speech of respondents from groups (a)-(c): S. lököj ‘hardened male moose’ → S. lököj ‘elk’ and others; 4) gradual transition to the use of (formerly) taboo and euphemistic words: S taŋara uola ‘wolf’, S. ad’yrğa ‘bear’, S. keremes ‘fox’ and others; 5) dialect forms from specific Sakha regional variants but not found in the rest of the everyday lexicon of respondents from groups (a)-(d), that is, regional forms that are unique to the animal lexicon: S. xoboloox ‘deer’, S. arbağastaax ‘bear’, S. kyččağar ‘hare’, etc.

Thus, the loss of traditional types of economic activity entails significant restructuring in the lexicon of Sakha spoken in industrial regions.

# Forget-me-not? Attrition of L1

Jogile Teresa Ramonaite

Language attrition to different extent is a rather vast phenomenon if one considers the attrition to start whenever more than one language is present in the repertoire. However, extreme cases of attrition are rather rare. This paper presents a case study of first language (mother tongue) attrition that is significant for multiple reasons. The subject is internationally adopted and this gives a possibility to see what happens when a person is suddenly and completely deprived of the L1 input and environment. Secondly, the adoptee is 12 years old at the age of adoption and this not only means the subject had a full and well-developed L1 system (was also literate in the L1) but also places the case at the center of a greatly discussed age factor in the L2 acquisition, effects of L2 acquisition before and after puberty. Thirdly, despite the extensive negative experience in the birth country (due to parent abandonment, being moved from one orphanage to another etc.), the subject exhibits surprisingly positive attitudes towards the L1 and expresses desire to speak it.

The paper draws on both observation and language data and presents the adoptee's situation from the psychological and social point of view focusing, however, on how this is expressed through language. The adoptee's L1 is Lithuanian and the adoption is towards Italy. The paper presents various linguistic levels (phonetic, lexical, morphological, syntactical), specific attention is drawn to grammar as it is often considered to be more reluctant to attrition. The data analysis shows not complete but a very extreme case of attrition after as little as one year in the new environment.

# Heritage language proficiencies: What factors matter?

Yining Wang

Heritage language attrition in migrant children and their rapid language shift to the dominant language is the well-established sociolinguistic fact (Curdt-Christiansen & La Morgia, 2018; Fillmore, 2000; He & Xiao, 2008; Hunt & Davis, 2019; Little, 2017). Using a sociolinguistic ethnographic approach, this study explores the heritage language proficiencies of 32 Chinese migrant children who arrived in Australia between ages 3-13 and examines the factors resulting in their heritage language proficiencies. Data were collected through open-ended interviews with both parents and children, informal conversations, observations, the collection of evidence of children's literacy practices and WeChat postings. Findings show that language loss, attrition or poor development constitutes the main pattern of the differential language proficiency outcomes across all age-at-migration, whether in oral or literacy skills. However, the general language attrition trend is complimented by exceptional excellence of Chinese language maintenance. Further analysis identifies age-at-migration as the key factor determining the risk of language loss or the degree of language attrition. At the same time, some other factors, such as parental support, the use of printed materials, peer influence and children's own agency, may reduce or counterbalance the age factor. Ultimately, the study suggests that the maintenance, development and advancement of children's heritage language require consistent family efforts and practical institutional support.

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# Maternal heritage language proficiency and child bilingual's heritage language learning

Sun He

“Should I talk to my child in a language that I am not good at?” This question reveals the dilemma that many bilingual parents are facing (Sun, 2019). The current study invited 301 English-Mandarin bilinguals' mothers in Singapore to self-evaluate their Mandarin proficiency and assessed their children's Mandarin receptive vocabulary and grammar. Children's bilingual language exposure was investigated with a parental questionnaire and their phonological short-term memory was assessed with CTOPP. The results indicated that mothers' Mandarin proficiency would affect the amount of Mandarin they speak to their children, and those mothers with a medium or high level of Mandarin proficiency demonstrated significantly higher influence on children's Mandarin vocabulary and grammar compared with the mothers with lower Mandarin proficiency. Specifically, the mother's Mandarin proficiency mediated the relations between familial SES and children's Mandarin skills, after controlling children's Mandarin use at home, gender, and short-term phonological memory. Being in line with the findings on early ELL studies (Baker, 2014; Hoff, Core, & Shank, 2020), our findings suggest the unique role that maternal Mandarin proficiency plays in early heritage language learning, above the contribution of the other well-established factors in the literature. It indicates that mothers who have a decent command of heritage language should be encouraged to use this language more often with their children, considering maternal heritage language proficiency as a promotive factor from the influence of low SES. Less proficient parents should consider increasing the child's exposure to native standards of the language through external means, such as eBook Apps.

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# Exploring Bilingual Children's Heritage Language Reading Process with Physiological Data

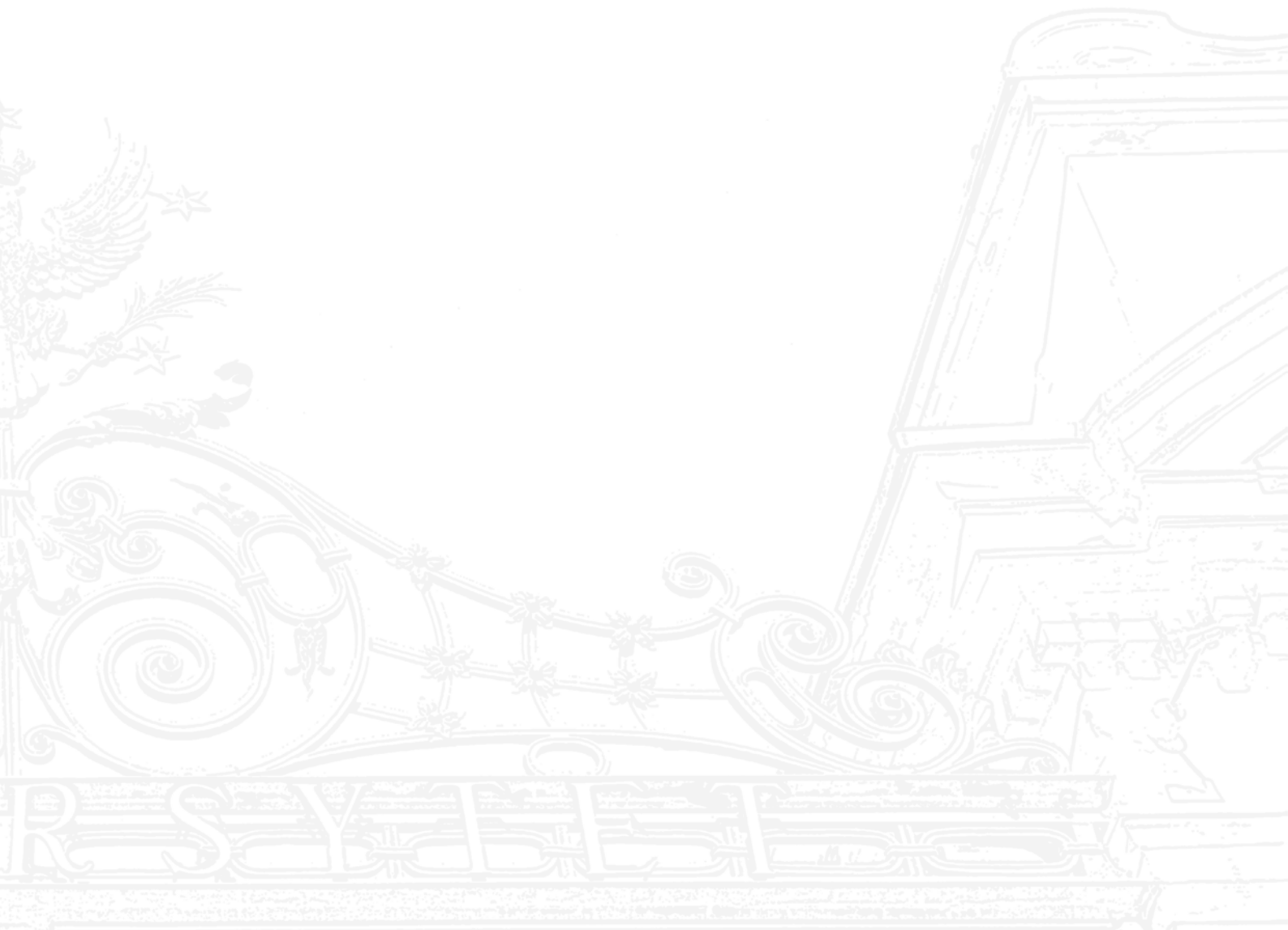
Sun He

The talk introduces two studies on Mandarin-English bilingual children's visual attention and mental effort in book reading. The first study examined the role of the animated features of eBooks in child bilingual's Mandarin learning (Sun, et al., 2019). 102 4- to 5-year-old preschoolers in Singapore were assigned to one of the four conditions: (a) animated eBooks (+sound+motion), (b) static eBooks with sound, (c) static eBooks only, and (d) a control condition where children played a math game on an iPad. Three stories were displayed to children each for four times over 2 weeks, while visual attention was traced with an eye tracker. Children's target words and story comprehension were assessed for the effects of the intervention conditions. The results revealed that children in the animated condition outperform their counterparts in total fixation duration, target word production, and storytelling of the one with complex language. There were no consistent differences between the two static conditions.

The second study examined the role of questions in bilingual children's mental effort during shared book reading in Mandarin. Ninety-nine 4- to 5-year-old preschoolers in Singapore were assigned to one of the three conditions: (a) reading with contextualized questions (i.e., low-cognitive loading questions), (b) reading with decontextualized questions (i.e., high-cognitive loading questions), and (c) a control condition where children received no questions while listening to the read-aloud by the experimenters. Three stories were read to children in groups (4-5 children in each group), and each story was read three times. Children's mental effort was traced with skin conductance. The mixed-effects model revealed that children in the contextualized questions condition outperformed their peers in mental effort. A better mental effort in turn, promoted children's vocabulary production and story comprehension.

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# [OS3] Bilingual grammars: syntax, lexicon and phonology (I)

# Bilinguals' orthographic representations: How does cognate knowledge contribute to accurate English word spelling?

Valeria Rigobon, Nuria Gutierrez, Daniel Abes, Ashley Edwards, Laura Steacy, Don Compton

Developmental studies in children suggest that spelling in opaque orthographies (e.g., English) is particularly dependent on high-quality orthographic representations (Perfetti, 1997). In transparent languages (e.g., Spanish), representational quality is considered less crucial since correct spelling can be recovered using a phonological strategy (Geva et al., 1993). Little is currently known about English spelling in bilingual individuals who speak, read, and write in a language that shares orthographic features like cognates (i.e., words with similar spelling patterns across orthographies) with English. We hypothesize that Spanish-English bilingual adults form orthographic representations in both languages and, therefore, transparent Spanish representations of cognates should aid in spelling their English equivalents.

This study explored word-level predictors (e.g., frequency, cognate) and person-level predictors in monolingual (English) and bilingual (Spanish-English) university students' spelling, focusing on whether bilingual participants would show higher spelling accuracy of complex English cognate words a) compared to monolinguals and b) when prompted to consider Spanish spelling.

Crossed-random effects models were used to explain both person (N=120) and word (N=40) level spelling predictors. Bilingual participants were randomly assigned to either prompting of Spanish word spelling (N=40) or no prompting (N=40). Spelling words varied in morphological complexity, length, frequency, and age-appropriate spelling difficulty.

Results showed a significant crossover interaction ( $p < .001$ ) between bilingual and cognate status, indicating that bilinguals had a higher probability of spelling complex cognate words more accurately than monolinguals. A separate model comparing prompted and unprompted bilinguals showed a statistically insignificant prompting effect ( $p = 0.087$ ) on spelling accuracy.

Findings suggest that presence of shared linguistic features (e.g., cognates) can be a significant predictor of the quality of orthographic representations among bilingual students. The lack of evidence for a prompting effect displays bilingual adults' ability to automatically access Spanish word representations when encountering complex English words, which aligns with prior theories of bilingual lexical access.

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# Urdu-English Bilinguals: What Aspects of Bilingualism Predict Phonological Awareness Skills in Children?

Insiya Bhalloo, Monika Molnar, Siobhan Galeazzi, Claire Ying Ying Liu

Along with linguistic and cognitive differences across monolinguals and bilinguals, there are important nuances within bilinguals – including language background (Bialystok & Sullivan, 2017; de Bruin, 2019; Gullifer & Titone, 2019). Researchers typically assess child bilingual language background via oral language evaluations and parental reports, such as the LEAP-Q (Marian et al., 2007). Child language background factors, including expressive vocabulary, age of acquisition (AoA) and language exposure/usage across spoken languages, influence development of literacy precursors such as phonological awareness.

We seek to determine which bilingual language background factors best predict English and Urdu phonological awareness skills in Urdu-English simultaneous bilinguals (i.e., AoA between 0-3 years).

We tested 95 typically-developing Grade 1-2 (i.e., 6-8 years) Urdu-English bilinguals across Canada and Pakistan on English (via EVT, Wagner et al., 2013; CTOPP, Williams, 2007) and Urdu expressive vocabulary and phonological awareness skills. Parental reports of child bilingual language background were obtained via the LEAP-Q.

We conducted a multiple regression analysis for the two dependent variables, Urdu and English phonological awareness scores, in relation to eight predictors: expressive vocabulary, AoA, language exposure, and language usage. English expressive vocabulary significantly predicted English phonological awareness; Urdu and English expressive vocabulary (both combined and separate) significantly predicted Urdu phonological awareness — thereby indicating within- and across-language influences on child phonological awareness performance, depending on the language(s) of assessment.

While previous studies examine whether precursors of literacy are the same across monolinguals and bilinguals (e.g., Kuo et al., 2016), this study highlights aspects of child bilingual language background, specifically expressive vocabulary, that predict phonological awareness — an important literacy precursor. Our findings highlight the importance of comprehensively evaluating child bilingual language background to facilitate literacy precursor skill development, and ensure external generalizability of emergent biliteracy research findings — depending on the type of bilingual population and language(s) assessed.

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# Acquisition of Noun-Modifying Clause Constructions in Monolingual and Heritage Mandarin-speaking Children

Mengyao Shang, Ziyin Mai, Stephen Matthews, Virginia Yip

This study investigated how children acquire Noun-Modifying Clause Constructions (NMCCs) in Mandarin across monolingual and heritage bilingual contexts where children received qualitatively and quantitatively different language exposure. NMCCs share some similarities with Relative Clauses (RCs) but are gapless, unlike typical RCs. Since the “gapless RC” was identified in Japanese, Chinese, Korean, etc., syntacticians have attempted to account for it but problems arise since the theoretical framework of RC analysis relied on the existence of a syntactic gap. Matsumoto (1997, 2017) proposed the frame-semantic approach to include both ‘gapless’ and traditional RCs as subtypes of NMCC. Linguists have reached the consensus that European RCs are construed based on filler-gap dependencies, but it remains controversial whether Chinese NMCCs are governed by syntactic operations or semantic-pragmatic constraints.

We used naturalistic speech data of 6 children from three longitudinal corpora: 2 monolingual Mandarin-speaking children from (1) Tong corpus (Deng & Yip 2018) and (2) Zhou2 corpus (Zhang & Zhou 2009), 4 heritage Chinese children from (3) Child Heritage Chinese Corpus (Mai, Matthews & Yip 2017). The general structure of NMCC is illustrated in (1).

(1) [Jia you] de che ‘a car for adding fuel’ [[Clause]modifier de Noun] (Winston 3;05;10)

The results showed that monolingual and heritage children are capable of producing different types of NMCCs around two years old despite their complex noun phrase structure. Null subjects were rarely found in RCs, while the rate of pro-drop was high in other types of NMCCs, suggesting that different restrictions might exist on different types of NMCCs. Alongside the monolingual data, by introducing heritage children into the analysis, the findings will make theoretical and empirical contributions to studies of heritage language as advocated by Polinsky and Scontras (2019).

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# How does the acquisition of Cantonese sentence-final particles by Cantonese-English bilingual children diverge from that of monolingual children?

Jonathan Him Nok Lee, Regine Yee King Lai, Stephen Matthews, Virginia Yip

This study demonstrates how the acquisition of Cantonese sentence-final particles (SFPs) by Cantonese-English bilingual children diverged from that of monolingual Cantonese-speaking children quantitatively and qualitatively. We compare bilingual and monolingual data from two longitudinal corpora: (1) Hong Kong Bilingual Child Language Corpus (N=8, Yip & Matthews, 2007) and (2) Hong Kong Cantonese Child Language Corpus (N=8, Cancorp, Lee et al., 1996). The corpus data were analyzed by sampling children's usage of SFPs at 3-month intervals from 2;0 to 3;0.

Quantitatively, there was no significant difference between the usage of SFPs by bilingual children and monolingual children from 2;0 to 3;0. Bilingual children did not lag behind the production frequency of SFPs. Moreover, this study yields a surprising finding that bilingual children produced a greater diversity of Cantonese SFPs than monolingual children at 2;0. Monolingual children, however, surpassed bilingual children in this regard after 2;6. Although bilingual children "caught up" with their monolingual counterparts later at 3;0, a few particles were not attested in bilingual children.

Qualitatively, monolingual children consistently produced target-like production of SFPs over time (target forms > 90%). However, bilingual children showed a U-shaped accuracy pattern. They first demonstrated higher accuracy at 2;0, then declined at 2;3. After that, they slowly improved and showed no significant difference from their monolingual counterparts after 2;9. Besides, bilingual children demonstrated a less uniform production accuracy pattern of Cantonese SFPs than monolingual children with more individual variation in performance, particularly from ages 2;3 to 3;0.

Additionally, both monolingual and bilingual children created new SFPs. Some of the new particles produced by monolingual children were intelligible to native adults. They seemed to be the cute variants of target forms by using vowel /u/ (e.g. lu1, gu3, etc.). Some others, and those created by the bilingual children did not have consistent corresponding target SFPs.

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# Bilingual prosody: the production of sentence-final particles by Cantonese-English bilingual children

Jonathan Him Nok Lee, Regine Yee King Lai, Stephen Matthews, Virginia Yip

This corpus-based study investigates the prosody of the production of Cantonese sentence-final particles (SFPs) by Cantonese-English bilingual children. We examine the production of 8 Cantonese-English bilingual children from ages 2;0 to 3;0 in the longitudinal Hong Kong Bilingual Child Language Corpus (Yip & Matthews, 2007).

We observe two bilingual intonation patterns in all the children studied: (1) “high pitch followed by a fall” and (2) “low pitch followed by a rise”, regardless of the sentence types. For instance, the intonation pattern (1) resembles an English intonation with high pitch followed by a low boundary tone at the utterance-final position (predominantly SFPs).

We argue that bilingual prosody is the result of cross-linguistic influence from English intonation. We analyze the data using mixed effects logistic regression. A significant effect of language dominance is found on the production of bilingual prosody,  $\chi^2(2, N = 7519) = 21.61, p < .001$ . Post hoc analyses show that Cantonese-dominant bilingual children produced significantly less bilingual prosody than both English-dominant ( $p = .0084$ ) and balanced children ( $p = .0201$ ). Cantonese-dominant children also produced significantly less bilingual prosody than balanced children ( $p < .0001$ ). The results support our hypothesis that the more dominant the Cantonese-English bilingual child is in Cantonese, the less cross-linguistic influence from English occurs, and the less bilingual prosody is produced in Cantonese and code-mixed utterances. Moreover, bilingual prosody was attested significantly more frequently in utterances with SFPs than without SFPs,  $\chi^2(1, N = 7519) = 85.79, p < .001$ .

The above phenomena demonstrate how cross-linguistic influence is manifested in the prosody of Cantonese-English bilingual children when they produce SFPs. We also argue that bilingual children realize intonation patterns (e.g., fall-rise intonation) on Cantonese SFPs as a form of experimentation with prosody.

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# How children in Gibraltar process Spanish grammatical gender: a new look at an old problem

Tamara Gómez Carrero, Raquel Fernández Fuertes

Previous studies have focused on how bilinguals' internal representation of gender shapes their preferences when code-switching. This study investigates switches between a determiner and a noun (1-4) and between a subject DP and an adjectival complement in copulative constructions (5-8). We formally explore directionality (1, 5) and gender agreement mechanisms in the case of Spanish determiner (2-4) and Spanish adjective (6-8) switches.

1. lafem. house / the casa house
2. lafem. houseSP fem. [gender congruent]
3. lafem. book SP masc. [gender non-congruent]
4. el masc. default house SP fem. / book SP masc.                      masculine default
5. the house es blanca fem / la casahouse is white
6. the book SP masc. es pequeño masc. [gender congruent]
7. the house es blanco masc.                      [gender non-congruent]
8. the house SP fem. / the book SP masc. es blanco masc. default masculine default

This investigation differs from previous works in that (i) it is based on formal analyses on gender which argue that speakers' preferences are tied to the features of the languages involved in the switch; (ii) it focuses on switches at two different grammatical points; (iii) it targets child bilinguals' preferences; and (iv) it investigates a different language contact scenario, Gibraltar.

Data have been elicited from 33 L1 English-heritage Spanish and 22 L1 English-L2 Spanish children (age:13-14) from Gibraltar, via an acceptability judgment task. Results show differences within each group, especially with DP switches. As for directionality, English determiner switches (the casa) are favored, especially by the heritage group; congruent DP switches (2) are favored by both groups; and masculine default options (4,8) are favored, especially by the heritage group. This suggests that the status of Spanish is behind these speakers' preferences and that there is a continuum in terms of sensitivity to grammatical gender (L1 Spanish > heritage Spanish > L2 Spanish).

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# Can L2 learners avoid building structure with intervention effect? Active gap creation and intervention effect

Atsushi Miura

This study investigated how intermediate L1-Japanese/L2-English learners ( $n = 16$ ) process subject and object control sentences with particular focus on the intervention effect (e.g., Belletti & Rizzi, 2013).

In the experiment, object and subject control sentences with wh-question were tested using self-paced reading task.

- (1) a. Who did Tom promise to save him from the disaster? (Subject control)  
 a'. Whoi did Tomj promise <who>i [PROi\*/i/k\* to save himk from the disaster]  
 a''. Whoi did Tomj promise [PROi\*/i/k\* to save <who>I from the disaster]  
 b. Who did Tom request to save him from the disaster? (Object control)  
 b'. Whoi did Tomj request <who>i [PROi/j\*/k\* to save himk from the disaster]

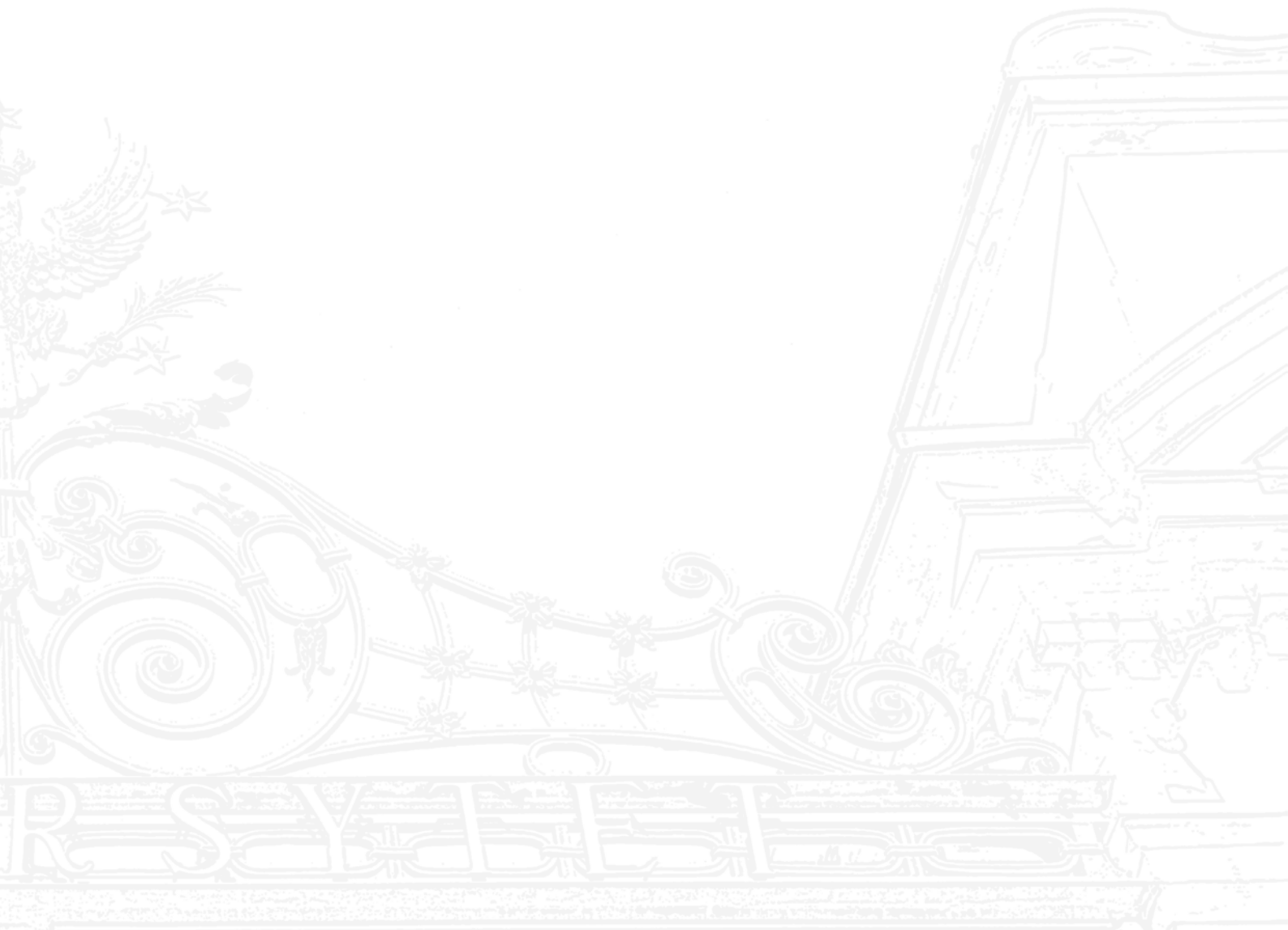
In the sentence (a'), the copy of wh-element is at the position where the relation between PRO and its antecedent was intervened. If the parser may avoid the intervention effect while building the structure, it can be predicted that the reading time at embedded direct object "him" in subject control was longer than that in object control, as shown in (a'').

The results by ANOVA show that there is no significant difference in the critical region (i.e., "him") ( $p = .22$ ), suggesting that the prediction was rejected. Interestingly, the reading time at the embedded verb in subject control structure is significantly longer than that in object control structure ( $p < .03$ ). Based on this result, I speculate that since the intervening element (i.e., wh-copy) intervenes in the relationship between PRO and its antecedent, it may take more time to calculate the argument structure of the embedded verb.

This study concludes that the parser may build a structure reflecting the account of active-gap creation (e.g., Stowe, 1986). Due to the intervention effect, however, the reading time data suggest that it takes more time to calculate the argument structure of the embedded verb.

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[OS4] Bilingual grammars: syntax,  
lexicon and phonology (II)

# Rhetorical questions in German second language acquisition

Miriam Geiss, Maria Ferin, Theodoros Marinis, Tanja Kupisch

Rhetorical questions (RQs), e.g., “Who likes paying taxes?!”, signal speakers’ attitudes and the answer to them is taken to be part of the Common Ground (Caponigro & Sprouse, 2007). RQs and information-seeking questions (ISQs) can have the same syntactic surface structure, but they can be disambiguated through context, prosody or discourse particles (Biezma & Rawlins, 2017). Identifying RQs should be particularly challenging for second language (L2) learners because of different linguistic cues used in the L1 and the L2. The prosody-meaning mapping is known to be especially difficult in L2 acquisition, i.e., subject to L1-influence (Trouvain & Braun, 2021). To our knowledge, there is no systematic work on the acquisition of RQs in L2 acquisition.

This study investigates the comprehension of RQs by L1-Italian learners of L2-German and addresses the following questions: 1. Can L2ers interpret RQs and ISQs in German? 2. Which role do prosody and discourse particles play in the recognition of RQs?

Based on Kharaman et al. (2019), a forced-choice experiment with string-identical wh-questions was developed. Participants had to decide whether they heard an RQ or an ISQ. Questions were manipulated prosodically (RQ vs. ISQ prosody) and with respect to particles (neutral/ambiguous/rhetorical). The rhetorical cue was only crossed with RQ prosody.

41 L2ers (mean age 33.8) and 40 L1 Germans (mean age 26.5) participated in the study. In the fully crossed conditions, we find a significant main effect of group ( $X^2=7.8$ ,  $df=1$ ,  $p<.01$ ) with L2ers being less accurate in identifying ISQs and a significant interaction between prosody and particle ( $X^2=7.32$ ,  $df=1$ ,  $p<.01$ ), i.e., the ambiguous condition favours an RQ interpretation (see Figure). Within the RQ condition, we find a significant effect of particle ( $X^2=23.24$ ,  $df=2$ ,  $p<.001$ ). Overall, the L2ers perform well, thus challenging the assumption that L2-prosody is particularly difficult. Lexical cues can additionally influence the interpretation of the question.

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# Reanalysis of Turkish *ki* in Laz: Subordinate clauses in Laz-Turkish bilinguals' speech

Mehmet Akkuş, Cigdem Sagin-Simsek, Ad Backus

**Aims and objectives/purpose/research questions:** Categorized as an endangered language, the Laz language is spoken in a compact linguistic area by a small number of speakers. The contact between Turkish and Laz is intense in that the latter is only restrained to communication among family members in small speech communities. Contact-induced change, which is an inevitable outcome of Turkish-Laz contact, was investigated in terms of the phonological adaptation of Turkish loanwords in the Laz language. On the other hand, there is no systematic analysis of contact-induced change in the Laz morphosyntactic properties in the relevant literature. This study, thus, presents an analysis of contact-induced language change process concerning subordinate clauses in the Laz variety spoken in the eastern Black Sea in Turkey within the framework of usage-based linguistics. **Design/methodology/approach:** This study encompasses a qualitative conversational 'production' speech data research design utilizing semi-structured interviews with Laz-Turkish bilingual speakers (N=6). **Data and analysis:** In order to examine the informants' use of subordinate clauses in the Laz language, this study adopted a usage-based linguistic framework based on a corpus consisting of 1322 utterances in spontaneous natural interviews with the Laz-Turkish bilinguals. The recordings were transcribed verbatim to detect the use and function of subordinate clauses. **Findings/conclusions:** Our study revealed two significant findings: (i) Turkish *ki* was productively used by bilingual participants in the Laz language, and (ii) the function of Turkish particle *ki* was reanalyzed, coexisting with sui generis Laz particle *-ya* in subordination. This reanalysis probably enriches Laz morphological system.

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# Does language dominance shape ambiguous anaphora resolution in early Catalan-Spanish bilinguals?

Núria de Rocafiguera, Rut Benito, Aurora Bel

Referential election of pronominal anaphora is a non-categorical, non-univocal and complex linguistic phenomenon which requires integrating information from different linguistic domains (Arnold 2010). It has been claimed to be cognitively taxing for bilinguals, considering the cognitive load it involves (Sorace 2016). Previous studies testing the Position of the Antecedent Hypothesis (PAH; Carminati 2002) in pro-drop languages, such as Catalan and Spanish, have attested microvariation: while Catalan shows a clear bias of overt pronouns towards object antecedents, Peninsular Spanish does not display this bias (Bel & García-Alcaraz 2018). The current study aims at assessing anaphora resolution in early bilingual speakers of two typologically similar languages in contact and at studying whether the effects vary depending on language dominance.

Three groups of adult early Catalan-Spanish bilinguals, based on language dominance (34 Catalan-dominant, 31 balanced and 29 Spanish-dominant, mean age 22.09), completed two equivalent forced choice tasks in Catalan and in Spanish (two sessions) by assigning an antecedent (subject vs. object) to a globally ambiguous intrasentential subject pronoun (null vs. overt). Results reveal that Catalan-dominant bilinguals (in both languages) and Spanish-dominant bilinguals (only in Spanish) significantly link null pronouns to subject antecedents and overt pronouns to object antecedents (consistent with PAH's predictions, as in Bel & García-Alcaraz 2018). Spanish-dominant bilinguals show no bias of null pronouns in the weaker language, Catalan. Interestingly, balanced bilinguals do not display any bias for overt pronouns neither in Catalan nor in Spanish and differ significantly from Catalan-dominant bilinguals. These findings are discussed in light of competing resources that may result in an overextension of overt pronouns' properties (Sorace 2016) and of coactivation (Kroll & Navarro-Torres 2018) among bilinguals. The asymmetries between Catalan-dominant and Spanish-dominant bilinguals and the fact that null pronouns might also be affected are further addressed, as well as the potential role of bilingual experience.

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# The role of bilingual experience and temporal conjunctions in modulating the interpretation of null and overt subject pronouns in Spanish: a partial replication of Tsimpli et al. (2004)

Fernando Martín-Villena, Cristóbal Lozano, Antonella Sorace

Following the formulation of the Position of Antecedent Strategy (PAS) for native Italian (Carminati, 2002), multiple studies on L1/L2 Spanish have failed to replicate the attested division of labour of null and overt pronouns in selecting subject and object antecedents, respectively. While some studies have only reported strong subject-null coreference patterns (Alonso-Ovalle et al., 2002; Keating et al., 2011), others have only found a robust object-overt association (Chamorro, 2018; Chamorro et al., 2016). These conflicting results have partially been explained due to the manipulation of variables such as clausal order (main-subordinate/subordinate-main), type of task used (acceptability/forced-choice) or type of processing measured (online/offline), although results are still inconclusive. Interestingly, other factors such as bilingual experience (Sorace, 2016), due to the cognitively taxing nature of this phenomenon since it requires integration of syntactic-discursive cues, and the type of conjunction linking main-subordinate clauses (Chamorro, 2018), which has been previously unexplored, have been claimed to modulate interpretation patterns in L1 Spanish. To investigate this, 22 L1 Spanish natives and 23 highly-proficient L1 Spanish-L2 English late bilinguals completed an offline picture verification task in Spanish adapted from Tsimpli et al. (2004), where we additionally counterbalanced the temporal conjunctions joining main-subordinate clauses (cuando-‘when’/mientras-‘while’). Participants selected one of three pictures (subject/object/external referent) that best matched their interpretation of 20 subordinate sentences containing ambiguous null or overt pronouns. Results confirmed that both groups followed the PAS, but bilinguals showed a counterintuitively (and significantly) larger preference for overt pronouns to corefer with object antecedents. Additionally, the type of conjunction appeared to modulate interpretation patterns, cuando largely disfavours coreferentiality of null pronouns with subject antecedents when compared to mientras, a factor which has been unexplored in previous research and which can explain conflicting previous results. We discuss the implications of our findings for anaphora resolution in bilinguals and monolinguals.

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# The bilingual advantage: performance of the non-word repetition test

Eglė Krivickaitė-Leišienė, Ineta Dabašinskiė

Research in the field indicates that bilingual children of immigrants experience some disadvantages: they often do not reach the developmental milestones in their linguistic competence of L1 at the same pace as monolingual children (Paradis 2010). It is also observed that linguistic tasks are often performed more poorly by bilingual children than monolinguals (Gibson, Jarmulowicz, Oller 2019).

The non-word repetition test is important in monitoring the child's language development. At a young age, the child's ability to repeat a new polysyllabic word that child hears for the first time shows his ability to learn new words and broaden his lexicon (Gathercole 2006).

The Lithuanian non-words were designed with regard to the structural characteristics of Lithuanian words (word length, vowel and consonant frequency, and syllable structure).

The study investigated the accuracy of production of the non-word repetition performance of bilingual and monolingual children, 125 children in total. The children were divided into 3 groups:

- 1) TD monolingual Lithuanian children (mean age 6;1);
- 2) TD bilingual children with Russian (L1) and Lithuanian (L2) (mean age 6;3);
- 3) TD bilingual children with Lithuanian (L1) and English (L2) (mean age 6;0).

The analysis shows that the results of bilingual Russian-Lithuanian children are very similar to the results of monolinguals, but the results of bilingual Lithuanian-English children are better than the results of monolinguals. The length of the word was found to be an important indicator: both bilingual groups repeated four-syllable words better than monolinguals. The results of the word complexity have demonstrated that both bilingual groups repeated consonant clusters better than monolinguals.

The obtained results reveal that bilinguals demonstrate better performance of longer and structurally more complex non-words. This study suggests that bilinguals have two phonological systems and therefore a greater experience with phonology, which ensures better performance in the task.

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# The production and comprehension of grammatical gender in Welsh-English bilinguals

Tesni Galvin, Vivienne Rogers

Grammatical gender in Welsh is seen as a persistent area of difficulty in child bilingual acquisition as it is not encoded on determiners but with adjectives and various mutations. However, in adult control data from North Wales, the system is well-established (Binks & Thomas, 2019; Gathercole et al., 2001; Gathercole & Thomas, 2005; Thomas, 2001; Sharp, 2012; Thomas & Gathercole, 2005). This study extends these findings to include speakers from other parts of Wales to establish whether grammatical gender is as robust in speakers who are typically exposed to less incidental/environmental Welsh and to consider the effect of various individual differences. Our research questions are:

1. Do Welsh speaking adults have productive and receptive command of Welsh grammatical gender?
2. Do the following individual factors; dominance, proficiency and cognitive control affect the productive and receptive command of grammatical gender in Welsh speakers?

A battery of tasks was administered including the Bilingual Language Profile (BLP: Gertken et al., 2014), elicited imitation task (Deygers, 2020), comprehension task (Binks & Thomas, 2019), production task (Sharp, 2012), productive vocabulary task, Flanker task (Eriksen & Eriksen, 1974) and two cloze tests (English and Welsh). Data were collected from 40 self-reported Welsh/English participants (19 females; age: 19-64).

Overall group results show good productive ( $M=74\%$ ,  $SD=15.6$ ) and receptive ( $M=77\%$ ,  $SD=18$ ) command of Welsh gender, suggesting a well-established gender system (Binks & Thomas, 2019; Sharp, 2012). Using linear regression analyses, English and Welsh proficiency scores accounted for 15% each of the variance in the production task, whereas dominance accounted for 16.5% of the variance in the comprehension task, suggesting a complex relationship between these factors. Further analysis and discussion of the implications for Welsh will be presented.

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# The relation between L2/L3 expertise and L1 error detection – the evidence from eyetracking

Małgorzata Szupica-Pyrzanowska

Languages are dynamic entities undergoing different processes in multilingual repertoires. The influence of first language on second and third has been studied extensively in off-line experiments as well as online studies capturing participants' responses in real time (Liszka, 2004; Roberts et al., 2008; Roberts & Liszka, 2013). However, the reverse pattern, the L2/L3 influence on L1 has been predominantly investigated off-line (Cook, 2003; van Hell & Dijkstra, 2002). In the present online study, we went one step further to determine whether expertise in L2 (English) and L3 (German/French) facilitates or impedes one's sensitivity to L1 (Polish) errors. Also, we intended to investigate how different L1 error types (lexical, inflectional, orthographic) interact with L2/L3 expertise. Two groups participated in the study, trilingual linguistics students/prospective conference interpreters (N = 20, mean age 21,4 years) and non-linguistics students (N = 20, mean age 20,6 years). The errors were embedded in sentential contexts controlled for number of syllables. Target lexical items were controlled for word length, lexical frequency, and token position in the sentence. The participants silently read the sentences for comprehension at their natural pace. We used the SMI RED eye tracker and a sampling rate of 250 Hz. Early and late eyetracking measures were averaged across participants. The results indicate that L2/L3 expertise facilitated an increased sensitivity to L1 errors. Linguistics students outperformed their non-linguistics counterparts and detected more errors (in line with Bassetti & Cook, 2011; Bialystok, 2001). The between-group difference was significant on all eyetracking measures in all error categories. The results suggest that the subsequent languages have a facilitative effect on L1 error detection. Prospective interpreters are trained to pay attention to L2/L3 errors. We argue that they (re)transfer this metalinguistic skill to L1. Thus, it is feasible that enhanced metalinguistic awareness is a by-product of their L2/L3 expertise.

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# The Hunt for the Use of ‘Left’ and ‘Right’ in the Use of Spatial Descriptions in Bilingual Minds: Taiwan as a Test Case

Yen-Ting Lin

This paper investigates the use of spatial relators meaning ‘left’ and ‘right’ in the use of spatial descriptions in bilingual speakers of Taiwanese Southern Min (TSM) and Mandarin Chinese (MC) compared to monolinguals. Despite being members of the Sinitic language family, TSM shows a unique polysemy pattern: conflating ‘front/back’ with ‘left/right’, with a preference for geocentric representations in small scale space, whereas MC speakers strongly prefer egocentric and intrinsic frames. Extended the research design of Bohemeyer et al (2015), a referential communication task attempted to elicit more reference to the regions in the sagittal and coronal planes of the reference entities across populations. The data collection was collected from 114 adults—29 TSM and 25 MC monolinguals and 30 sequential and 30 simultaneous TSM-MC bilinguals. In terms of the response strategies for the spatial relators ‘left’ and ‘right’ by language populations, TSM monolinguals still maintained their geocentric preference in this task and rarely applied the left-right axis externally to the stimulus objects in either intrinsic or relative descriptions. MC monolinguals also dispreferred ‘left’/‘right’ terms with intrinsic frames, but used them very frequently with relative frames. While the two bilingual populations showed an apparent increase in the use of relative frames, they also showed an increased level of intrinsic frames as a new pattern. Mixed effects regression models indicated significant effects of first and second language use in predicting the use of these relators with respect to the left-right and front-back axis in the use of relative and intrinsic reference frames. This research makes seminal contributions to the investigation of the role of bilingualism in spatial cognition by examining the language-specific features in verbal representations of space across monolingual and bilingual speakers of Mandarin and Taiwanese Southern Min.

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# Beneficial or detrimental? The effect of bilinguality on the maintenance of retroflexion in early Mandarin-Min bilinguals

Janice Fon

Although Mandarin is the official language of Taiwan, most speakers have at least some knowledge of Min (Huang, 1993), a substrate language once served as the lingua franca of the island (Ang, 1985). Many Taiwan Mandarin speakers can thus be considered as various degrees of Mandarin-Min early bilinguals. Although both languages belong to the Chinese family, they are phonologically distinct and mutually unintelligible. Mandarin includes a set of voiceless sibilants demonstrating a retroflex-dental contrast, /tʂ tʂʰ ʂ/ vs. /ts tsʰ s/, while Min incorporates only the dental subset. Previous studies showed that Min speakers of L2 Mandarin often substitute retroflexes with their dental counterparts, implying negative transfer (Kubler, 1985a, 1985b). However, Kuo & Anderson (2012) argued that early bilinguals have heightened structural sensitivity of their two languages due to rich bilingual experiences, which should allow them to maintain the two systems as distinct. This study thus investigates whether different degrees of bilinguality among early Mandarin-Min bilinguals would show differential influences from Min on their pronunciation of the Mandarin retroflex triplets. Twenty early Mandarin-Min bilinguals were recruited to read bisyllabic Mandarin words of sibilant initials embedded in carrier sentences. Using a Likert scale, half considered themselves as fluent speakers of both languages (“equal bilinguals”), while the other half were fluent only in Mandarin and rarely used Min (“unequal bilinguals”). Results showed that only two equal bilinguals made various degrees of retroflex-to-dental merges while as many as half of the unequal bilinguals did. For speakers showing a categorical merge, equal bilinguals tended to make a distinction between dental and deretroflexed sounds, while unequal bilinguals did not. This finding thus counters the long-standing (mis-)belief of Min exerting a negative transfer on Mandarin among equal Mandarin-Min bilinguals, implying bilingual facilitation prevails over negative transfer among early bilinguals, even if the latter does exist.

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[OS5] Bilingual grammars: syntax,  
lexicon and phonology (III)

# Production of English wh-questions in Italian-English late bilinguals

Jessie Quinn, Michaela Vann, Virginia Valian, Giulia Bencini

The shared syntax model of bilingual syntax predicts that bilinguals share structural representations across their languages provided these structures are similar enough (Hartsuiker & Bernolet, 2017). Two factors that play a role in the abstraction and integration of a given structure are L2 proficiency and the structure's frequency. Per this account, as L2 proficiency increases, speakers' syntactic representations become more abstract. The goal of the present study was to test the shared syntax model by investigating the production of English main and embedded wh-questions in Italian-English late bilinguals. While main clause wh-questions require subject-auxiliary inversion, embedded clause wh-questions do not permit such inversion and speakers must apply "cancel inversion" in embedded structures. Previous research has found that L2 speakers produce correct, inverted main questions and incorrect, inverted embedded structures such as, "I wonder where is he going," possibly showing an overgeneralization of the subject-auxiliary inversion rule from main to embedded clauses (Pozzan & Quirk, 2014; Pozzan & Valian, 2017). In two elicited written production tasks, 96 L1 Italian native speakers with intermediate/advanced levels of English were asked to produce main (Experiment 1) and embedded (Experiment 2) wh-questions with different wh-elements: the adjuncts where and why and the arguments what, who, and the less frequently studied whose. The relationship between English language proficiency and target (correct) inversion was found to be different in Experiments 1 and 2. In Experiment 1 rates of target inversion in main questions increased as a function of proficiency, whereas in Experiment 2 rates of target cancel inversion in embedded questions decreased as a function of proficiency. We attribute this novel finding to stronger L2 abstract representations containing inversion in main clauses causing greater overgeneralization in embedded clauses.

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# The Acquisition of Verb-Particle Construction in Hong Kong Bilingual Children and American Heritage Chinese Children

Ka Ho Kan, Ziyin Mai, Virginia Yip

English verb-particle construction (VPC) is susceptible to cross-linguistic influence (CLI) in bilingual acquisition (Yip & Matthews, 2007). However, to what extent the observed CLI interacts with the bilingual children's dual input conditions is unknown. We investigate this issue by analyzing VPCs in three groups of bilinguals with different input conditions (1;3-4;6): Chinese-dominant Cantonese-English bilinguals in Hong Kong ( $n = 6$ ), non-Chinese dominant Cantonese-English bilinguals in Hong Kong ( $n = 3$ , Yip & Matthews, 2007, Wong, 2010) and Mandarin-English heritage bilinguals in the U.S. ( $n = 3$ ) (Mai, Matthews, & Yip, in prep).

English VPC is formed by a transitive verb, a particle, and a direct object. As shown in Table 1, VPCs can appear in split and non-split orders when the object is a lexical NP, as in (1a) and (3a), but they are obligatorily split when the object is a pronoun, compare (1b) and (3b). Chinese (both Cantonese and southern Mandarin) has Directional Verb Complement (DVC), which is a structural and translational counterpart of the English VPC. Note that the Chinese DVC is obligatorily non-split, whether the object is a lexical (4a) or pronominal NP (4b), hence the ungrammaticality in (2a) and (2b) (Yiu, 2013).

English VPCs and Chinese DVCs overlap in the non-split order, which is a potential locus of CLI. We extracted and analyzed 1398 utterances with VPCs in the bilingual children and their monolingual counterparts (Brown, 1973), and found that the Chinese-dominant bilinguals, unlike the monolinguals, produced the non-split VPCs earlier and more frequently than the split VPCs, suggesting CLI. Additionally, their non-split VPCs were more frequent than those produced by the other two bilingual groups (Figures 1 & 2), suggesting effects of different input conditions. Our findings suggest that English VPC is an area where CLI interacts with input conditions in bilingual acquisition.

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# The Facilitatory Role of Cognates in Second Language Syntax Learning

Noèlia Sanahuja, Kepa Erdozia

**Introduction.** According to Hopp's (2014) Lexical Bottleneck Hypothesis, difficulties in second language (L2) lexical processing lead to non-target syntactic computations. In line with this hypothesis, cognates—which are processed faster than non-cognates, as defined by the cognate facilitation effect—ease L2 syntactic processing (Miller, 2014; Hopp, 2017). The current study investigated, for the first time, whether cognates additionally facilitate L2 syntax learning. Our hypothesis claimed that the use of a cognate vocabulary would ease L2 grammatical rule learning.

**Methods.** Forty Spanish natives with no previous knowledge of Basque (Mage = 22) learnt an artificial language drawing on that language. First, a pre-test consisting of a sentence-picture matching task corroborated that participants were not familiar with Basque. Then, they were split into two groups. Each group explicitly learnt (i) either 30 Spanish-Basque cognates or non-cognates (20 nouns, 10 verbs) with the help of a picture-matching task and (ii) a case-marking rule yielding SOV and OSV sentences. A second sentence-picture matching task tested their ability to apply the rule, assessed by accuracy rates and reaction times. A post-test made up of previously unheard cognate sentences further tested whether non-cognate learners' rule learning improved when the vocabulary became cognate with their native language.

**Results.** The findings corroborated the hypothesis. Cognate learners significantly outperformed non-cognate learners in terms of accuracy and reaction times in the test and the post-test (both  $p < .0001$ ). Furthermore, non-cognate learners' performance significantly improved by 15% and 1.15 seconds ( $p < .0001$ ) in the post-test.

**Conclusions.** This study sheds light on the highly overlooked relationship between lexical co-activation and syntax learning. The finding that cognates facilitate L2 rule learning aligns with the Lexical Bottleneck Hypothesis and further extends its postulates from L2 syntax processing to L2 syntax learning.

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# When [-]&[-] and [+]&[-] is a plus: adding on to the nature of subjects in contact

Sonja Mujcinovic, Raquel Fernández Fuertes

[+Null subject] languages (e.g., Spanish and Bosnian) are said to be superset to [-null subject] languages (e.g., English and Danish), in that superset languages have two possible subject realizations (over/null), whereas subset languages have one (the phonologically realized) (i.e., Holmberg 2005; Sheehan 2006). Based on the so-called lexical specialization approach, Licerias & Fernández Fuertes (2019) argue that the superset language causes acceleration in the acquisition of overt subjects (i.e., the shared option) in the subset language, accounting both for directionality and effect of crosslinguistic influence. When the two languages in contact only allow overt subjects, an acceleration should also take place, since the same option is reinforced. Taking these proposals as a point of departure, this study contributes to the analyses of transfer in the case of typologically similar and typologically different language interactions from three perspectives: L1 (typologically similar or not to the L2), modality (written/oral) and time of instruction (2/4 years). To do so the L2 English sentential subjects produced by 26 L1 Spanish, 26 L1 Bosnian and 26 L1 Danish children are analyzed. Each of these L2 English participant groups are divided into two proficiency groups depending on the time of instruction received (2 or 4 years). Written production data (story-telling) were obtained by means of a wordless picture sequence adapted from the Narrative Norms Instrument (Schneider et al. 2005) which participants had to narrate. Oral production data were obtained through a semi-guided individual interview which was audio recorded and then transcribed in CHAT format (CHILDES, MacWhinney 2000). The data were classified in terms of grammaticality (i.e. syntax) and adequacy (syntax-pragmatic interface). In the L2 acquisition of English sentential subjects, the results show that typological similarity plays a more prominent role than time of instruction and that adequacy results in a better predictor of L2 attainment.

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# Inalienable possession among English-speaking L2 learners and Heritage Speakers of Spanish

Laura Solano, Alejandro Cuza

The expression of inalienable possession in Spanish has been found challenging for L2 learners and heritage speakers (Giancaspro & Sánchez, 2021; Montrul & Ionin, 2012; Pérez-Leroux et al., 2002). Montrul & Ionin (2012) found that adult heritage speakers and adult Spanish L2 learners do not exhibit transfer in the interpretation and acceptance of inalienable possession. More recently, however, Giancaspro & Sanchez (2021) found more variability in production than in intuition among advanced and intermediate heritage speakers of Spanish compared to bilingual controls living in the U.S. Pérez-Leroux et al. (2002) found high acceptance of both possessive and definite determiners in inalienable possession context among L2 learners.

We add to previous work by examining and comparing L2 learners and heritage speakers' strategies for inalienable possession in structures with pronominal verbs requiring the use of the clitic *se* (e.g. *Rosa se lavó la mano* vs. *Rosa lavó su mano*). We elicited both production (via an Elicited Production Task) and interpretation (Contextualized Multiple Choice Preference Task) data from a total of 54 participants (22 HSs, 16 L2 learners, 16 native speakers). The results of both tasks showed significant variability among the L2 learners compared to the heritage speakers and the control group with inalienable NPs ( $\chi^2_k = 167.3, p < .001$ ), as predicted. The L2 learners produced few instances of *Se+DefDet* structures and instead favored the use of *Null Se+PossDet*. Regarding the heritage speakers, the results showed no significant differences compared to the native baseline. Both groups behaved similarly in their patterns of production and interpretation of *Se+DefDet* structures, despite some instances of *Null Se+PossDet* with certain lexical items. It appears as if the speakers move along a continuum in their expression and interpretation of inalienable possession constrained by the type of structure, proficiency, transfer effects and language experience.

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# Copula verbs in Bulgaria/Spanish bilingual and Spanish monolingual children

Radoslava Stankova Laykova

This study investigates the acquisition of the Spanish and Bulgarian copula verbs in a 2L1 Bulgarian/Spanish child. I will concentrate, firstly, on the production and omission of the different copula verbs regarding the type of predicate they appear with, and, secondly, I will compare the data of the 2L1 Bulgarian/Spanish child with her Spanish monolingual counterpart (no L1 Bulgarian data are available).

Copula verbs are a link between the subject and the predicate in a sentence contributing morphosyntactic information such as verbal inflection (Becker 2000), therefore, copulas cannot define predicates by themselves (Archie et al. 2019). Consequently, they are followed by different phrases grouped in two types of predicates: IL and SL predicates (Carlson 1977). Furthermore, copulas do not contribute any lexical meaning to the sentences as they are semantically light or empty, but they are obligatory.

Studies on L1 Spanish acquisition establish that there is not a consistent pattern of copula omission with either type of predicate (Fernández Fuertes and Licerias 2010; Stankova 2016; among others). Finally, studies on 2L1 English-Spanish acquisition show that the rates of omission in Spanish bilingual data are scarce (Fernández Fuertes and Licerias 2010; Silva-Corvalán and Montanari 2008).

For this study, the Spanish data from the FerFuLice corpus are analyzed as well as the Bulgarian and Spanish data from the Stankova corpus. For the 2L1 vs L1 comparison, the Marrero and the Ornat corpora from CHILDES (MacWhinney 2000) are considered.

The preliminary results show that in Bulgarian the copula omission is linked to predicate type, while in Spanish, it is not. From a developmental perspective, no bilingual effect is observed in the Spanish of the bilinguals.

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# The development of NPs in a German-Polish bilingual child

**Anna Jachimek**

Our talk will focus on the development of NPs in German and Polish as simultaneously acquired first languages. On the basis of a longitudinal corpus consisting of 160 weekly video recordings of spontaneous speech in both languages, we examined the acquisition and the use of referring expressions in a bilingual child between age 2;0 to 4;0.

Whereas the referential system of German is primarily based on the opposition of definite and indefinite articles, Polish, a language with no articles, does not have a grammaticized distinction between definite and indefinite NPs. The status of the referent is mostly marked by word order (Szwedek, 1974). Nevertheless, under specific circumstances, demonstrative pronouns (e.g. *ten N*, 'this N') and indefinite pronouns (e.g. *jakiś N*, 'some N') can be combined with nouns. Since the German system is comparatively transparent and strongly centers around the referential NP, we assume that the acquisition of articles in German leads to an overuse of adnominal pronouns in Polish. To validate this issue, the bilingual data were compared with data of a monolingual child of the same age.

Our results show that the bilingual child overuses demonstrative determiners in Polish. They never make up more than 15% of all NPs in the monolingual child, but up to 25% in the bilingual one.

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[OS6] Language transfer

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

Zahra Hamadah, Fraibet Aveledo, Jeanine Treffers-Daller

Acquiring English articles by L2-English users/learners has been known to be difficult. This difficulty seems to be mainly linked the English article complex semantic nature; and the influence of the first language (L1) of the speaker. It has been proven that lack of/difference in L1 article system reveals certain patterns that seem to be similar to that of L1 patterns. Transfer has also been associated with the age of L2-English acquisition (AOAL2). It is often said that L1 transfer is more prominent in late and adult learners' use of L2 (Ionin, Zubizarreta, & Philippov, 2009). Most of the current studies in the acquisition of English articles involve adult speakers and only focused on examining the impact of L1-Arabic on L2-English. Much less is known about transfer from L2-English onto L1-Arabic and about bilingual children's knowledge and use of English and Arabic articles.

The current study focuses on bidirectional transfer in the use of Arabic/English articles in Arabic-English bilingual adults and children (age:7-12) and two groups of monolingual (Arabic and English controls). Article use was analysed with two tasks: a story-telling and a sentence-repetition task (SRT) in both languages. In the SRT the different semantic were carefully controlled.

The results of the narrative task indicated some aspects of L1 transfer which was mainly exhibited in the high number of a/an omission. Between-group analysis, however, suggests that L1-transfer is more prominent in adults than in children. In the SRT, significant differences were found in accuracy measures between the groups. For the bilingual adults, AOAL2 was negatively related to accuracy in generic and [indefinite, non-specific] contexts and the general accuracy of using „a/an” and “zero”. Some participants' errors were related to problems with mastering plural forms in English. Moreover, no evidence was found for transfer from L2-English on the use of L1-Arabic articles.

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# Phonological and phonetic transfer in L2 prediction based on lexical stress

Laura Fernandez Arroyo, Nuria Sagarra, Cristina Lozano-Argüelles

Spanish speakers use lexical stress to predict verbal tense through the association of a cue (stress) to an outcome (verbal tense suffixes, Lozano Argüelles et al., 2020). L2 speakers need time to learn the association (Sagarra & Casillas, 2018). The factors constraining this process are still unclear. This study compares phonological and phonetic transfer effects on L2 speakers' ability to acquire lexical stress as a cue to Spanish verbal tense suffixes. Spanish stress is contrastive and marked by a higher pitch. English speakers were tested for transfer of contrastive function (phonological transfer); Mandarin Chinese speakers for transfer of pitch sensitivity (phonetic transfer).

64 Mandarin Chinese and 65 English learners of Spanish at different proficiencies and 30 Spanish monolinguals completed a linguistic anticipation task in Spanish. Participants saw a verb in present tense (salta "s/he jumps") and another in preterit tense (saltó "s/he jumped") on the screen. In present tense, the first syllable is stressed, and pitch is naturally higher; in preterit tense, the first syllable is unstressed, and pitch is lower. Participants heard sentences containing one of the forms (El ladrón saltó la valla "The thief jumped over the fence") and chose it as fast as possible while their eye movements were recorded.

All speakers fixated on the target upon hearing the initial syllable, suggesting they anticipated the suffix. In the L2 groups, fixations increased over proficiency although never reached monolingual-like levels. English speakers predicted earlier than Chinese speakers. Results indicate phonological transfer (i.e. lexical contrast) is helpful in acquisition of lexical stress and its association to tense suffixes. Phonetic transfer is less helpful due to the different role of pitch in lexical tones. Inability to predict monolingual-like suggests transfer effects remain as noise in the L2 phonological category. Findings are discussed within current theories of L2 phonology acquisition.

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# Full L1 Transfer at the Syntax-Pragmatics Interface?: Evidence from Scalar Implicature

Takayuki Kimura

Scalar implicature (SI) is a kind of implicature, which implies more than ‘what is said’ (Grice, 1975). ‘Some (of the)’ is a scalar element, which is weaker than all (Horn, 1972), and logically, some can mean possibly all. However, under a pragmatic principle (Grice, 1975), a speaker chooses the most informative expression among alternatives, meaning that a hearer infers that stronger alternatives (e.g., all) are false. Thus, the function of SI is to produce a pragmatic interpretation (some but not all) by ‘inhibiting’ a logical one (some and possibly all). Similar to English, SI works in Japanese: *ikutsuka* (some) logically means possibly all, but the pragmatic maxim inhibits the interpretation (Snape & Hosoi, 2018).

A previous study showed that intermediate and post-intermediate Japanese learners of English (JLEs) successfully computed SI (Snape & Hosoi, 2018). By contrast, Kimura and Wakabayashi (2019) speculate that elementary JLEs failed to calculate SI. This study explores this possibility.

I administered a truth-value judgment task to 43 native speakers of English (NSEs) and 43 elementary JLEs. The main test sentences have some NPs subjects, presented with either of the following picture types: i) some but not all objects are in the colored circle; or ii) all objects are in it. Four tokens were prepared per each condition with 24 fillers (e.g., all NPs subjects).

Results showed that NSEs gave a pragmatic answer at 76%. In contrast, elementary JLEs produced the pragmatic answer at only 22%. Furthermore, individual analyses revealed that only 16% of elementary JLEs succeeded in producing pragmatic answers, which is quite low compared to intermediate JLEs reported in Snape and Hosoi (2018) (53%). These results suggest that properties at the syntax-pragmatics interface do not undergo L1 transfer at early stages of L2 acquisition. Further implications on the theory of L1 transfer will be discussed.

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# Perception of Confusable Sounds of Glaswegian English, Hindi and Indian English

Divyanshi Shaktawat

Perceptually similar or confusable sounds are known to be a source of language change by causing interference and assimilation (Flege, 1995; Hall & Hume, 2013). In a previous study (Shaktawat, 2018), I found evidence for transfer of phonology of Glaswegian English (L2) on Hindi and Indian English (both L1) in a group of immigrant bilingual Glasgow-Indians ‘Glaswasians’ (Alam, 2006). I predicted that Indian English must undergo more transfer from Glaswegian English because they are dialects of the same language and hence more perceptually similar to each other than either is to Hindi (Trudgill, 1986). However, the results were mixed— while some Hindi sounds/features became more Glaswegian, some Indian English sounds/features did not and vice versa.

The present study investigated which native language is judged as perceptually more like Glaswegian English by four native speakers each of (1) Glaswegian English and (2) Hindi and Indian English. These two groups of listeners participated in an AXB discrimination task. In each trial, they were presented with three confusable sounds— one each of native Glaswegian English, Hindi and Indian English and they decided which native sounds— Hindi or Indian English— were the most similar to Glaswegian sounds (/p,t,k,b,d,g,u,l/). The data was collected online using OSWeb and the results indicated that Glaswegian listeners heard Hindi as more similar to Glaswegian English, whereas Indian listeners leaned more towards Indian English. This goes against the prediction that sounds belonging to dialects of the same language may not necessarily be perceived as similar to each other.

The same task will now also be given to Glaswasians, who pose a situation of contact between Glaswegian English, Hindi and Indian English. Their responses will help to identify the sounds within each native language which are more perceptually alike Glaswegian English and if that translates to their production of native languages.

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Shaktawat, D. (2018). *Losing Touch: A Psycholinguistic Approach to Backward Transfer of Glaswegian English on Hindi and Indian English*. University of Glasgow.

# Backward Transfer of Glaswegian English on Hindi and Indian English

**Divyanshi Shaktawat**

This study investigates phonological backward transfer in bilingual immigrant Indians in Glasgow or 'Glaswasians' (Alam, 2006). Bilinguals' languages interact and influence each other in a shared phonetic space and this interaction may over time lead to an assimilation or dissimilation of sound categories (Flege, 1995). In this case, assimilation relates to the L1 sound becoming more like the similar L2 sound or being completely replaced by it and dissimilation relates to the creation of a separate L2 sound category when the two similar L1 and L2 sound categories drift away from each. The study explored whether and how the sound systems of their native language (Hindi) and dialect (Indian English) were influenced by that of the foreign language and dialect—Glaswegian English. Two groups of speakers—Glaswasians and Indians were recorded reading sentences in English and Hindi. Three types of sounds—/b, d, g/, /l/ and /u/ were selected to be studied based on their phonemic similarity and variance in terms of acoustic features in the L1 and L2. The acoustic cues—pre-voicing and relative burst intensity for /b, d, g/; F1 and F2 for /l/; F2 and F3 for /u/—were tested against Group (Glaswasian and Control) and Language (English and Hindi). The data was analysed acoustically and statistically in PRAAT and R and compared for the two groups. A repeated-measures ANOVA and t-tests were used to test statistical significance. The study showed mixed results indicating assimilation, partial assimilation, dissimilation and no influence: /u/ in both native languages and /l/ in Indian English underwent complete assimilation, that is, they had become more Glaswegian; voiced stops /b, d, g/ showed partial assimilation in both languages, that is, they showed assimilation for relative burst intensity but no change for pre-voicing, whereas /l/ in Hindi underwent dissimilation as it became more native-like.

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# Conceptual transfer in L2 motion events by Japanese and Chinese learners of English

Jiashen Qu

Informed by Talmian typology, previous studies on L2 motion events mainly focused on how L2 learners map manner (cause) and path onto lexical items within a clause. This study shifted the research focus onto how learners construct the discourse of motion events in L2 to examine the density of the semantic components at the multi-clausal level, which include manner salience, path segments, ground salience and attention to dynamism.

15 Japanese (verb-framed language) learners of English, 15 Chinese (equipollently-framed language) learners of English and 15 native speakers of English (satellite-framed language) participated in this study. I used a wordless picture book to collect the participants' written narratives of motion events in both L1 and L2. The analysis was conducted by comparing English narratives of the L2 learners to that of the native speakers, with reference to L1 data.

Using linear mixed effects models, I statistically demonstrated that Japanese and Chinese learners transferred their L1 conceptual planning processes in constructing the L2 discourse of motion events. Based on Jarvis (2007), von Stutterheim and Nüse (2003), I argued that these conceptual planning processes include selection, segmentation as well as perspective-driven structuring.

Moreover, this study also showed that the restructuring of conceptual planning processes partially happened in L2, evidenced by the fact that the L2 learners' performances on path segments, ground salience and attention to dynamism were more English-like compared to L1 data. However, the case of manner salience stood out, for no restructuring was detected in L2 data. Drawing on the conceptual transfer hypothesis (Jarvis, 2007), I discussed that acquiring manner salience of S-languages requires learners not only to master an array of finely grained manner lexicon but also to restructure the categorization of manner in relation to motion.

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# What is spatial about a book? Textbook evaluation in terms of cultural transfer using GIS tools.

**Paulina Wacławik**

The intersection of linguistics, pedagogy and GIS offers the researcher a unique perspective on the processes occurring in the culture. In my study, I attempt to identify the possibilities and limitations of GIS in the evaluation of the language coursebooks and other language teaching materials in terms of language transfer. By focusing on the cultural component, particularly words and phrases connected with space, I seek to find traces of syntactic and lexical transfer and, most importantly, transfer of categories. The preliminary study, which involved an analysis of chosen units from the coursebooks printed by the Japanese publishers for the Japanese students, allowed for the identification of the three key areas to be investigated: 1) a transfer of cultural categories, including types of instruction and metalanguage, 2) a voice in the discussion on the role of the target culture in teaching language, and 3) potential implications of geographical location on the language and culture content included in the coursebooks. To operationalize the measures necessary to approach the three topics, we need tools combining spatial and visual aspects of the book with its textual components. Geographic Information Systems meet that demand, which I attempt to prove in my presentation.



[OS7] L3 development

# Adapting the Vocabulary Knowledge Scale to measure L3 lexical learning

**Małgorzata Foryś-Nogala, Breno Barreto Silva, Agata Ambroziak, Olga Broniś, Aleksandra Janzarska, Dominika Królak, Agnieszka Otwinowska-Kasztelanic**

The Vocabulary Knowledge Scale (VKS; Wesche & Paribakht, 1996) is a research tool which allows for assessing „levels of L2 lexical knowledge”. Still, the tool cannot be used in research on L3 acquisition to account for cross-linguistic effects in trilingual students’ vocabulary. For instance, using the original VKS, we cannot investigate whether cumulative L1-L2-L3 cross-linguistic similarity influences students’ L3 word knowledge differently from the L2-L3 similarity. In this methodological study, we piloted a research tool adapted from the VKS whose aim was to activate three languages: L1-Polish, L2-English and L3-Italian. Similarly to the VKS, our L3-VKS tapped into „levels of vocabulary knowledge”. Additionally, it controlled for guessing based on cross-linguistic L1-L2-L3 orthographic similarity.

Using the Latin-square design, we created four versions of the L3-VKS in terms of the language of word presentation (L1-Polish or L2-English) and instructions (L1-Polish or L2-English): L1-L1, L1-L2, L2-L1 and L2-L2. Each tested the knowledge of the same set of L3-Italian words: 16 non-cognates, 16 L1-L2-L3 cognates, and 16 L2-L3 cognates. All words were controlled for part of speech (adjective, noun), L1-L2-L3 word frequency (SUBTLEX; [crr.ugent.be/programs-data/subtitle-frequencies](http://crr.ugent.be/programs-data/subtitle-frequencies)), concreteness, length, and Levenshtein distances for cognates. We tested the four L3-VKS versions in an online study with 62 Polish upper-intermediate students of L2 English and L3 Italian ( $M_{age}=21.74$ ,  $SD=2.09$ ), controlling for their L2 and L3 knowledge by DIALANG tests in English and Italian ([dialangweb.lancaster.ac.uk](http://dialangweb.lancaster.ac.uk)). The L3-VKS outputs were rated by proficient Italian academic teachers (inter-rater agreement  $\kappa=.861$ ). We also considered the time-on-task, and proportion of words unknown per L3-VKS version. The linear mixed-effects models revealed that the L2-L3 cognates were known best, and that L2-presentation and L1-instructions were most effective in terms of time-on-task and number of words known. Because some guessing likely took place, future testing with L3-VKS, will utilize L2-like nonwords to further control for guessing.

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# Effective Practices for Using CAPT to Develop L3/Ln Pronunciation Fluency: Meta-Analytical Findings

Jose Riera, Olusola Adesope, Oluwafemi Sunday

Despite its potential advantages in L3/Ln pronunciation instruction, few research studies have centered specifically on computer-assisted pronunciation training (CAPT), focusing instead on vocabulary, syntax, and pragmatics, among other language skills (Lee et al., 2015). To address this potential research gap, our meta-analysis evaluated the results from 20 quantitative studies involving 1,178 largely English L2 participants conducted during the past 10 years to determine which CAPT interventions enhanced L3/Ln pronunciation most effectively. We analyzed 41 variables and 15 moderators including product features (e.g., conversational avatars), instructional focus, and learning environment. To ensure the validity and reliability of the data, we limited our sample to studies comparing test groups receiving CAPT-based interventions against control groups receiving traditional classroom pronunciation instruction. Our analysis showed significant effects for those CAPT interventions that conveyed multisensory information, provided training on targeted sounds, and allowed for practice outside the classroom. These findings have important sociolinguistic and pedagogical implications for enhancing the phonetic instruction provided to 1.2 billion L3/Ln language learners worldwide (IBISWorld, 2020), especially for immigrants who may benefit from enhanced pronunciation scaffolding to improve their socioeconomic opportunities in their host societies. Specifically, this study could help L3/Ln learners develop better verbal fluency by helping designers incorporate effective instructional features in future CAPT applications and by assisting language instructors optimize the use of CAPT applications in the classroom.

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# Developmental stages in multilingual early-stage third language learners from a processing perspective with focus on receptive competence

Helen Forsyth

Third Language Acquisition (TLA) is a relatively new field that is growing rapidly. A consequence of mass migration, globalization, and technological advances, along with the presence of linguistic minorities in many regions, is that an increasing proportion of the world's population is learning English as a Third or Additional Language both in naturalistic and instructed settings. Existing research indicates a qualitative difference between Second Language Learning (SLA) and TLA (Cenoz, 2003; Hoffmann, 2001; Jessner, 2008; Rothman, 2013), and that certain psycholinguistic aspects merit investigation. The proposed presentation outlines my ongoing PhD research project into developmental stages in learner acquisition of English as a Third Language at Italian-language primary schools within the Italian-German bilingual context of South Tyrol in Italy. It examines the role that processing-based approaches to acquisition, particularly Processability Theory (Pienemann, 1998, 2005) and the Developmentally Moderated Transfer Hypothesis (Pienemann, 2015), may play for the emergence of receptive competence in morphosyntactic structures in Third Language Learners, in that these approaches propose constraints regarding developmental readiness and cross-linguistic influence. Previous empirical studies in this field have focused on production data, and Processability Theory remains essentially an account of Second Language Acquisition rather than Third Language Acquisition. The data discussed and presented were collected cross-sectionally from 2 intact groups (n=74) at primary school by means of a picture selection task (ELIAS Grammar Test II, Kersten et al., 2010) and analysed using implicational scaling methods. Results indicate receptive and productive grammar acquisition to comprise the same PT-related developmental stages with a degree of intra-stage variability. This study attempts to offer insights into the extent that teachability of English in such contexts may be constrained by processability, possibly resulting in a more complex cognitive approach to language processing and showing transfer effects that merit pedagogic attention.

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# The effect of multilingualism in the acquisition of L3 Korean in reflective practice

Mihi Park

Multilingualism is known to be beneficial in subsequent language learning due to linguistic transfer (Flynn et al., 2004; Bardel & Falk, 2007; Rothman, 2011; Westergaard et al., 2017) and/or enhanced metalinguistic awareness achieved from L2 learning experience (Jaensch, 2009; Park & Starr, 2015). But is this beneficial effect limited to L3 performance? The current study explores how multilingualism affects non-linguistic aspects of learning; 1) an attitude towards unfamiliar learning environment (e.g. online), 2) self-perceived proficiency of L3 Korean, and 3) reflective behaviour while learning. Two sets of survey data and weekly reflective notes from 43 participants in an advanced course of L3 Korean, were analysed at pre- and post-semester. Participants were classified as either Early Bilinguals (EBLs) or EBLs+L2, meaning Early Bilinguals who had studied an additional language in a formal setting.

While L2 experience supports a positive attitude towards online environment of learning an L3 at both pre- and post-semester, the mixed results are shown in self-perceived proficiency. At pre-semester, EBLs+L2 self-perceived their reading, listening, and cultural understanding higher, yet grammar and writing lower than EBLs. However, post-semester survey demonstrates that EBLs self-rated the proficiency higher at all categories than EBLs+L2.

Analysis of the weekly reflections based on Chang, Chen and Chen (2012), the identified themes include cognition, emotion, evaluation, memory, and mix. To be specific, Learning Community, Metacognition, Assurance-seeking, Self-Directed, Self-Monitoring, Self-Satisfaction, Cross-linguistic awareness, Cultural Awareness, Linguistic Sensitivity and Meaning-Making are shown in reflections. However, multilingualism and course performance (e.g. grade) are not significantly related with the types of reflections.

In conclusion, EBLs+L2 are more accepting of a forthcoming unfamiliar learning environment, but show a mixed-effect in self-perceived proficiency. Finally, EBLs and EBLs+L2 in an advanced L3 Korean show similar patterns in reflective behaviour.

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# L2 knowledge facilitating L3 learning: the role of Russian linguistic factors in understanding Ukrainian by Estonians

**Anna Branets**

This study reports on an empirical investigation of how knowledge of L2 Russian can facilitate the acquisition of passive knowledge of L3 Ukrainian by speakers of L1 Estonian. It is anchored in the field of mediated Receptive Multilingualism: a mode of communication in which passive knowledge of an L2 related to an L3 suffices in understanding the L3 (Branets Bahtina, Verschik 2019). The specific focus is on the impacts of Russian vocabulary and grammar knowledge on general understanding of Ukrainian text and recognition of Ukrainian words by Estonian speakers. The experimental investigations were conducted with 30 Estonian informants with B1-B2 language proficiency in Russian who first completed a C-test in Russian (Grotjahn 1987), followed by a Ukrainian test on individual words (Shumarova 2000), a Ukrainian text as a whole (Gooskens 2013) and debriefing. Prior to the experiment participants filled in a socio-linguistic questionnaire on language use and attitudes. The similarities between L2 Russian and L3 Ukrainian provide a crucial scaffolding for comprehension and learning new words and structures in L3. The results showed the predictive value of how Estonians performed on a Russian L2 C-test on how they performed on the two Ukrainian tasks. In word recognition tasks, the errors that participants made in the Russian C-test envision the difficulties they were experiencing in the Ukrainian word recognition task. The C-test errors were analysed and classified into four main categories: words with low frequency, including idioms and figurative expressions; incorrect grammatical markers; wrong spelling and function words. The correlation value is better for a word recognition task than for a task testing general understanding of Ukrainian texts. Since the C-test tests lexical and grammatical knowledge, this result suggests that speakers need to make use of more than just their lexical and grammatical knowledge of L2 Russian to understand L3 Ukrainian.

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[OS8] Psycholinguistics: the  
cognitive aspects of bilingualism  
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# Cross-language priming in Korean-English bilinguals: the case of verbicides

Solène Hameau, Jae-Hyun Kim, Sachiko Kinoshita, Xin Wang, Lyndsey Nickels

## Background

Korean verbicides are English loanwords sharing a (phonological) wordform with English but whose meaning deviates from its origin (e.g., **본드**, “bond”, means glue). Given this partial meaning overlap across languages, verbicides stand somewhere between cognates and homophones. We investigated the lexical organisation of this yet unstudied word class, using cross-language/cross-script masked priming of lexical decision. Previous research has shown cognate priming[1,2], but no homophone priming effects[2], hence, effects of verbicides are difficult to predict.

## Methods

Fifty highly proficient Korean-English bilinguals participated (of various language dominance patterns: Bilingual Dominance Scale[3] mean=0.98, SD=10.27). Written English targets (210=words; 210=nonwords) were paired with matched sets of, a) unrelated (control) and b) five different experimental Korean primes (verbicide, translation, cognate, transliteration (“artificial” homophone), semantically-related). For example, BOND was primed with **본드** in the verbicide condition. Kim and Davis’[2] masked priming procedure for lexical decision was used.

## Results

Data were analysed using (G)LME separately for each set, with priming condition and dominance scores, and their interaction, as fixed factors.

A main effect of verbicide priming was observed on log RT (16ms;  $t=-4.01$ ,  $p<.001$ ). Main effects were also observed with cognate (18ms, log RT:  $t=-4.6$ , accuracy: 3% difference,  $z=-3.27$ , both  $p<.002$ ), and transliteration priming (33ms, log RT:  $t=-2.90$ ,  $p=.004$ ).

Interactions were observed between priming condition and dominance score, such that (post-hoc tests) only the Korean-dominant participants ( $n=26$ ) showed priming from: verbicides (errors only: 5% difference,  $z=-2.24$ ,  $p=.025$ ), translation (16ms, log RT:  $t=-2.03$ ; errors: 3% difference,  $z=-2.24$ ; both  $p<.03$ ), and cognates (30ms, log RT:  $t=-4.82$ ,  $p<.001$ ).

## Discussion/Conclusion

Priming is restricted to the dominant->non-dominant direction (similar to [1]), with the exception of the novel verbicide and transliteration conditions which show some priming in both directions. The insights from this first psycholinguistic experiment with verbicides into the dynamics of bilingual lexical organisation will be further discussed.

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# Can implicit learning account for cross-language structural priming?

Yung Han Khoe, Chara Tsoukala, Gerrit Jan Kootstra, Stefan Frank

Structural priming is the tendency of speakers to reuse syntactic structures that they have recently encountered. It also occurs between different languages, as has been shown in behavioral experiments (e.g., Hartsuiker et al., 2004) as well as corpus studies (for a review, see Gries & Kootstra, 2017). One promising mechanism that has been proposed for within-language priming is implicit learning (Chang et al., 2006). Here, we investigate if the same mechanism can account for cross-language priming, by simulating priming of transitive structures in computational models.

We implemented a Spanish-English and two Dutch-English models of balanced bilingual sentence production. The models are based on the bilingual version (Tsoukala et al., 2021) of the Dual-path model of sentence production (Chang et al., 2006), which is trained to incrementally generate sentences in artificial, miniature languages based on natural languages. Three of our artificial languages (Spanish, English, and one of the versions of Dutch) had verb-medial passives, while the other version of Dutch had verb-final passives. The model implements priming as error-driven implicit learning from the prime sentence. For each of the three models, we performed a preregistered priming experiment with 80 model participants. Each experiment comprised 800 trials, which were balanced for prime and target languages, and for prime structure (active or passive).

Cross-language priming of transitives occurred in all simulations, which provides evidence for the viability of an implicit learning account of cross-language structural priming. Priming effects between verb-final Dutch and verb-medial English show that identical word order is not required for priming in the model, consistent with behavioral experiments (e.g., Bernolet et al., 2009). Results revealed varying degrees of evidence for stronger within-language priming than cross-language priming. This is consistent with conflicting human experimental findings where within-language priming is found to be stronger in some studies but not in others.

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# Heritage language grammar in flux: Individual variation in morphosyntactic processing

Aleksandra Tomic, Yulia Rodina, Fatih Bayram, Cecile De Cat

Heritage language (HL) bilinguals often exhibit more variable morphosyntactic comprehension patterns than monolinguals (Scontras & Polinsky, 2019), likely due to exposure to more variable input and unique language processing pressures. To provide a comprehensive picture of the individual variables affecting HL processing, we turn to a novel population and morphosyntactic phenomenon: clitics in Bosnian heritage speakers in Norway.

In an online self-paced listening task, Bosnian-Norwegian heritage bilinguals will listen to examples of monolingual-like and non-monolingual-like placement of personal pronoun clitics (Example 1). The complexity of Bosnian clitic placement could cause vulnerability in HL. Bosnian is a second-position clitic language: in monolingual-like placement, clitics cluster after the second word/phrase in an intonational-syntactic unit. Importantly, non-monolingual-like clitic placements in our design include the post-adverb placement and post-verb placements. According to syntactic theories of Bosnian clitic placement, the post-adverb placement represents a less egregious rule violation than the post-verb placement, which proficient Bosnian speakers should be sensitive to.

Example 1:

Exposition: Kad se zaliva ova cvjećka?

When do you water this flower?

Intro: Tetka kaže

Aunt says

Target: monolingual-like, clitic pre-verb da je zaliva ujutru

that it waters in.the.morning

non-monolingual-like, cl. post-verb da zaliva je ujutru

monolingual-like, cl. pre-adverb da je ujutru zaliva

non-monolingual-like, cl. post-adverb da ujutru je zaliva

Post: ali ja sam čitala da treba uvječe.

but I read you should do it in the evening.

Importantly, participants will complete language proficiency tests, executive functioning tests, social network questionnaire, and a comprehensive language background questionnaire. The stimuli design and individual variable measures will enable us to explore individual variation in HL processing, stemming from dominant language influence, accessibility/processing issues, variable HL input, code-switching behavior, HL attitudes, etc. The results of the study will contribute to creating a comprehensive theory of HL grammar to account for the full spectrum of HL variability.

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# The impact of film soundtrack on the cognitive load of viewers watching subtitled videos

Agnieszka Szarkowska, Breno Silva, Krzysztof Łuczak

Despite the ubiquity of subtitling, little is known about the impact of soundtrack on the cognitive processing of viewers watching subtitled videos. To address this gap, this study uses eye tracking and self-reports to investigate how the presence of soundtrack and its linguistic properties influence viewers' cognitive load (CL) and reading patterns. We pose two research questions (RQs): 1) Does the nature of soundtrack affect viewers' CL? Here, CL is operationalised through mean fixation duration (MFD); an increase in MFD shows an increase in CL (Holmqvist et al., 2011). 2) Does proficiency in the language of the soundtrack impact on subtitle reading patterns? We predict that viewers who are proficient in the language of the soundtrack will skip more subtitles. In a between-subject design, 58 native speakers of Polish watched videos with Polish subtitles under three conditions: with the soundtrack in English (a language participants knew to an intermediate or advanced level of proficiency), Hungarian (a language unknown to participants) or with no sound. To answer RQ1, we ran linear mixed models (LMMs) which showed that viewers watching the video with English soundtrack had higher MFD than the other two groups, indicating increased cognitive load. The reason for this may be dual coding of two concurrent comprehensible inputs: participants were simultaneously processing information in two languages (Polish subtitles from the visual channel and English dialogues from the auditory channel). Higher CL was not reflected, however, in self-reports as viewers assessed their CL as the highest in the clip with no sound and as the lowest in the clip with the English soundtrack. To answer RQ2, we ran LMMs using English proficiency as a predictor for data from the English-soundtrack video only. We found that people with intermediate-level English were 80% less likely to skip subtitles compared to advanced viewers.

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# Bilingualism: A sociocognitive exercise in managing uncertainty

Jason Gullifer, Debra Titone

Bilinguals have distinct linguistic experiences relative to monolinguals, stemming from interactions with the environment and individuals therein<sup>1–3</sup>. Some bilinguals compartmentalize their languages, using one language at home and another at work. Others use all of their languages jointly in their environments, resulting in greater uncertainty about which language will come next. Thus, bilinguals, face additional language-related uncertainties on top of other ambiguities that regularly occur in language, such as lexical and syntactic competition. Neurocognitive theories posit that language control processes become adapted to these different contexts<sup>4–6</sup>.

To approximate language-related uncertainty, we use language entropy (LE)<sup>1,3</sup>. LE can be computed from self-report measures of language usage and is proportional to the number of different language states that an individual reports engaging in a particular environment. An increase in LE reflects an increase in language-related uncertainty for an individual / environment.

We report two studies characterizing LE for bilingual speakers in Montreal and using it to predict language proficiency and executive control. In both studies, there is individual variability in LE, reflecting individual differences in language-related uncertainty. We also observe regularities in LE according to the environment: we consistently identify two latent domains, comprising LE for personal, home, or social purposes and LE for professional purposes. LE in turn predicts information about language fluency (Study 1) and engagement in proactive cognitive control strategies (Study 2). These findings suggests that bilinguals adapt to cumulative language-related uncertainties in the environment. Analyses testing relationships with reactive control tasks are ongoing.

We conclude by suggesting avenues for future research, including exploring interactions with moment-by-moment shifts in uncertainty<sup>7</sup> and incorporating finer-grained interactions between language demands and entities in the environment like social networks<sup>8</sup>. Ultimately, a focus on uncertainty will help bridge traditionally separate scientific domains, such as language processing, bilingualism, and decision making.

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# Enhanced phonetic and phonological learning in bilinguals relates to auditory sensory memory capacity but not to executive functions

Laura Spinu, Laura Muscalu

Experimental work has uncovered certain consequences of bilingualism on cognitive function, sometimes referred to as a bilingual advantage [1]. In recent years, however, the term has been losing popularity [2] as the existence of this advantage has been questioned [3, 4, 5]. Emerging areas of research where a consistent bilingual advantage has been identified with young adults include studies on phonetic and phonological learning (PPL) [6, 7, 8]. These findings, however, are typically restricted to discrimination and production tasks employing sounds, syllables, or nonce words in isolation. In the current study, we expand on existing work by examining monolinguals' and bilinguals' ability to learn multiple features of a novel accent of English after brief exposure, in conjunction with their performance on several cognitive tests. Twenty North American monolingual speakers of English and 20 bilinguals were tested in an online experiment with four tasks:

1. Running memory span
2. Phonetic learning employing an artificially constructed, naturalistically produced accent of English differing in two ways from standard English (i. a vocalic change, e.g. bed pronounced as byed, and a consonantal change, e.g. happily => happidy)
3. Dimension switching
4. Retrieval-induced inhibition

Participants were tested individually via Zoom. Based on preliminary analysis of the data obtained from 20 participants (10 from each group), phonetic learning was more effective in bilinguals compared to monolinguals. Bilinguals also outperformed monolinguals in the memory span task, with response patterns suggesting that auditory sensory memory, potentially underlying phonetic and phonological learning, may be enhanced in this group [9, 8]. By contrast, no differences between bilinguals and monolinguals were found in the two executive function tasks (switching and inhibition). The emerging picture is one in which PPL following brief exposure to a novel dialect is underlain by auditory sensory memory, and to a lesser extent by executive functions.

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

Carla Contemori, Natalia Minjarez-Oppenheimer

Different languages have different referential expressions and interpretation biases. In English, referents that are more accessible are usually expressed as pronouns and pronouns often refer to a subject/first-mentioned referent, which is often the most salient in the previous discourse:

(1) Johni met Paul while hei 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 interpreted towards the preceding object –“Paul” in (1) - about 60% of time).

We know that comprehenders can adapt their pronoun resolution biases to the likelihood of occurrence of a specific type of pronoun in the input. For example, previous research has demonstrated that pronoun resolution biases are sensitive to immediate priming (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 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).

Forty-five Spanish-English bilinguals participated in a sentence comprehension task, where English sentences containing an ambiguous pronoun (1), were preceded by a Spanish sentence where an unambiguous pronoun was interpreted towards the object (2).

(2) Spanish priming: A Gina le gustaba Eduardoi porque éli era gracioso.

Gina liked Eduardo because he was nice

The results showed that bilinguals do not give more object interpretations to ambiguous English pronouns (“Paul” in (1)) after encountering Spanish primes (2), suggesting that Spanish-English bilinguals keep separate statistics about probability of pronominal forms occurring in the two languages.

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# Language Co-Activation in Novice and Intermediate L2 Learners

Nicholas Sulier

One of the most intriguing aspects of bilingual speakers and signers is their ability to access both languages simultaneously. Though much research has been dedicated to understanding how two languages interact, or co-activate, within proficient bilinguals, less is understood about how and when novice and intermediate learners develop similar cross-language interactions. Thus, the current study aimed to uncover at what stages during novice and intermediate L2 development co-activation can be detected. It also investigated possible mechanisms behind co-activation. Specifically, the study attempted to clarify if any detected co-activation amongst L2 learners is dependent on associations between lexical and conceptual representations, or, rather, if co-activation relies primarily on lateral lexical links without conceptual mediation. These questions were tested with native English-speaking novice and intermediate learners of Spanish at the University of New Mexico. Participants partook in three online experiments across two sessions: lexical decision tasks in both the L1 and the L2, and a translation recognition task similar to Sunderman & Kroll (2006) and Ma et al. (2017). While significant L2-on-L1 effects were not found, the current study did uncover that participants experienced significant increases in sensitivity to L2 words across sessions, evident by decreases in reaction time (ms) and increases in accuracy across sessions during the Spanish LDT. Furthermore, evidence of direct L2 meaning access was also found, even in less proficient participants. Finally, contrary to predictions, both less and more proficient participants were not significantly distracted by translation-form word pairs in the TRT, suggesting that L2 meaning access occurred without L1 mediation.

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# Do morphologically related words compete during spoken word recognition in L2 learners of Spanish?

Ezequiel Durand López

Bilinguals recognize words with shared morphology and phonology cross-linguistically (i.e., cognates) faster than words that do not have these characteristics (e.g., Dijkstra, Miwa, Brummelhuis, Sappelli, & Baayen, 2010). Moreover, higher phonological overlap in cognates enhances the said effects, which suggests that phonology eases word recognition. It is currently unclear whether words compete purely morphologically before spoken word recognition within-language, and whether proficiency in the L2 modulates the degree of morphological competition. Spanish monolinguals and English L2 learners of Spanish with varying L2 proficiency completed an auditory lexical decision task in Spanish. Stimuli were phonological sequences of Spanish words prior to a recognition point (e.g., /mark/ in /marko/) whose activated cohorts were minimal pairs. Some pairs were morphologically related (e.g., huerto, 'vegetable patch' versus huerta, 'vegetable garden') whereas some others had no morphological relationship (e.g., marco, 'frame' versus marca, 'brand'). Results showed that both groups processed solely phonological competitors in a similar way as they did with morphological competitors. Taken together, these findings suggest that morphological relatedness does not modulate neither L1 nor L2 spoken word recognition prior to a recognition point when speakers listen to words in absence of context. In addition, the findings suggest that the L2 recognition architecture is qualitatively similar to that of native speakers.

## References



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# Assessing the impact of bilingual experience and education on the relationship between menopause and cognitive function.

Alicia Duval, Anne L. Beatty-Martínez, Arielle Crestol, Abdelhalim Elshiekh, Stamatoula Pasvanis, Lina Khayyat, Rosalie Young, Jamie Snytte, Sivaniya Subramaniapillai, Debra Titone, M. Natasha Rajah

Aging is associated with a decline in episodic memory and executive function, however demographic variables such as bilingual experience and education have been shown to mitigate age-related cognitive decline. Recently, our group showed that women at midlife were more likely to show cognitive improvements with increased bilingual experience, yet midlife is also the time when menopause occurs (Subramaniapillai et al., 2019). Menopause has been linked to difficulties with executive function and episodic memory in some women. Here, we investigated how bilingual experience and education impact the relationship between menopause and these cognitive functions at midlife. We hypothesized that postmenopausal women would exhibit worse episodic memory and executive function performance, however women with greater diversity of bilingual language experience and education would exhibit improved performance compared to women with lower bilingual experience and education. 62 healthy bilingual women (20-65 years) from Montréal were recruited. To estimate the diversity of language use, we calculated participants' global language entropy which indexes the relative balance or diversity in the daily usage of bilinguals' languages (e.g., Gullifer & Titone, 2020). Lower entropy values indicate lower language diversity and compartmentalized language use, whereas higher entropy values indicate greater language diversity and integrative language use. Cognitive performance was measured using the California Verbal Learning Task (CVLT; episodic memory) and the Wisconsin Card Sorting Task (WCST; executive function). Preliminary analyses using robust regression revealed a significant effect of menopause for the WCST perseverative errors ( $p < .001$ ,  $B = 1.26$ ), such that postmenopausal women performed worse than the other groups. No significant effects for global language entropy and education were found, however, we continue to evaluate whether more specific social aspects of bilingual language experience may play a role (e.g., home vs. work entropy, etc).

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# Learning to preserve: foreign language training as a cognitive ‘vaccine’ to prevent old-age disorders?

Saskia Esmee Nijmeijer, Marie-José van Tol, Andre Aleman, Merel Keijzer

Bilingualism is a life experience that has been suggested to boost cognitive flexibility (Kroll & Bialystok, 2013), a skill needed to separate numerous languages (Bice & Kroll, 2015) and to adaptively respond to environmental demands. It has been claimed that this effect of bilingualism could also be induced with foreign language learning, which is hypothesized to benefit all, even - or especially – elderly (Antoniou, Gunasekera, & Wong, 2013).

The present study aims to 1) examine the effects of a foreign language training on cognitive flexibility and mental health, and 2) assess the unique role of foreign language training versus other cognitive or social programs in seniors at risk for Mild Cognitive Impairment (MCI). We assess the unique role of foreign language training (n=46) compared to music training (n=42) and a social intervention (n=20) to control for non-specific cognitive training and social activation effects. At baseline, at a three-month follow-up, and at six months after termination of the training program, clinical, cognitive and brain activity measurements (combined EEG and fNIRS methods) are taken to assess cognitive flexibility and mental health.

Multilevel analyses showed a significant effect of time on several measures of cognitive flexibility, specifically for the Trial Making Test and a color-shape switching task. Significant effects over time were also found for measures of mental health such as loneliness and feelings of apathy. A significant group by time interaction was found for the modified Wisconsin Card Sorting test, also a measure of cognitive flexibility.

The results of this study can shed light on the ultimate question whether foreign language training in seniors can improve cognitive flexibility and psychological health and thereby slow down cognitive aging and reduce vulnerability for old age depression and what its role is vis-à-vis other cognitive intervention program, such as musical training.

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# Examining the roles of language familiarity and bilingualism in talker recognition

Angelina Lloy, Khia Johnson, Molly Babel

Experience with a language facilitates talker recognition (e.g., Hollien et al., 1974; Goggin et al., 1991; Thompson, 1987), and this is known as the language familiarity effect (LFE). Bilingualism can also affect talker recognition in terms of: (i) how listeners attend to talker-specific versus language-specific features, and (ii) how listeners generalize their learning of the identity of an individual speaker across two languages. Previous research has studied the LFE from both angles. Bilinguals may have a general voice recognition advantage regardless of familiarity (Levi, 2018), and an advantage for generalizing voice learning across languages they know (compared to monolinguals generalizing from an unfamiliar language to their L1 or vice versa: Orena et al., 2019). We tested the role of the LFE against a general bilingual advantage in talker recognition using a talker identification task which trained two groups of bilinguals in either Cantonese or English, then subsequently tested them on both languages to assess learning and generalization. Participants belonged to one of two groups: a bilingual group familiar with both test languages (English-Cantonese), and a bilingual group familiar with just one test language (English-other). Stimuli were short excerpts sampled from a bilingual Cantonese-English corpus of spontaneous speech (Johnson et al., 2020). Preliminary results ( $n = 49$ ) are consistent with a bilingual talker advantage interpretation — there was no difference in overall performance between the groups. A glmer model demonstrated improved talker recognition on test items in the language of training ( $\beta = 0.2$ ;  $p < 0.001$ ). There was also an effect of training language such that Cantonese training resulted in stronger generalization to English and novel Cantonese utterances than the reverse ( $\beta = -0.12$ ,  $p = 0.028$ ). These results may be due to the structured variability of F0 in Cantonese, which may give all listeners additional beneficial information.

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# Improved Monitoring Associated with Higher Levels of Reported L2 Proficiency in Chinese High School Students

Adam John Privitera, Mohammad Momenian, Brendan Weekes

The existence of a bilingual advantage in executive function continues to be debated among researchers in the psycholinguistics community. Results from these studies are often confounded by non-linguistic variables including age, immigration status, and socioeconomic class. Additionally, analysis methods typically employed may decrease the likelihood of identifying an authentic bilingual advantage as a consequence of data trimming or averaging response times across trials for individual participants (Zhou & Krott, 2016). Here we address some of these potential issues by assessing the impact of L2 (English) experience on executive function using a sample of culturally and socioeconomically similar, native Mandarin-English speaking high school students residing in Shenzhen. We tested whether higher levels of bilingualism (i.e., higher L2 proficiency, immersion, and L2/L1 ratio of dominance) were associated with improved performance on a Flanker task (i.e., faster global reaction times and reduced conflict effect). Our sample ( $n = 40$ ) was recruited from a private school using English as the primary medium of instruction. Participants completed ratings of language history and performed a Flanker task online using Gorilla via their own personal computers. Data were analysed using Linear Mixed Effects (LME) models to test for effects of individual differences between participants on Flanker performance. Results reveal 1) a reliable Flanker effect when the task is administered virtually and 2) that L2 proficiency influences Flanker performance with higher levels of reported L2 proficiency associated with improved monitoring (faster global reaction times). Using LME, we suggest that statistical limitations can contribute to mixed evidence of a bilingual advantage and provide evidence in support of a bilingual executive processing advantage (Hilchey & Klein, 2011). Our results also demonstrate a proof of concept about the feasibility of testing this putative advantage virtually with remote samples.

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# Surprising bilinguals: Sensitivity to input manipulations of structure and event prototypicality as a function of proficiency

Michaela Vann, Giulia Bencini, Virginia Valian

We explore bilinguals' sensitivity to different types of input manipulation under structural priming conditions. On some accounts, structural priming is a form of implicit learning<sup>1</sup>, and less proficient speakers are predicted to exhibit "surprisal" effects when the structure of the prime is infrequent given specific verb biases<sup>2,3,4</sup>. In this study we examine whether bilinguals exhibit surprisal effects for other aspects of event structure by priming bilinguals with prototypical and non-prototypical (surprising) passives.

## Method

219 bilinguals participated in a computerized cross-modal priming experiment<sup>5</sup>. The design was 2x2 with prime structure (active, passive; shown in Table 1) and an animacy manipulation (Table 1). Proficiency was measured with a portion of the Michigan Test of English Language Proficiency (MTELP, scoring: 1-45).

## Results

We analyzed participants' responses with logistic mixed-effects models in R<sup>6</sup>, predicting the logit-transformed likelihood of passive descriptions. Table 2 shows the best fit model. Table 3 shows the proportional data for each priming condition. On average, bilinguals produced more passives when primed with passives than with actives (.65 vs. .21) and more passives in the prototypical passive than in the non-prototypical passive conditions (.82 vs. .49). Bilinguals with lower proficiency scores produced both more prototypical and non-prototypical passives (Figure 1).

## Discussion

We found a greater susceptibility in bilinguals with lower English proficiency levels to produce non-prototypical passives when primed with non-prototypical passives (surprisal effect). These results are consistent with error-driven learning accounts of structural priming, that is, exposure to unexpected structures increases the production of such structure types in bilinguals with lower proficiency levels. The results show that bilinguals are sensitive to input manipulations that go beyond exposure to infrequent combinations of structure and verb bias and extend to infrequent mappings from conceptual features to grammatical encoding.

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# Variation in Spatial Language and Cognition as Cultural Adaptation in a Bilingual Society

Yen-Ting Lin, Hui-Chen Sabrina Hsiao

This study set out to investigate the strategies of spatial referencing in a bilingual context in Asia. The test languages, Taiwanese Southern Min (TSM) and Mandarin Chinese (MC), exhibit distinct features in spatial reference in small-scale space, including a geocentric preference among TSM speakers by using cardinal directions or external landmarks and a relative preference among MC speakers by projecting the viewer's perspective onto the object. The study extended the research design of Bohnermeyer et al (2015) to the scope of bilingualism in order to explore how language, culture (education and literacy) and environment (topography and population density) affect the use of spatial referencing strategies in TSM-MC bilinguals as compared to monolinguals. In order to test the relationships between spatial language and cognition, the research method comprised a discourse and a recall memory task. The sample consisted of 150 adults in the discourse study and 119 in the recall memory study, including TSM and MC monolinguals and TSM-MC sequential and simultaneous bilinguals. The results for response types by language populations manifested that, unlike the alignment found in the monolingual populations, both bilingual groups preferred relative frames in discourse and geocentric frames in recall memory. Transfer and convergence effects were emerged between the two bilingual groups. Regression analyses indicated that, in addition to language use, a strong education effect had an impact in both studies, positively correlated with the relative/egocentric use and negatively with the geocentric use. A strong MC education effect across populations in both discourse and recall memory reflects the migration history and earlier language policy in Taiwan, suggesting that, since these preferences are regarded as conventionalized cultural practices, along with language use and environment, education plays an important role for (re)formulating spatial representations. The communication task enhances the understanding and sharing intentions in spatial representations across speech communities.

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# Role of visual cognition in learning Mandarin characters

Clare Wright

This study reports on a novel cross-paradigm experiment testing visual cognitive processes in learning Mandarin Chinese characters, testing potential interactions between visual working memory (VWM), eyegaze, radical recognition and lexical processing, hitherto unexamined together at beginner level for Chinese (Chen et al., 2018; Godfroid, 2019). Participants were given a task to learn 45 characters (20 target items and 25 fillers); targets comprised 2 groups of characters with visually similar but semantically different radicals (hand verbal vs. animal nominal radicals), and a third group of characters with a visually salient feature but no semantic consistency (mouth radical). The experiment was conducted with 36 anglophone adult beginner learners of Chinese, recruited as volunteers after five weeks at a language institute in China. Participants completed a computer-based self-paced character learning test; after then completing a VWM shape recall test, they finally took a randomised character recall test with distractors, pressing a button if a character matched the English word within a 5-second maximum window. Results revealed that, against predicted preferences for visual salience, nominal recall was most accurate and fastest (87% accuracy, mean RT 2.89 seconds), compared to verbal (78%; mean RT 3.4 seconds) or salient-only (81%, mean RT 3.5 seconds). Nominal scores were significantly different by type using Kruskal-Wallis tests ( $p < 001$ ). Eyegaze was consistently longer and more frequent for nominals, though not significantly associated with radical areas of interest. There were no significant correlations between VWM and character recall; greater language usage outside class also impacted on test results. These outcomes indicate a consistent whole-word effect with a noun-learning semantic bias in learning characters at beginner levels, overriding potential effects of VWM. Such findings, although exploratory, have timely implications for relating cognitive science to effective teaching practices, given the rapidly expanding area of Mandarin language learning.

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# Why Chinese? A metaphorical analysis of motivational factors in learning Chinese as a LOTE

Zixuan Li

This research extends our understanding of UK university students' motivation to learn languages other than English (LOTEs) via elicited metaphor analysis and semi-structured interviews. Underpinned by the L2 Motivational Self System (Dörnyei, 2009), this study employs a case study examining the motivational dynamics of students who chose to learn Chinese as a LOTE, with a special focus on the dynamic nature of the ideal and ought-to L2 selves as well as their interaction with the L2 learning experience. Three students who enrolled in Chinese courses at the language centre of a UK university participated in the study. Data were collected through an elicited metaphor writing task and follow-up semi-structured interviews. A within-case analysis was firstly conducted to investigate each individual's motivational profiles followed by a cross-case analysis, which unravelled emerging patterns and themes with regard to the dynamic and context-specific features of LOTEs motivation. Findings reveal that students' motivation for Chinese learning was mainly guided by a strong ideal L2 self while the ought-to L2 self merely played a part in initiating and sustaining Chinese learning. Notably, the findings confirm the dynamic nature of LOTEs motivation while reveal similar motivational trajectories among three learners, indicating that both the ideal and ought-to L2 selves were subject to the actual learning experience which encompassed influences from the cultural and pedagogical context as well as the social milieu. Limitations and implications for future research are also discussed which highlight the significance of overseas experience and the combination of various qualitative approaches.

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# Cross-linguistic influence during online processing of Dutch pronouns in Turkish-Dutch bilingual children: an eye-tracking study

Chantal van Dijk, Anna Aumeistere, Susanne Brouwer, Ton Dijkstra, Sharon Unsworth

In this study, we investigated whether pronoun interpretation preferences from a null subject language, Turkish, influence online pronoun resolution in a non-null subject language, Dutch, in simultaneous bilingual Turkish-Dutch children. Such cross-linguistic influence has been observed in pronoun production and comprehension (e.g., Argyri & Sorace, 2007; Haznedar, 2007; Serratrice, 2007). However, it is unknown whether cross-linguistic influence is present during pronoun resolution. Furthermore, we investigated effects of language dominance (e.g., Argyri & Sorace, 2007) and bilingualism in general (e.g., Sorace, Serratrice, Filiaci & Baldo, 2009).

An eye-tracking task (visual world paradigm) measured 17 Turkish-Dutch children's antecedent preferences (example in 1). Twenty-two German-Dutch bilingual and 14 Dutch monolingual children served as control groups. We expected no influence from German as Dutch and German have similar pronoun preferences (e.g., Roberts, Gullberg & Indefrey, 2008).

- (1) Annai en Sophiek zijn thuis. Terwijl Annai een boek leest, eet zij/i/k een boterham.  
Annai and Sophiek are home while Annai a book reads eats she/i/k a sandwich

We observed cross-linguistic influence from Turkish in Turkish-Dutch children's fixations in relation to language dominance: the more proficient children were in Turkish, the less they fixated on the Turkish-preferred non-topic referent. There was no general bilingualism effect.

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., Hartsuiker & Bernolet, 2017; Hopp, 2017; Nicoladis, 2012; Serratrice, 2016). We argue that Turkish-Dutch children had to inhibit this Turkish co-activation. Consequently, the stronger this inhibition was, the less available the 'Turkish interpretation' became during Dutch pronoun resolution. Furthermore, our findings suggest that 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.

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# Auditory attention in bilingual infants and children: A systematic review

Wenfu Bao, Sharmigaa Rahunathan, Somayah Al-Ees, Monika Molnar

There is evidence that bilingual speakers tend to outperform their monolingual peers on various cognitive tasks, and attention appears critical to reveal this bilingual effect (Bialystok, 2017). Particularly, attention in the auditory modality is essential for language learning, yet prior research has primarily focused on the visual domain. To gain an understanding of how auditory attention is measured in bilinguals from infancy to adolescence, the authors conducted a systematic review of both behavioral and neuroimaging studies that examined auditory attention in typically developing bilingual infants and children. Following the Cochrane Handbook for Systematic Reviews of Interventions as the methodological guidance (McKenzie & Brennan, 2019), three electronic databases including Ovid Medline, Ovid PsycINFO and EBSCO CINAHL were searched, and 10 primary studies meeting the inclusion criteria were identified. Adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA; Moher, Liberati, Tetzlaff, & Altman, 2009), data from these studies were synthesized in terms of population characteristics, study design and key findings. Overall, results indicate that bilinguals allocate auditory attention differently from their monolingual counterparts. For example, bilingual 3.5-month-old infants orient towards their native languages slower, and 2–3-year-old toddlers pay greater attention during speech perception than monolinguals. In the context of second language learning, bilingual children show better auditory selective attention, which plays a significant role in vocabulary development. However, this bilingual advantage in attention was not found when bilinguals and monolinguals are matched on a range of factors and situated in a natural control. To conclude, it is a possibility that bilingualism modulates auditory attention allocation from a very young age.

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# Is there an effect of diglossia on cognition? An investigation of the relationship between diglossia and executive functions in young adults.

Najla Alrwaita, Lotte Meteyard, Carmel Houston-Price, Christos Pliatsikas

Recent studies investigating whether bilingualism has effects on cognitive abilities beyond language have produced mixed results, with evidence from young adults typically showing no effects (Bialystok, Martin, & Viswanathan, 2005). These inconclusive patterns have been attributed to many uncontrolled factors, including linguistic similarity and the conversational contexts the bilinguals find themselves in, including the opportunities they get to switch between their languages. Recent studies have suggested that diglossics exhibit cognitive advantages similar to bilinguals (Antoniou & Spanoudis, 2020). In this study, we focus on the effects on cognition of diglossia, a linguistic situation where two varieties of the same language are spoken in different, and clearly separable contexts. 32 Arabic diglossic young adults are compared to 38 English monolinguals on cognitive tasks assessing the Executive Functions domains of inhibition, switching, and working memory (Miyake et al., 2000). Results revealed that, despite both groups performing as expected on all tasks, there were no effects of diglossia on their performance in any of these domains. These results are discussed in relation to the Adaptive Control Hypothesis (Green & Abutalebi, 2013). We propose that any effects on Executive Functions that may be attributed to the use of more than one language or language variety should not be expected when the two are used in exclusive contexts with limited opportunity to switch between them.

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# Monolingual and Bilingual Adults' Sensitivity to Voice-Language Relationships: An Online Study

Christine Muscat, Monika Molnar

Compared to monolinguals, bilinguals have been shown to be more efficient in associating languages to interlocutors (Molnar et al., 2015); moreover, bilinguals can activate their appropriate language by looking at a familiar interlocutor (Martin, Molnar, Carreiras, 2018). Prior studies assessed how visual (i.e., face) and auditory (i.e., voice) features of interlocutors affect language processing in monolinguals and bilinguals. The present study investigates how voice familiarity interacts with spoken language processing in monolinguals and bilinguals. We used an online voice familiarization lexical task paradigm. During familiarization, participants were presented with English words or non-words across 4 speakers. They were then asked if they heard a real word or non-word. In the test phase, 2 voice combinations were presented (e.g., English-English, English-Farsi, Farsi-English, Farsi-Farsi) across 4 speakers. Participants were asked if the words were spoken by the same or different speakers and asked to rate the confidence of their decision from confident to complete guess. All speakers were the same across the phases. We will present data from 45 monolinguals (only English learned from birth) and 45 simultaneous bilinguals (English and a second language learned before age 3) from across Canada. Farsi bilinguals were excluded from the study. We expect monolinguals and bilinguals to be better at differentiating English (familiar language to monolinguals and bilinguals) compared to Farsi (unfamiliar language to monolinguals and bilinguals) voices and for bilinguals to be better at differentiating Farsi voices, compared to monolinguals. We expect this because of increased exposure of bilinguals to voices in different linguistic contexts, as opposed to monolinguals who have a stronger association between language and voice. Further, we expect monolinguals to display decreased confidence in the accuracy of discriminating voices. This study will provide new insights into how familiarity with an interlocutors' voice interacts with language processing in monolinguals and bilinguals.

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# German light verb constructions in the mental lexicon of Czech L2 speakers

Karolina Linerová, Silke Schunack

German light verb constructions (Funktionsverbgefüge) consist of a noun phrase and a verb that has lost its semantic content and only serves inflectional purposes. Unlike idioms, the meaning of light verb constructions is transparent and recoverable from its parts. They could therefore either be stored as one unit in the mental lexicon or re-constructed from separate noun and verb entries during processing. Research on native speakers suggests a re-construction account. L2 speakers, however, often learn light verb constructions as fixed units and it is unclear, if this re-construction account also applies, especially as a direct word-by-word translation is often not feasible as the translation can be a simple verb in their L1.

We tested 40 L2 speakers with Czech as their L1 in a web-based priming experiment that had 30 nouns from light verb constructions as targets in an animacy decision task. Primes belonged to one of three conditions: a translation prime with the Czech translation of the noun, a related prime with the Czech verb translation of the whole German light verb construction and an unrelated control condition.

translation	related	control	target
volba	zvolit	omezit/smích	Wahl
'choice'	'to make a choice'	'to limit'/'laughter'	'choice'

If German light verb constructions are stored as a unit in the L2 speakers' mental lexicon, the related condition should not pre-activate the prime and lead to similar results as the control condition. If the light verb constructions are built from two separate entries as in L1 speakers, we should find a difference between the related and the control condition on the one hand and the related and the translation condition on the other hand. We did find a numerical trend for RTs in the related condition to lie between the translation condition and the control condition. However, this trend was not significant.

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

Chantal van Dijk, Sharon Unsworth

Bilingual children regularly produce utterances in one language influenced by the other. For example, bilingual children acquiring a Romance and a Germanic language can produce ungrammatical N(oun)-Adj(ective) structures in their Germanic language (e.g., “apple green”) under influence from their Romance language (e.g., “pomme verte”) (Nicoladis, 2006). Such cross-linguistic influence (CLI) has recently been conceptualized as cross-language structural priming (e.g., Serratrice, 2016). We test this proposal by investigating (i) whether ungrammatical N-Adj orders observed in previous research are replicable using structural priming (Study 1&2), (ii) to what extent this cross-language priming occurs bi-directionally (Study 2), and (iii) whether its magnitude is modulated by language proficiency and use (Study 1&2).

Participants in Study 1 were 29 Spanish-Dutch bilingual 5-to-7-year-old children. After hearing a Spanish N-Adj prime children regularly produced ungrammatical N-Adj orders in Dutch (129/696). Cross-language priming was thus found (e.g., Vasilyeva et al., 2010), even in the children’s dominant language (cf. Hsin, Legendre, & Omaki, 2013). At the same time, individual variation was considerable ( $M=18.5\%$ ,  $SD=28.5\%$ ). Further analyses will determine which factors explain this variation.

Study 2 expands upon Study 1 by examining whether – within the same group of children – cross-language priming effects are found bidirectionally. We tested 29 French-Dutch bilingual 4-to-8-year-old children using a cross-language priming task (a) from French to Dutch and (b) from Dutch to French. Generalized linear mixed models showed priming effects in session a, but not in b. Furthermore, children’s behaviour was related to their proficiency in their languages.

The two studies in this paper not only provide a comprehensive test of the claim that CLI in bilingual children involves cross-language priming (e.g., Serratrice, 2016), they also extend the empirical basis of research on structural priming in bilinguals to include children and individual differences variables (also see Kidd, 2012 for monolingual children).

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# Bilingual language control in connected speech

Kyle Wolff, Iva Ivanova

Bilinguals rarely make wrong-language intrusions when their other language will not be understood - in the Inhibitory Control Model (Green, 1998), because they inhibit the non-target language. Behaviorally, the Inhibitory Control Model predicts adverse aftereffects of inhibition: Lexical retrieval in a previously inhibited language should be delayed (more so for the more strongly inhibited dominant language: Calabria et al., 2012; Meuter & Allport, 1999) until it recovers from the inhibition. Such effects have been amply demonstrated in individual picture naming, but how they play out in connected speech is unclear.

Eighty-six Spanish-English bilinguals viewed and then orally explained two 8-minute Tom-and-Jerry-type cartoons. All bilinguals explained the second video in English (their dominant language). Approximately half of participants explained the first video in Spanish (switching languages for the second video), while the remainder explained it in English.

The Switched-language group produced fewer words overall, fewer unique content words, and words of higher overall frequency than the Same-language group. However, the Switched-language group showed no significant differences from the Same-language group in speech rate or pauses. Video identity across phases had no effects except for unique content word frequency. The remaining analyses will target a continuous measure of cognate status and, more exploratory, mean utterance length and number of clauses.

In conclusion, connected speech in bilinguals' dominant language showed clear effects of language control induced by previously speaking the non-dominant language. However, these effects were only partially consistent with strong predictions of the Inhibitory Control Model, and there was little support for a division of inhibition into local and global. Instead, our results may suggest that bilinguals possess compensatory measures to recover from adverse language-control effects on the dominant language to maintain speech fluency and quality – instead of being more disfluent or speaking more slowly, they used fewer and easier words.

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# Sociophonetic Information Facilitates Cross-Language Lexical Activation in Heritage Speakers of Spanish

Kevin Josephs, Christine Shea

Acoustic information is not all that matters in speech comprehension. Sociophonetic information has also been shown to play a key role in word recognition (Sumner et al., 2014; Szakay et al., 2016). We examine how sociophonetic information influences bilingual lexical activation in two groups of English-Spanish bilinguals in the United States: heritage speakers of Spanish (HSS) and L1 English/L2 learners of Spanish (L2). 22 L2 and 22 HSS completed a primed cross-language lexical decision task. Primes and targets were presented in Midwest English (Eng), Mexican Spanish (MxS), or Peninsular Spanish (PnS). The Spanish dialects were distinguished by the sociophonetic variables, [θ] and [s], which occur in PnS but not MxS. The critical measurements were priming effects, or the speed of recognizing targets that were translation equivalents compared to unrelated words. If social information influences lexical activation, HSS, but not L2 speakers, will exhibit greater priming effects between English and MxS than between Eng and PnS. In Experiment 2, HSS indicated whether MxS or PnS productions “sounds more like the Spanish my family speaks”. Results support the hypothesis that access to sociophonetic information facilitates HSS speakers’ cross-language lexical activation. Measures of HSS language dominance and self-identification with dialect reinforce this conclusion.

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# A Cantonese sound change in a Cantonese-English bilingual lexicon

Rachel Soo, Molly Babel

A sound change is present in Cantonese wherein word-initial /n/ (historical variant) becomes /l/ (innovative variant), which produces homophony (e.g., /naam4/ boy → /laam4/ blue~boy; Cheng, 2017). While dialect variants are represented in the lexicon (Sumner & Samuel, 2009), it is unclear whether this holds for sound changes-in-progress and how a bilingual population may lexically encode these variants. We investigate how /n/ and /l/ are processed by early Cantonese-English bilinguals in an immediate priming experiment. 40 participants made lexical decisions on /l/-initial target words (/laam4/ boy) preceded by identity (/laam4/ boy), historical (/naam4/ blue), or rhyme (/taam4/ phlegm) prime types. A linear mixed effects model predicting reaction times revealed no significant difference between identity and historical trials ( $\beta = -45.59$ ,  $p = 0.123$ ), suggesting that the /n/-initial primes facilitated recognition of the /l/-initial targets no differently from /l/-initial primes. Crucially, this was not simply due to shared rhymes, as the difference between historical and rhyme trials was significant ( $\beta = 68.81$ ,  $p = 0.009$ ). These data suggest that regular exposure to sound change variants supports perceptual flexibility to multiple phonetic forms. The consequence of this is a dual-mapping of /n/ and /l/ to a single lexical representation (Samuel & Larraza, 2015). To examine this dual-mapping more closely, we also present data from a long-term priming experiment ( $n=14$ , data collection ongoing), where priming across longer distances is expected if /n/ and /l/ are variants of one underlying form. Furthermore, the outcome of this sound change is not just the mapping of multiple phonetic forms to the same lexical representation, but also the mapping of the same phonological form to two separate semantic concepts. Thus, we present data from a cross-modal translation priming experiment ( $n=12$ , data collection ongoing) examining how this sound change is encoded at a representational level cross-linguistically.

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# [OS11] Bilingual families



# Bilingual mothers and children communicate differently in their two languages

Sirada Rochanavibhata, Julia Borland, Kaniya Hester, Jessica Yung-Chieh Chuang, Claire Simcox, Lesley Meza, Nadia Van Den Berg, Viorica Marian

Cross-cultural studies have shown unique conversation styles in mothers and children from different cultures (e.g., Rochanavibhata & Marian, 2020). Because culture and language are closely intertwined, bilinguals whose languages are associated with different cultures may exhibit two distinct communicative patterns. The present study examines whether bilingual mothers and their preschool-age children interact differently in each of their two languages.

Participants were 26 Thai-English bilingual dyads living in Thailand. Children were 4-year-old preschoolers. Mother-child dyads were video-recorded while completing a prompted reminiscing task. Mothers elicited autobiographical memories from their children using word prompts. Dyads were recorded in two sessions on separate days, one day in English and another in Thai. Recordings were transcribed using CHAT (MacWhinney, 2000) and coded for specific linguistic measures.

Maternal and child language samples from the English and Thai sessions were compared using paired t-tests. Holm's sequential Bonferroni correction was used. Results revealed cross-linguistic differences in the conversation styles of bilingual mothers and children ( $p < .05$ ). Mothers and children used a higher proportion of group pronouns when speaking Thai compared to English and a higher proportion of personal pronouns when speaking English compared to Thai. Mothers and children also discussed their own thoughts and feelings more when speaking English than when speaking Thai. Mothers provided more negative feedback when speaking English compared to Thai and more positive feedback when speaking Thai compared to English.

These language-specific communicative patterns may be a result of differences in individualistic and collectivist values associated with American and Thai cultures. The findings suggest that bilinguals have two distinct conversation styles, each manifesting differently depending on which of their two languages is used at a given time. We conclude that speaking two languages influences mother-child interactions and is a source of natural variability in bilingual children's language development.

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# Home language practices in bilingual families living in the UK and Germany with Polish as their heritage language

Natalia Banasik-Jemielniak, Aleksandra Siemieniuk, Olga Szczepankowska, Aleksandra Lazar, Julia Kondratowicz

community they live in, turn towards monolingualism at the beginning of their school education (Kan and Kohnert 2005; Fillmore 1991). The reasons behind the phenomenon may be different in various communities. To fully understand them, according to the Spolsky's Family Language Policy model (2004), it is necessary to learn about the parents' opinions on the role of the languages in their children's lives, as well as about socio-political factors that may influence parental choices. Our study examines mothers' (and a few fathers') beliefs about bilingualism and their perceptions of challenges and advantages of raising their children with Polish as a heritage language (HL) while living in either an English-speaking (the UK) or German-speaking (Germany) environment.

We will present an analysis of 20 semi-structured interviews with Polish-speaking mothers of preschool- and early school aged children, reporting on their every-day language behaviors. We used thematic analysis (Brown & Clarke, 2002) to learn about the way they think about their heritage language and its role in their children's lives. The framing questions of the study were:

1. What are the motivations behind raising children with HL?
2. What are the perceived challenges faced by parents raising their children with HL?
3. What language practices aiming at language maintenance are implemented in HL families?

This qualitative study is a contribution to the sociolinguistic literature on the topic that rarely focuses on small HLs such as Polish.

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# Bilingual upbringing by non-native families in Spain: what they think and what they expect

Rubén Chacón-Beltrán, Laura Lozano-Martínez

Family language planning is not a new endeavour for families aiming at making their children competent in more than one language. Raising a bilingual child will no doubt yield numerous social, sociolinguistic, and psycholinguistic advantages (Baker, 2014; Bialystok, 2001). There exist some cases of intercultural couples where each parent speaks a different language to the child, or heritage language contexts where parents speak a language which is not the same as that of the immediate social context or schooling. These are just some examples among the endless personal and social situations that can lead to a bilingual upbringing (Grosjean, 2010).

In Spain, learning a foreign language, particularly English, has become very important and socially recognized. A more recent manifestation of bilingualism in Spain at the moment has been spearheaded by Spanish parents who follow various strategies, e.g. One Parent One Language (OPOL) or Time & Place (T&P), even though none of them is a native speaker of English. This controversial phenomenon, although being a reality for thousands of families in Spain and having proven successful in other contexts (Szramek-Karcz, 2014) has not been adequately portrayed and analysed so far (Lozano-Martínez, 2019).

The purpose of this presentation is to describe this bilingual practice in Spain and try and find out the aims and motivations that make Spanish families undertake such a challenge. Over 570 families out of the 2010 families initially enquired were identified and participated in a study in which they were asked to provide, through an online questionnaire, detailed information about their language habits.

This presentation centres on a selection of the aforementioned families' beliefs about bilingualism, what advantages and disadvantages they identified, why they chose this practice instead of relying solely on the education system, and how informed they are in terms of bilingualism.

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# Expat bilingualism: sociolinguistic and psycholinguistic features of Ukrainian-Russian bilingual immigrants in Spain

Olga Ivanova

Ukrainian immigrants are the third biggest expat community in Spain, only surpassed by Rumanians and Bulgarians (Stanek, Hosnedlová & Brey 2016). Settled all over the country, they make up a highly heterogeneous community, with tighter in-community ties on the coast and more isolated foci inland. In their social contacts, Ukrainian immigrants establish close links with expats from other post-Soviet countries, mostly Russia and the Baltic States, with whom most of them share Russian as *lingua franca*. Most Ukrainians in Spain, thus, become trilingual or even quadrilingual if they live in Spanish bilingual areas, like Catalonia, Galicia or the Basque country.

The objective of this paper is to present how Ukrainian immigrants, most of whom are Ukrainian-Russian bilinguals (Ivanova 2011, 2013), manage their language practices in family environments in Spain. Based on a qualitative fieldwork with social network media pages and personal interviews with Ukrainian immigrants, this presentation analyzes sociolinguistic and psycholinguistic aspects of language choice and maintenance in mixed Ukrainian-Spanish families. In particular, it focuses on how social variables (educational level, social background, profession and degree of immersion) and affective variables (attitudes, motivation and perception) determine (a.) to which degree the native language/s of Ukrainian immigrants are maintained in mixed families, and (b.) to which degree Russian, Ukrainian or both of them are probable to be maintained in mixed families, and why.

The results of this work point at direct correlation between speaker's sociolinguistic self-confidence, positive attitudes towards the country of origin, and sociolinguistic status of either Ukrainian and Russian, on the one hand, and the heritage language maintenance in family environment, on the other hand. In line with previously described for Russian as heritage language in Spain (Ivanova 2019), this study confirms the interdependence between speaker's individual psycholinguistic position and language maintenance strategies.

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# Language Developmental Milestones of a Trilingual Child: Transiting from Kindergarten to Primary School

Catherine Shee-hei Wong

This paper reports the preliminary findings of a trilingual corpus documenting the simultaneous development of Cantonese, English and Mandarin in a child from 3;01 – 6;11. The child was raised in Hong Kong, where both Chinese and English are the official languages. He has been exposed to Mandarin Chinese, Cantonese and English at home since birth. His father is a native speaker of Cantonese and his mother is a native speaker of Mandarin, and they are second language speakers of English. Before 3;00, the family adopted the “one parent-one language” practice (De Houwer, 1990; Döpke, 1992; Barron-Hauwert, 2004; Yip & Matthews, 2007, 2010; Palviainen & Boyd, 2013) where the father addressed the child in Cantonese, the maternal grandmother (a native Mandarin speaker who lives with the family) addressed the child in Mandarin, the mother (being able to speak English fluently as her second language) and the caregiver (domestic helper) addressed him in English consistently.

Starting from 3;01, the family introduced an “one day-one language” system on top of the “one parent-one language” system, in which the father, grandmother and caregiver continued to speak Cantonese, Mandarin and English correspondingly to the child every day, whereas the mother began to interact with the child in English and Mandarin on three weekdays respectively. On Sunday the mother used all the 3 languages to interact with the child depending on the topics, but code-mixing was avoided.

The preliminary findings of this corpus and the in-depth interviews with the parents, grandmother and caregiver showed a wide range in vocabulary development of all the three languages in the child’s language development, which could be somewhat attributed to the family language policies, the parental concerns about language development and amount of exposure to the three languages (Carroll, 2017; Sun, Ng, O’Brien, & Fritzsche, 2020; De Houwer, 2021).

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# The aftermath of different family language policies in Polish-Romanian children

**Matylda Sokół**

Raising a bilingual child is a big challenge for mixed families due to numerous difficulties that may occur in the bilingual education of a child. Often, when confronted with reality, parental wishes, plans and expectations regarding raising bilingually a child turn out to be divergent from the actual situation and real practice of using languages at home. Family language policy (FLP) enables multi-faceted research of the process of shaping bilingualism or multilingualism at the family level.

This study presents the sociolinguistic situation of 10 mixed Polish-Romanian families living in Poland or Romania. The analysis is based on interviews and a survey built upon the standardized background questionnaire MAIN (Multilingual Assessment Instrument for Narratives) and uses the case study approach. Preliminary results show that certain elements of FLP such as high parental attitude, involvement and motivation for bilingual education seem to have a stronger influence on the acquisition of two languages and help develop communication in minority language with the child. They also show a correlation between the amount and quality of time spent using the minority language at home and the declared level of a child's communication skills in this language. In one case a family stopped communicating in the minority language with the child. In another case, the resignation occurred gradually due to an increasing lack of time for communicating with the child in the minority language. Yet in another case, insufficient active time spent in one of the languages influenced a child's preference to communicate mainly in his/her second language.

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# Families in flux: at the nexus of fluid family configurations and language practices

Polina Vorobeva

Research on multilingualism at home approached family as a fixed unit thus neglecting the dynamic aspect and its intersection with family language policy. The present study aims to cover this gap by conceptualizing family as a flexible network, where new bonds are being formed and relationships are being (re)negotiated. By focusing on Russian-speaking mothers in Finland who raised their children bilingually in single-parent as well as in dual-parent families, the current study contributes to the research on family language policy in the Finnish context. Russian speakers are the largest minority language group in Finland, and their number consistently grows (Official Statistics of Finland, 2020). Drawing on the tripartite language policy framework (Spolsky, 2004), the study examines the nexus of shifts in family configurations and language practices. Focusing on four semi-structured interviews and applying the nexus analytical framework (Scollon & Scollon, 2004), the study explores what discourses circulate through the changes in family constellations and language practices. The study reveals that creating new bonds leads to shifts in language practices of the peripheral family members and enables the overhearer and bystander roles (Goffman, 1981) for children. Forming voluntary kin expands heritage language use and non-residential family members expand the family's linguistic repertoire and support the already established practices as legitimate. Furthermore, becoming sole caretakers enables mothers to enact language policies that they find beneficial for their children without encountering any resistance from other family members. The study suggests to further explore how shifts in family configuration influence family dynamics and minority language maintenance by applying long-term and outcome-based study design.

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# Multilingual Families during the COVID-19 Pandemic: Parental beliefs, practices and opportunities for increased minority language use

**Elisabet García González**

In 2020, the global pandemic transformed the world, and the closure of schools and lockdowns in many countries affected the lives and livelihoods of families worldwide. Nonetheless, a silver lining may lie in this precarious situation for multilingual families: while minority languages are often dominated by the societal language (Schalley & Eisenclas 2020), they could thrive with both parents and children at home. In order to probe the status of languages in multilingual families during the pandemic, we adapted an online survey to study how social distancing, lockdown measures and homeschooling affected multilingual family language policies across Norway. Theoretically anchored in Spolsky (2004)'s tri-partite model of language policy (beliefs, practices, management), the current study examined families' beliefs about multilingualism, whether this crisis led to more frequent family interactions in the minority home language(s) and how parents managed language practices during the pandemic, and what the impact of school closures and social distancing measures was on the children's Norwegian and other language(s), as reported on by the parents.

The survey, available in both Norwegian and English, was announced widely through social media, resulting in a total of 193 responses from 45 language backgrounds. Preliminary analyses revealed an overall positive parental attitude towards multilingualism as an important part of their own and their children's identity. Moreover, families frequently resorted to different digital spaces (e.g. Skype, FaceTime) to pursue communication with family abroad. Furthermore, the use of English in the home was enhanced through many children's online play. Crucially, although parents in families in which neither parent was a Norwegian speaker did express concerns over their children's continued learning and use of this societal language, social distancing measures and school closures led to an overall positive impact on their children's other languages. The results have implications for family language policy research.

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# Polish-spanish and polish-portuguese bilingual and bicultural upbringing in Poland

Marta Minkiewicz

The aim of my presentation is to present a strategy of bilingual and bicultural upbringing and an analysis of children's speech, the final effect of this process. The analysed group includes children in pre-school and early school age who are residents of Poland and come from the following family units: Polish-Spanish/Latino, Polish-Portuguese/Brazilian as well as Polish families who practise intended bilingualism. Deciding to raise the next generation bilingually, parents sometimes have doubts, as forums that specialise in the topic illustrate. Parental doubts are frequently exacerbated by teachers, speech therapists, and close relatives. On the other hand, the awareness of the benefits of such upbringing is growing; therefore, this phenomenon is becoming widespread also in Poland.

In my research I've employed a survey method. I've been particularly interested to find out which language becomes the dominant one: Spanish or Portuguese, internationally strong, widely used and prestigious in Poland, or the Polish language, internationally less frequently used but dominant in our country. Also I've attempted to analyse how the linguistic dominance of one language is affected by the child's development, and the onset of pre-school and school education. Another issue examined in the surveys is the role of biculturalism in bilingual upbringing, namely whether it is of any interest to the parents and what methods they use to achieve their aim, and whether the hectic world in which we live allows us to raise a bicultural child, and finally whether it is sensible to do it in the world which is rapidly becoming a global village.



# [OS12] Translation/ Interpretation / Mediation

# Bilingualism and creativity: The effects of bilingual experiences of interpreters and translators on creative thinking

Michal Korenar, Christos Pliatsikas, Jeanine Treffers-Daller

Mounting evidence suggests that bilinguals have a creative advantage compared to monolinguals in that bilinguals score higher on tests measuring respondents' ability to generate creative ideas by exploring many possible solutions (divergent thinking) or tests for which they need to bring together different ideas to find a solution to a problem (convergent thinking). However, not all previous studies found positive effects of bilingualism on creativity (e.g. Lange et al., 2020). A possible reason for the discrepancies is a lack of assessment of specific bilingual language use patterns and inhibitory skills that influence bilinguals' creativity. In the current study, we aim to investigate the relative contribution of specific bilingual experiences on divergent and convergent thinking skills by focusing on interpreters and translators, who need strongly developed linguistic and inhibitory skills in their jobs. Based on Hommel et al. (2011), we expected the interpreters to outperform the translators and a group of non-professional bilinguals in inhibition and convergent thinking, but to score lower on divergent thinking tasks. We tested three groups of Czech-English bilinguals: interpreters ( $n = 29$ ), translators ( $n = 37$ ) and bilinguals without professional experience ( $n = 47$ ). The participants completed a divergent thinking (ATTA) and a convergent thinking task (RAT), an inhibitory control task (Eriksen flanker task), an intelligence test (WAIS-III), a language proficiency test (LexTale), and questionnaires measuring participants' specific use of and exposure to both languages. Contrary to our expectations, the interpreters outperformed the non-professional bilinguals not only on the intelligence and language proficiency tasks, but also on the divergent thinking task. The groups did not differ on inhibition, although reaction times on the inhibitory control task did explain some variance in RAT, in line with predictions. We conclude that bilinguals' professional and everyday-life experiences need to be analysed carefully in studies of creativity.

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# The impact of formal interpreting training on working memory capacity: Evidence from Turkish-English students-interpreters

Elena Antonova Unlu, Cigdem Sagin Simsek

The article presents two studies examining the impact of formal interpreting training (FIT) on Working Memory Capacity (WMC) of student-interpreters. In Study 1, we compared the storage and processing WMCs of last-year student-interpreters with the storage and processing WMCs of first-year student-interpreters and last-year Foreign Language Education (FLE) students. In Study 2, we examined the impact of FIT on the WMC of students-interpreters via comparing their results on the WM tasks at the beginning and at the end of their FIT. In both studies, Digit Span Task (DST) and Reading Span Task (RST) were utilized to test storage and processing WMCs. The results of Study 1 revealed that the last-year student-interpreters performed better than the first-year students-interpreters and the last-year FLE students on the RST, but not on the DST. The findings of Study 2 were consistent with Study 1 showing that after FIT, the student-interpreters performed better on the RST but not on the DST. Our findings can be considered as evidence supporting the view that FIT had a beneficial effect not only on the interpreting skills of student-interpreters (Köpke & Nespoulous, 2006; Padilla et al., 1995) but also on the central executive and processing capacity of their WM.

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# Translating perception metaphors: A process-based approach.

Anu Kalda

The topic of metaphor translation has attracted attention in linguistics, cognitive linguistics, psycholinguistics, translation studies, and it has been widely researched (Van den Broeck 1981, Newmark 1981, Glucksberg 2003, Kövecses 2003, Philip 2003, Schäffner 2004, Li 2011, Sandford 2016, etc.). However, less attention has been paid to the topic of perception metaphor translation, and therefore this is an appropriate ground for further development.

The main research focus was on how perception metaphors are translated, i.e. what strategies were chosen while translating. The second area of interest focussed on the online sources translators used while translating perception metaphors.

A cognitive empirical research with 21 professional translators on translating English perception metaphors into Estonian was carried out. All participants were native Estonian speakers. The focus was on the translation process. The subjects were provided with texts that contained perception metaphors (colour, temperature, taste and smell included). The principle of choosing metaphors for the study was that there would be both metaphors that are conventional and lexicalised only in the source language as well as cross-cultural metaphors. Data was extracted using eye-tracking technology. After the experiment, all participants were asked to provide feedback during an interview.

The presumption was that translators will dwell longer over the processing complexities involved in translating a metaphor than a non-metaphorical concept. It was assumed that metaphors may require increased cognitive processing in a translation situation. Furthermore, it was also expected that cross-cultural metaphors were translated more easily than culturally specific metaphors.

The paper analyses the results of the experiment. Both the eye-tracking data and retrospective interviews indicate that perception metaphors involve greater cognitive processing load during translation. Moreover, colour metaphors seem to be more difficult to translate than other perception metaphors. The participants also emphasised that context is important in both comprehension as well as while translating.

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# Bilingual mediators in oral spontaneous trilogues

Katarina Chovancova

The paper deals with exolingual trilogues between native and non native speakers of Slovak and French, characterized by a specific distribution of communicative tasks. The presence of a mediator, i. e. a communicating subject enabling a smooth flow of the exchange between the other interlocutors who lack a common language or a comparable linguistic competence, shows marks of a variety of discursive operations. Bilingual competence of the mediator is put into practice in order to translate, reformulate or to construct an interlanguage. Which one of these strategies prevails? Founding the analysis on authentic linguistic material gathered for the needs of empirical research on exolingual and multicode communication, the author identifies pertinent features of communicative behaviour of the mediator.

The empirical study explores a series of recorded, transcribed and annotated oral interactions characterized as unofficial, improvised, real-time and private exchanges between exolingual threesomes. Competential asymmetries produce various kinds of impact on the co-construction of meaning. In the specimen set of 4 transcribed recordings (total length 2h 53min 5sec, selected upon the pilot 15-hour-long corpus), involving 13 speakers, the opposition between KOR-type and xKOR-type pragmatic strategies was studied. KOR-type strategies are based on contextual presence of co-referential pairs of elements, xKOR-type strategies are marked by the absence of such co-presence. The results showed that adjunct (natural) bilingual mediators used predominantly xKOR-type strategies while leading (official) mediators showed a marked preference for KOR-type strategies based on explicit reformulation.

The triadic and bilingual (multilingual) nature of communications under focus has a strong potential to influence the dynamics of interaction. Bilingual communicative behaviour is not based only on the use of two languages but also on the active exploitation of transparent linguistic elements taken from these languages. Bilingualism can be seen here as an advantage and as an opportunity.

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# Linguistic heroes or necessary evil? Community interpreting and the phenomenon of language brokering in bilingual schools in Poland and Polish schools abroad

Joanna Nachman

The aim of the presentation is to examine the phenomenon of language brokering in bilingual schools in Poland and Polish schools abroad from the perspective of school staff. Among Polish scholars, language brokering was investigated only by Żytowicz (2017) with Polish diaspora in the UK, while the school context was analyzed by Cline and Crafter (2014). My research aimed at exploring the occurrence of LB at schools in the Polish context. The questionnaire (via Google Forms) was distributed to teachers from bilingual schools in Poland and Polish schools abroad in June 2020. It consisted of 13 questions and there were five open questions regarding additional comments, four yes/no questions and four multiple choice. The survey was to provide the insights with respect to: common language pairs, potential difficulties in communication, the situation when a student played a role of translator-mediator, preparation for translation, emotions and the influence on language broker's mood and prevailing attitude of parents who ask their children to translate for them. The study group consisted of 36 teachers from bilingual schools in Poland and 243 teachers from Polish schools abroad. It was based on convenience sampling. According to the collected data, language brokering is rarely performed at Polish schools abroad but it does occur in the studied context. It is more common in bilingual schools in Poland and it appeared in the case of the children from non-English speaking countries, mostly children from Vietnam, China and Ukraine. According to teachers, parents' ambitions regarding their children and the lack of their commitment to learn the language leads to situations when they rely on children as interpreters. It would be interesting to perform a similar survey among parents to examine their perspective and identify reasons why they ask their children to act on their behalf as informal interpreters.

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# Translating otherness – experimental Polish subtitles for the Lithuanian local dialect of Puńsk in Poland

Tomas Senda

The current global landscape is shaped by a myriad of languages and language variations. Linguistic diversity has become increasingly present in audiovisual products, but it is notoriously difficult to translate it, particularly in subtitling, as spoken elements tend to be standardised (Díaz-Cintas, 2012).

The goal of this study was to render the local dialect of the bilingual Lithuanian-Polish community in Puńsk in the form of experimental subtitles. We also aimed to gauge the reception of these subtitles by its native speakers. Going against professional subtitling conventions, subtitles rendered the Lithuanian linguistic otherness by including ‘dialectal markers’ (Berezowski, 1997) and altering the standard Polish language grammar, vocabulary, and phonetics.

134 monolingual Polish and bilingual Polish-Lithuanian speakers watched excerpts of a Lithuanian TV news programme and answered questions on experimental (ES) and standard (SS) Polish subtitles. Two types of subtitles were contrasted in terms of their comprehensibility, degree of rendering the dialectal features, faithfulness to speakers’ speech, perception of speakers’ language and education level, and preference for the technique used to render the dialectal traits. ES were found to be more faithful to the speakers’ speech and render the traits of the local dialect of Puńsk better than SS. However, ES were perceived as incorrect and less comprehensible. In the case of SS, the speaker using highly dialectal Lithuanian was evaluated significantly lower among bilinguals than monolinguals, in contrast to the speaker using standard Lithuanian. This suggests a certain hierarchy of linguistic codes among bilinguals. When comparing the evaluation of SS and ES, the discrepancies were greater among monolinguals. This may show the original soundtrack’s influence on the evaluation of speakers’ language.

The study has implications on the validity of standard approaches in AVT and may lead to further research on this topic, including commercial productions.

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# [OS13] The sociolinguistics of bilingualism (I)

# Exposure to a minority language during a pandemic: The case of the Welsh Language

**Siân Lloyd-Williams, Enlli Mon Thomas, Nia Parry, Gwilym Sion ap Gruffydd, David Parry**

Many studies recognize that the frequency of exposure to a language, either as an L1 or L2 has the potential to affect children's proficiency in that language in the future (Gathercole & Thomas, 2009; Thomas et al., 2014; Binks & Thomas, 2019), and highlight that a lack of adequate input can lead to incomplete acquisition of the language at hand (Montrul, 2008). In a minority language context, as in the case of the Welsh language, some of the immediate concerns, during the COVID19 pandemic are related to the sudden drop in frequency of pupils' exposure to Welsh and confidence in using Welsh (Estyn, 2020). This research is set in the context of significant and legitimate concern in relation to children's home education practices during the COVID19 pandemic, which includes concerns for: the lack of opportunities/exposure to Welsh in their homes and in the community; a lack of necessity to communicate through the medium of Welsh in non-Welsh speaking homes; the restrictions on teachers' ability to set oral work/group activities for pupils that facilitate the use of targeted languages; and the abilities confidences of non-Welsh speaking parents/guardians to set specific school work for children if the work and resources used are in Welsh (Rhieni dros Addysg Gymraeg, 2020).

This study adopted a mixed method approach with a comprehensive online surveys sent out to teachers and parents as well as structured interviews and focus groups with ITE tutors and students. The findings indicates that, although there were numerous accounts of good practice within the WM education sector when preparing and supporting L2 pupils and parents, further consistency of provision across the sector could have strengthened the provision further. This has implications for blended learning opportunities as well as ITE training and development.

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# Intergenerational Transmission of a Minority Language in Cyprus, Estonia and Sweden: Issues of Language Identity, Code-switching and Emotions

Sviatlana Karpava, Natalia Ringblom, Anastassia Zabrodskaja

In this study we investigated the issues of minority/immigrant language use, maintenance and transmission, culture, identity and the relationship between code-switching (CS) and emotions. Bilinguals and multilinguals use CS as a strategy to express emotions (Dewaele and Nakano, 2012), which depends on the intensity of the emotions (Dewaele and Costa, 2013), the emotional force of words (Dewaele, 2013) and the type of relationship (Pavlenko, 2004). Interlocutors can create proximity/distance via CS (Dewaele and Costa, 2013), and show their language and cultural identity, involvement and group membership, as well as power relations and preferences (Elafropoulos and Gkonou, 2019). Sixty bilingual/multilingual families participated in the study, 20 each in Cyprus, Estonia and Sweden. We used questionnaires, focus group discussions and semi-structured interviews for data collection. The data analysis showed that Russian-speakers in the three countries used CS strategically in order to include or exclude interlocutors in the conversation. In terms of emotions, participants tended to use their L2 in order to express strong emotions, such as anger, fear, surprise, confusion and identity conflict. We found both intra- and inter-sentential types of CS, depending on the setting, situation, interlocutor, L2 proficiency, length of residence in the L2 country, L1 attrition and family language policy.

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# Different speaker types in the language shift ecology: Variation in inflectional and derivational morphology among modern Chukchi and Even speakers

Jessica Kantarovich, Lenore Grenoble

While there has been a surge in studies of heritage speakers in minority language contexts in recent years, these socially-complex multilingual settings have not often been considered comprehensively: research either prioritizes work with the oldest conservative speakers (e.g., most documentary linguistic work with endangered languages) or the uniqueness of the youngest speaker generation (Polinsky, 2018). This study examines the full range of linguistic behavior that exists in two distinct endangered language ecologies: that of Chukchi (Chukotko-Kamchatkan/Paleosiberian), a polysynthetic language spoken in the Russian Far North, and Even (Tungusic), an agglutinating language of central Siberia. There are virtually no monolingual speakers of either language: all Chukchi speakers are bilingual Russian and most Even speakers use Russian or Sakha (Turkic) as their primary language. Previous work on morphosyntax in situations of shift focuses on how shifting speakers impose patterns from the dominant language onto their heritage language (Schmidt, 1985) or show “decay” in the morphological domain (Dorian, 1981; Campbell & Muntzel, 1989). Our work suggests that neither of these generalizations is accurate. The modern speakers of both languages do not display wholesale loss of conservative linguistic patterns; nor do they merely impose Russian-like morphosyntax. The most meaningful patterns can be traced to speakers’ different socio-acquisition backgrounds, on the basis of the following groups: (1) conservative older speakers, (2) attriting speakers, and (3) young speakers with interrupted acquisition. Based on experimental data from 30 speakers of Even and 25 speakers of Chukchi, we demonstrate consistent variation in the domains of inflectional morphology, clause combining, and noun incorporation. Major differences are observed between groups (2) and (3): while (2) displays a tendency to adapt existing linguistic resources in the respective languages to cover linguistic gaps (e.g., morphological leveling/syncretism), (3) displays a marked tendency to innovate new patterns that differ from Russian.

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# Issues of bilingualism: the influence of incomplete bilingualism on linguistic consciousness (based on the material of the Yakut associative dictionary)

Irena Khokholova, Alina Vasileva

According to the concept of F. de Saussure, significance is created only by social life, that is, by the collective experience of native speakers. Each word, being a part of a certain structure (system), has both the corresponding knowledge in the experience of a native speaker of the language/culture and its meaning, i.e. its „weight” in the system.

The research considers the associative verbal network among representatives of the Yakut culture on the material of the Yakut associative dictionary. We found linguistic changes during studying the associative verbal network (AVN). It is the psychological basis of language proficiency and represents phonetic, semantic, grammatical, lexical, and associative links. The object of AVN is a comparison of the associative fields of stimuli. On the basis of associative links, we can restore the image of the world and determine the dominants of culture.

In the associative reactions of the Yakut respondents to words-stimuli in their native language, there are words and phrases from the Russian language. These reactions occupy a certain place in the averaged associative verbal network of the Yakut respondent: 1) equivalent words, transmitted in Russian 2) non-equivalent words (calque, international vocabulary, etc.).

The reaction in a non-native (Russian) language to a word-stimulus of the native (Yakut) language may be a consequence of external and internal factors. It is advisable to consider the problem of borrowing from a non-native language as a sociolinguistic one. Strengthening the influence of the standards of the Russian language as the state language, as the language of education and culture, have an important role in erasing the significance of the native language of the minority group. The Russian language is more convenient for those who use it as a reaction word, strives to save time without thinking for a long time.

## Acknowledgments

The research was funded by the grant No. 2020-220-08-6030 from the Government of the Russia for the project „Preservation of Linguistic and Cultural Diversity and Sustainable Development of the Arctic and Subarctic of the Russian Federation”.

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# Unstable Nahuatl-Spanish bilingualism in colonial New Spain and contemporary Mexico

Justyna Olko

This paper focuses on the development of bilingualism in Spanish and Nahuatl in New Spain/Mexico from the sixteenth century until the present day, along with its scope, functions and stability. It combines a historical perspective based on a large corpus of written sources in Nahuatl and Spanish with contemporary qualitative and quantitative data acquired during fieldwork carried out in four different regions (Guerrero, San Luis Potosi, Tlaxcala and Veracruz) where Nahuatl and Spanish bilingualism is present today. These communities represent varying degrees of accelerating shift to Spanish and assimilation to national culture and its ways of life. In addition to the study of the results of language contact, language ideologies, attitudes and practices in different domains of life, this research has embraced the assessment of proficiency in two languages with data acquired from elicitation based on purely visual stimuli. The research has shown that among Nahua communities today we find a broad continuum of proficiency in the ancestral language, strictly related to the mode and circumstances of its transmission and the degree to which the community members have been socialized within it. The results of the quantitative, large-scale survey reveal an unstable, asymmetrical Nahuatl-Spanish language contact that leads to shift to the national language. Depending on the region, this may occur as quickly as within two to four generations. In terms of contact-induced language change, while Nahuatl has a clear structural impact on the local variants of Spanish used by community members, their heritage language is heavily influenced by Spanish at the level of structure, lexicon and phonology. When taking into account historical data, it is possible to conclude that due to power differentials and discriminatory language policies, there has never existed a stable Spanish-Nahuatl bilingualism at the community level that would have outlived more than a few generations.

# Minority language standardisation as mediated social action

Pia Lane

Developing a written standard for a minority language has consequences for the status of the language and for how speakers relate to the new standard. Speakers do not always accept and identify with the standard or might feel that their way of speaking has been left out or feel that they cannot live up to the new codified standard (Gal 2006, Lane 2015).

In this presentation, I draw on different methods in order to analyse these complex processes. I will investigate the standardisation of Kven (a minority language in Northern Norway), and I aim to show how different methodological approaches may compliment data from sociolinguistic interviews. The material outcomes of standardisation will be brought to the fore through an analysis of the recent standardisation of Kven, a minoritised language spoken in Northern Norway. I draw on my experiences as a new speaker of Kven and participation in Kven language planning (Lane 2017) and analyse the standardisation of Kven as chains of social actions (Scollon 2001; Norris 2004), suggesting that the material outcomes of standardisation may be understood as frozen actions (Norris 2004).

By applying the concept of frozen action to language standardisation, standardisation processes are analysed as mediated actions and material results of social actions performed in the past. Taking this as a starting point, I wish to show how including material objects in our analysis may yield a deeper analysis of complex social processes, such as standardisation.

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# Russian and/or English? The main second languages in a Baltic country

Inga Hilbig

The paper aims to present a part of the results of a representative questionnaire survey on the sociolinguistic situation in Lithuania. Lithuania is a small and ethnically quite homogeneous country. The Lithuanian language is one of the less widely used European languages. Because of the Soviet-era Russian linguistic and cultural heritage and present-day openness to the West, most of the population is bilingual, i.e., they speak Lithuanian as their native language, as well as Russian, English, or both (Eurobarometer 2012; Ramonienė 2012, 2013, 2020). What does the most recent statistical data show with regard to the knowledge and usage of those two main second languages in the Lithuanian society?

The data reveal that Russian and English as second languages are known by respectively 76 perc. and 70 perc. of the population. However, Russian is notably more known by older citizens, especially males, and in the rural areas. The knowledge of English is most widely spread in the capital (85 perc.). Russian is much more actively used, i.e., only 47 perc. declared that they actually speak English in their daily life, whereas for Russian it's even 73 perc. The usage of Russian is clearly prevalent at work domain. Nevertheless, English was evaluated as the most needed language (61 perc.) (Russian only 6 perc.) Overall, age seems to be a crucial factor: 18-44 years old Lithuanians have a better command and use more English, whereas the age group 45-74 know and use Russian more, indicating the need for English at the same time. In conclusion, after decades of asymmetrical Russian-Lithuanian societal bilingualism and 31 years of independence, Russian as a second language still firmly holds its first position in Lithuania. However, because of growing importance and value of the global English, a clear further shift from Russian to English can be observed.

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# Language competence of Sakha speakers in the Sakha Republic: Linguistic and extra-linguistic factor

Nina Ivanova

Sakha (ISO 639-3 sah) is a Turkic language spoken by approximately 500,000 people living in the Sakha Republic of Russia. The present study provides an analysis of Sakha language competence in the period from 2002 to 2014 by analyzing changes in proficiency levels in Sakha and Russian across native (L1) speakers of Sakha, and the sociolinguistic correlates of age, education and levels of urbanization, territorial mobility, and level of income, together with an analysis of language attitudes of young people, as reflected in the results of Focused Associative Experiments (or FAE). Extra-linguistic factors are the results of State language policy, the spread of high-speed Internet and the introduction of IT into the everyday life of people. Together with the additional impact of globalization, they combine to have a powerful negative impact on non-dominant and minority languages. Proficiency levels in the native language in the urban Sakha community are stable due to the intra-regional rural-urban migration of Sakha speakers of the Yakut language. Language competence in the native language is heavily determined by language of school instruction, age, and level of education. In Yakutsk, 80.6% of ethnic Sakha speak the language (and 86.4% speak Russian); however, the respondents aged 17–25 show a decrease in Sakha language proficiency, which is also correlated to levels of Russian language competence. In the rural community of Chai, a consistently high level of proficiency in Sakha remains across sociodemographic groups at 92%, while Russian proficiency is 10% lower than in Yakutsk, at 76.9%.

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# Lithuanian vs. English in the life of school students in Lithuania: could it be draw?

**Kristina Jakaitė-Bulbukiene**

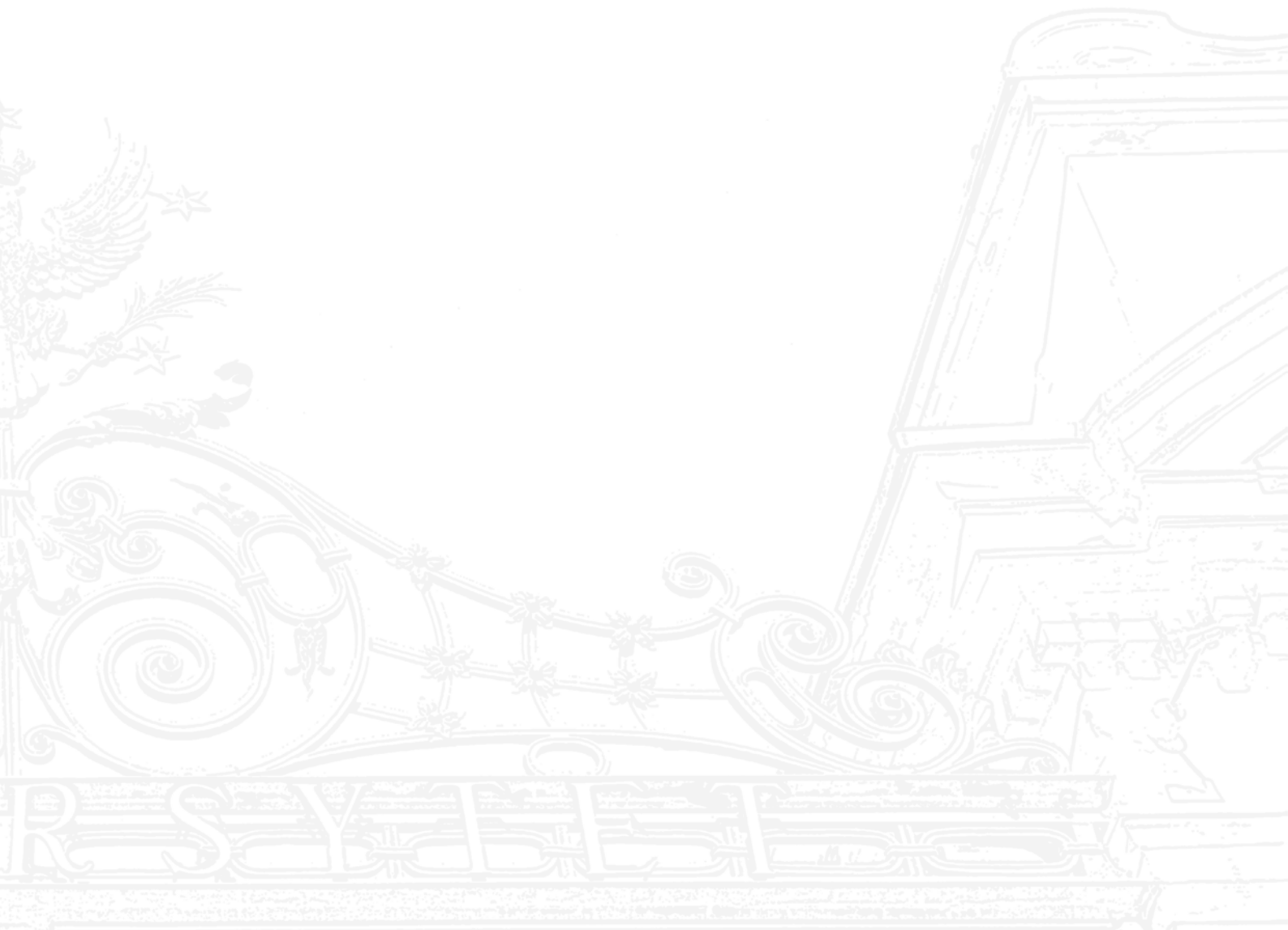
Situation with English language and especially the linguistic behavior of young people is discussed very often in Lithuania: have we jumped from the lion (Russian) to the bear (English)? Are we proud that young generation speaks English well or we are afraid of it?

This paper is based on a very recently acquired qualitative data from a research project of language attitudes and use “Language Attitudes and Linguistic Behavior of Lithuanian Population” (2020–2021). In this paper 20 semi-structured qualitative face-to-face interviews with 16–18-year-old students’ (10–12 grade) have been analyzed. The paper is focused on the following issues: the positions of Lithuanian and English in the system of students’ attitudes, how Lithuanian and English compete / coexist in this system, where and with whom students use Lithuanian and English.

Students are better or less proficient in English. Major part of them have said that as they have closed the door of school they have switched to English and have spent in English all their leisure time: they play on-line games, use social networks, search for information, watch movies and serials, but most of them do not read books in English. In Lithuanian they do homework for school and read books. Code switching with Lithuanian peers is normal or sometimes they agree to speak one week in English, another in Lithuanian. And almost all of them have said that Lithuanian is prestigious, because it is small, unique, hard to learn and beautiful, and English is normal, usual language, because everybody could learn and speak it and it is spoken around the world. It seems that English takes the place of youth jargon and takes time of leisure, students understand that it is important to learn it for their future, but also Lithuanian has an important place in their lives.

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## [OS14] The sociolinguistics of bilingualism (II)

# Capturing 'Bilingualism in Flux' through a Novel Systems Framework

Mehrgol Tiv, Ethan Kutlu, Jason Gullifer, Ruo Ying Feng, Marina Doucerain, Debra Titone

Bilingualism is a dynamic, complex, and socially rooted experience. However, assessments of bilingualism typically target intra-person attributes without considering how these attributes are constrained by people's social contexts or histories. We offer a more holistic view of 'bilingualism in flux' by measuring how a system comprised of interpersonal and ecological sociolinguistic contexts jointly constrain the language behavior of bilinguals. We merge tools from social network analysis and geospatial demographic analysis to capture subtle interpersonal and ecological language dynamics, respectively. One hundred and seven English- and French-speaking bilingual adults completed a social network survey that assessed their language use with 8-12 people (alters). We constructed three language-tagged subnetworks consisting of English, French, and bilingual alters and extracted common network measures (e.g., network size, density, centrality) from each one. We then computed ecological language indices based on census information from the postal code of each participant's residence. Next, we conducted exploratory factor analysis and found that each linguistic social network grouping loaded on independent factors (English, French, Bilingual), and all ecological indices clustered on one factor. We found contextual alignment between interpersonal and ecological sociolinguistic contexts such that having a larger, more interconnected, and strongly influential English-speaking personal network was associated with living in neighborhoods with more English mother tongue speakers and greater language diversity, whereas having stronger French-speaking personal networks was associated with living in French-dominant neighborhoods. Lastly, we found that these latent factors underlying interpersonal and ecological sociolinguistic context jointly predicted how much bilinguals reported using English and French in everyday conversations. Together, these findings provide quantitative evidence in support of a Systems Framework of Bilingualism in which aspects of both interpersonal and ecological sociolinguistic contexts relate to real-world language behavior. Moreover, our approach provides a methodological toolkit that can facilitate a more granular quantitative assessment of diverse bilingual experiences.

# A New Tool to Quantify Bilingual Experience in Children

Cécile De Cat, Draško Kaščelan, Philippe Prévost, Ludovica Serratrice, Laurie Tuller, Sharon Unsworth

Bilingualism research often requires documentation of participants' language background. In relation to child bilingualism, this is usually achieved through parental questionnaires. However, due to diversity of operationalisations across questionnaires, the resulting measures can vary widely. A recent international Delphi consensus survey (De Cat et al., 2021) has highlighted the readiness of bilingualism researchers, clinicians, and teachers to adopt common methods for the documentation of bilingual experience in order to enhance the generalisability of research findings and facilitate exchanges between research and practice.

We present a new questionnaire for Quantifying Bilingual Experience (Q-BEx) in children. The creation of the tool was informed by: (1) a Delphi consensus survey on quantifying bilingualism (completed by 132 researchers, teachers and speech and language therapists from 29 countries); (2) a comprehensive review of existing language background questionnaires; (3) lessons learned from the psychometric literature; and (4) a collaborative approach to validation and consultation with relevant experts in the field. The new tool is freely available in 14 languages as an online questionnaire and back-end calculator. It features seven modules documenting: background information, language exposure and use, language proficiency, richness of linguistic experience, attitudes and satisfaction with child's language, language mixing, and risk factors. The questionnaire documents long-established constructs as well as some brought to light by recent research.

We present the online version of the tool by outlining the customizability options, raw measures which can be obtained, the back-end calculator of language exposure and use, as well as indices (of richness of linguistic experience and risk of language delay). Finally, we outline the follow-up validation steps and call for collaboration for further development and adaptation of the tool.

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# How to Quantify Bilingual Experience? A Delphi Consensus Survey

**Draško Kaščelan, Philippe Prévost, Ludovica Serratrice, Laurie Tuller, Sharon Unsworth, Cécile De Cat**

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 consensus 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.

To establish how children's bilingual experience should be documented and measured, we carried out a Delphi consensus survey (Iqbal & Pison-Young, 2009). It was conducted 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). Agreement with each statement was rated on a 5-point scale. Consensus was pre-defined as 75% agreement threshold. After the second round, 79% of statements had 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), education and literacy, indices 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. We discuss the implications of these findings for the next step of our project: the creation of a new tool to quantify bilingual experience.

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# Can a trucker be a woman? - On the effects of bilingualism, gender identity and personal attitudes on implicit gender stereotypes

Joanna Porkert, Anja Schüppert, Hanneke Loerts, Merel Keijzer

This online study investigated whether personal attitudes with respect to gender equality and sexism, own gender identity, and upbringing influence the emergence of implicit occupational gender stereotypes (i.e. the association between a specific occupation and a sex; e.g. a trucker is a man) in sequential and simultaneous bilinguals by using the automatic stereotyping paradigm based on studies by Banaji and Hardin (1996) and Siyanova-Chanturia et al. (2012).

A focus of this study was to look at simultaneous bilingualism as a distinct way of upbringing that will lead to higher flexibility and openness to new social contexts as it has been shown that various demographic and attitudinal factors influence gender stereotyping, such as the upbringing by parents (Turner & Gervai, 1995), and the score on ambivalent sexism (Grant et al., 2020). Indeed, research has shown that simultaneous bilingual infants showed reduced racial stereotype bias in comparison to their monolingual peers (Singh et al., 2019).

So far, 123 subjects (mean age = 21.99) were tested out of which 51 grew up as simultaneous bilinguals with different language constellations. As the influence of the gender identity was part of the investigation, 43 of the subjects were transgender, and 46 subjects were non-binary (note: some identified as both). A preliminary analysis revealed that simultaneous bilingualism did not influence the reaction times in the automatic stereotyping task. However, a linear mixed effects analysis revealed a significant three-way interaction ( $p = .03$ ) between stereotype condition, the gender identity, and the scoring on a sub-scale of the Social Dominance Orientation scale, suggesting that subjects who identify as cis-gender with preferences for hierarchies in society engage also in gender stereotyping.

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# Cultural transmission in a bilingual society: Findings from an iterated learning study

Pauline Palma, Sarah Lee, Debra Titone

One of the defining properties of human languages is structure, which may be defined as systematic form-meaning mappings. For instance, the suffix *-(e)s* in English systematically indicates plurality. The usage-based perspective proposes that structure comes from the amplification of individual cognitive biases through a process of cultural transmission (Kirby et al., 2014). Cultural transmission refers to the process through which cultural elements, such as a set of beliefs or a language, are passed onto individuals and groups. Cultural transmission may be studied experimentally using the iterated learning paradigm, in which a first participant is exposed to an artificial language that they need to reproduce. Crucially, the output of that first participant becomes the input of a second participant, and this process is repeated for multiple generations of participants inside a diffusion chain (Kirby, 2008). Eventually, this process leads to the emergence of systematic form-meaning mappings (Raviv & Arnon, 2019). However, it has been argued that different individuals may bring different biases to the cultural transmission process, which in turn shapes the language outcome (Roberts, 2014). In the present study, our aim was to investigate how knowledge of two languages may affect the cultural transmission process. We recruited English-French bilingual individuals ( $n = 30$ ) and created two artificial word sets. One set was more similar to French, phonologically and orthographically (e.g., *kâtur*), the other more similar to English (e.g., *palpo*). For the first participant of each diffusion chain, these words were randomly paired with unfamiliar object pictures. Crucially, the output of that participant became the input of the next participant, a process that was repeated over 10 generations. Preliminary results suggest that both lexicons became increasingly structured, in that mappings between words and pictures became more systematic. Interestingly, the French-like lexicon was also more structured than the English-like lexicon overall.

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# Multilingual use in adults and children in today's Norway

Ragnar Arntzen, Gisela Håkansson

In our study language use is investigated among children and adults in Norway. The criterion for inclusion was that they lived in Norway and were enrolled in schools in the same region during the time of data collection. The children either went to a state school (n=146) or to an IB school (n=118), and the adults (n=114) were enrolled in a language program for immigrants. For data collection we used a self-report method where the participants fill in the names and domains of the language(s) they used (French & de Courcy, 2016). We avoided predefined terms such as first, second and heritage language, but asked the participants to name the languages and when they were used. The results indicate a broad and dynamic multilingualism. Most of the participants (98 %) reported use of two and more languages; some more than ten languages. The languages tended to be used across domains, with interlocutor being the defining feature. In the families, different languages were often used with different family members, such as parents, siblings, grandparents, cousins, aunts and uncles. In contrast to earlier perceptions of one language in home and one language in school, our results point to a fluid language use with an extended family unit transcending the close unit of parents and children, and with media use both in the home and outside (Kenner et al., 2008; Palviainen, 2020, Tannenbaum, 2003). The typological representation is striking. All the world's major language families (Comrie, 2011) were present in our data; analytic, synthetic, agglutinative, fusional languages. In some homes, languages from four different language families were used at the kitchen table. This is a new challenge for the teacher asking the pupil "how do you say in your language?"

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# Avialinguistics

**Anna Borowska**

The poster aims at displaying the latest significant research within applied linguistics in the context of aviation safety. The new interdisciplinary branch of science called avialinguistics covers the study of languages for aviation purposes as well as all interrelated issues necessary to study in this context. Based on strict aviation regulations and requirements, this new branch of science sets clear standards for discourse analysis, and is to facilitate the study of all professional aspects of a selected aviation language in relation to practical problems such as its prescription and use. The poster presents the definition, the object, the purpose, the research areas and the main tasks of avialinguistics. Aviation language is a special language for aviation purposes that is realised in the different forms of the sublanguages or tools based on particular aviation domain. The applied objective supports and advocates the improvement of the quality of aviation communication in order to enhance global safety. Therefore, various aspects of communication, including multilingual one, should be taken into consideration within this context. Last but not least, the poster is to draw readers attention to the fact that aviation language and texts differ from other special-purpose languages and texts.

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# Language Attitudes and Ethnic Identity of Russian and Polish Minorities in Lithuania

**Skirmantė Kubiliūtė**

Ethnic identity, language attitudes and policies within ethnic minority groups are widely discussed issues nowadays, including the Baltic states (Lazdiņa & Marten, 2019; Ehala & Zabrodskaja, 2014; Kunn, 2008). Research have shown that the young generation of ethnic minorities tend to develop unexpected language attitudes, language use and often has different identity perception comparing to the older generation. The purpose of this study is to investigate language attitudes and ethnic identity formation of Russian and Polish youth based in Lithuania.

The participants of this study were 183 Russian and Polish native speakers. They were divided into two age groups: younger participants were aged from 15 to 29 years old; the older participants (control group) were aged from 45 to 65 years old. The study is based on the data of questionnaire and semi-formal interviews.

The results show that young Polish and Russian respondents tend not to identify themselves as members of just one particular ethnic group; the formation of hybrid identity was observed as a frequent phenomenon. One third of all young participants claims having a double ethnic identity, the other part is unsure about their ethnicity, and the last group of young respondents see themselves as world citizens or Europeans. When it comes to language attitudes, Russian seems to become less popular, and English is getting higher prestige and value among both Polish and Russian minorities. This tendency is the most prominent among the youngest participants. We assume, that these new tendencies are influenced by intensified processes of migration, social networks, active processes of assimilation and growing number of mixed families.

Sociolinguistic situation in the Baltic states is constantly changing, therefore more complex studies could be conducted in the future.

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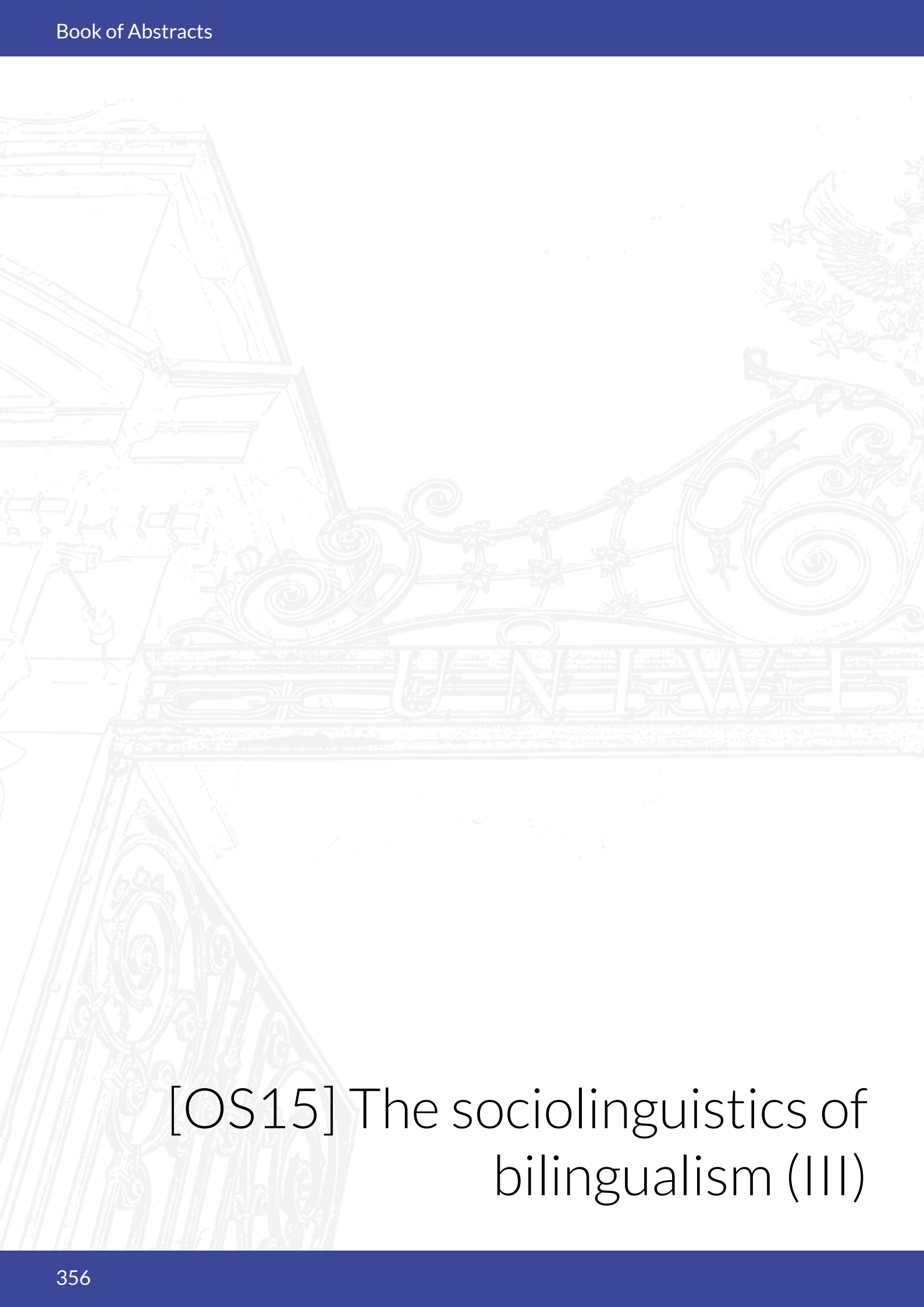
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[OS15] The sociolinguistics of  
bilingualism (III)

# Russian-Portuguese bilinguals of Brazil: sociolinguistic profiles and speech analysis

Anna Smirnova Henriques, Aleksandra S. Skorobogatova, Pavel A. Skrelin, Tatiana V. Kachkovskaja, Svetlana Ruseishvili, Mario A. de Souza Fontes, Maria Cristina Borrego, Patrícia Piccin Bertelli Zuleta, Lésle Piccolotto Ferreira, Natalia Gagarina, Sandra Madureira

Approximately three hundred languages are spoken in Brazil, some of them, in the immigrant communities. The bilingual studies in Brazil focus mainly on L2 learning by Brazilians; even though the speech of heritage speakers in the immigrant communities has recently started to be studied, only few reports characterize the speech of late bilinguals represented by the first-generation immigrants. Our current goal is to explore sociolinguistic profiles and to characterize the Brazilian Portuguese spoken by the first-generation immigrants from Russian-speaking countries who have been living in São Paulo for at least six months. We built the database that contains audio and video recordings of speech in Russian and in Brazilian Portuguese produced by 40 participants who also provided sociolinguistic information (Smirnova Henriques et al., 2020). The audios were perceptually evaluated; for some features, acoustic measurements were performed. Some of the recordings were judged by 152 informants in an online test to evaluate voice pleasantness. Results concerning the main features of Russian-accented speech in Brazilian Portuguese are: (1) difficulties in distinction between open and close mid vowels; (2) devoicing of voiced consonants; (3) misproduction of nasalization features. There was a strong negative correlation between the degree of Russian accent in Brazilian Portuguese and the degree of voice pleasantness perceived by native Brazilian Portuguese speakers. The video recordings are currently being used for the analysis of the facial expression patterns in bilinguals. For future work, we aim to extend our study to Russian heritage speakers in Brazil.

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# Historical Dynamics of English Varieties and their Impacts on Speech Perception

Ethan Kutlu, Mehrgol Tiv, Stefanie Wulff, Debra Titone

Through the flux of globalization, many linguistically diverse communities have emerged. However, not all communities emerged in the same manner. This can be observed in American, British, and Indian English. While Indian English emerged as a result of British colonialism in a multilingual environment, American English emerged from British settlers' monolingual practices in North America (Kachru, 2006). This is crucial, as American and British English are perceived as "standard" varieties, while Indian English is not (Kutlu & Wiltshire, 2020). Multiple experiments measured how speech perception of these varieties are perceived by bilingual listeners who live in linguistically more (Montreal-Canada) or less diverse (Gainesville-USA) networks. Participants heard the same spoken stimuli with White and South Asian faces for all three varieties. They were then asked to type what they heard and judge whether the speaker had an accent. Results show that participants in Gainesville transcribed all varieties with high accuracy when paired with White faces. The same spoken stimuli were transcribed less accurately when paired with South Asian faces. For Montreal participants, faces didn't affect accuracy. For accentedness judgments, Gainesville participants judged Indian English as more accented compared to the other varieties. This effect was further modulated by the faces. All varieties were judged as more accented when paired with South Asian faces compared to White faces. Contrastingly, differences in faces did not affect Montreal participants' accentedness judgments. Rather, hearing different varieties impacted them. Indian English was judged as more accented compared to British English and American English, and British English was judged more accented compared to American English. These results suggest that people's diverse linguistic experiences impact perception of different varieties (Baese-Berk et al., 2013) but does not diminish attitudes towards colonial varieties (Kutlu, 2020). Further implications of judging the same speech differently with different faces will be discussed.

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# Bilingualism and diglossia of the Polish community in Striy (West Ukraine) in the 20th and 21st centuries in the context of family language policy

Michał Głuszkowski, Angelika Pawlaczyk

The language situation of the Polish community in Striy (Ukraine, Lviv region, approx. 60.000 inhabitants) has changed several times since the beginning of the 20th century. There are 4 main periods: (1) the Austro-Hungarian period until 1918 (see e.g. Fellerer 2020); (2) 1918-1939 the Polish period; (3) 1939-1991 the Soviet period; (4) after 1991 – the Ukrainian period.

The aim of the presentation is to reconstruct the range of bi- and multilingualism in the Polish community in Striy depending on the changing size of Polish community (varying from 35% in the years 1900-39 to 0,5% in the 21st century) and the language of administration and education. An important factor is also the informal ban on speaking Polish and the informal order to conceal Polish origin in the Soviet period, because the communist authorities treated Poles as an undesirable element and a potential threat for the USSR.

There is a noticeable generational differentiation in attitudes towards the languages used in the community. The paper will present the evolving prestige of Ukrainian, Polish and Russian (Pawlaczyk 2019a: 258), against the background of social factors determining the language situation of the subsequent generations (the year and place of birth, the language of the closest environment, homogeneity/heterogeneity of marriages, family type, religious commitment and professional occupation). The collected sociolinguistic material allows to characterize the correlations between aforementioned variables in a diachronic perspective and determine the effects of conscious and unconscious family language policy (see: Pawlaczyk 2019b: 75-79). Information on individual and societal bilingualism, as well as the language choice in various spheres of life of the Polish community in Striy has been achieved from the interviews with 33 informants, sociolinguistic questionnaires (42 respondents) and the personal documents (school certificates and ID cards, diaries etc.).

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# The Effects of Theatre-based Vocal Empowerment Program on Young Egyptian Women's Speech and Language Characteristics

Sarah Fahmy, Pui Fong Kan

This study investigates the impact of a theatre-based vocal empowerment program on the vocal and language characteristics and the self-perceptions of young Arabic-English bilingual Egyptian women. The program used applied theatre, a dramatic practice that promotes civic action by utilizing improvisational techniques to engage participants in exploring solutions to self-identified community concerns. These techniques supported participants' pursuit of vocal empowerment: the ability to comfortably express their intended content with a clear audible voice, accompanied by the belief that what they had to say was worthwhile. The program was implemented in Alexandria and Aswan, two Egyptian cities in different regions of the country, with distinct socio-economic profiles. Thirty-six young women from Aswan and nineteen from Alexandria participated. The program was facilitated in Arabic, for 90 minutes per day over twelve consecutive days. Participants in both groups spoke Arabic as a home language (L1) and studied English (L2) in school settings but differed in their educational experiences and English proficiency. The vocal and language characteristics of each participant were tested in Arabic and English pre- and post- program using a spontaneous speech task and a reading aloud task. Their self-perceptions were evaluated through a vocal self-perception survey. Results indicated that participants responded differently in each city. In Alexandria, participants showed significant improvement in language skills (e.g., mean length of utterance). In contrast, participants in Aswan showed a significant change in fundamental frequency. Overall, the self-surveys indicated that all participants experienced an increased sense of confidence, a stronger belief in self-authorship, and an increased desire to voice their opinions clearly in public; however, there were subtle differences between the groups. In analyzing these results, we conclude that to design effective vocal empowerment outreach programs internationally, it is necessary to consider participants' cultural backgrounds, language diversity, and socio-economic status.

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# Nieatrakcyjny bilingwalizm

Elżbieta Plewa

Bilingwalizm jest zwykle widziany jako wartość dodana, bardzo pożądana umiejętność człowieka. Osobom dwujęzycznym zazdrości się, bez wysiłku potrafią coś, czego inni muszą się zmudnie uczyć latami. Dwujęzyczność jest niezaprzeczalnym atutem na rynku pracy. Poszerza świat, bo pomaga osobie znającej określony język w lepszym odnajdowaniu się w społeczeństwach mówiących tym językiem. Dla osób dwujęzycznych jest to niewątpliwy dar ich mądrych rodziców czy opiekunów.

Jednak nie wszystkie języki są traktowane przez ich użytkowników jako atrakcyjne w danej konstelacji politycznej. Dotyczy to np. gwarowych odmian języków wschodniosłowiańskich na terenach współczesnej Polski, które będą tematem prezentacji. Moim pierwszym językiem była białoruska gwara, a język polski był akwizowany stopniowo z telewizji, książek z wierszami i bajkami, a następnie ze szkoły. Współcześnie, jedno pokolenie później, dzieci nie są w domach uczone gwary białoruskiej. Rodzice od razu rozmawiają z nimi po polsku. Gwarę traktuje się jako coś zbędnego, wstydliwego, wskazującego na nasze białoruskie korzenie. Na określenie naszego języka bardziej pasuje określenie „rusiński”, bo białoruski niezbyt odpowiada jego pochodzeniu.

Niewielu dziś zdaje sobie sprawę z przyczyn takiego stanu rzeczy. A leży ona w historii Polski. Najpierw w dyskryminacyjnej polityce II Rzeczypospolitej wobec mniejszości narodowych, a następnie w polityce Polski Ludowej, pragnącej przesiedlić mniejszości poza granice państwa. Z tego powodu prawosławni Białorusini (Rusini) stopniowo stawali się prawosławnymi Polakami, aby móc w spokoju mieszkać na ziemi przodków. Rezygnacja z gwary jest smutnym skutkiem asymilacji ze społeczeństwem polskim, przeważającym w naszym wspólnym państwie. Obecną politykę państwa polskiego w odniesieniu do języków mniejszości opisałabym słowami: obojętność i systemowe nie wspieranie.

Kwestię języków mniejszości, które nie są językami urzędowymi w żadnym kraju, próbował nagłośnić europoseł Łukasz Kohut przemawiający w grudniu 2020 roku po śląsku. W swoim wystąpieniu stawiam tezę, że wymieraniu języków mniejszości winna jest polityka państwa. Zastanowię się w nim, czy można ten trend odwrócić.

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# The impact of language policy on German-Czech bilingualism in schools (Brno 1867–1918)

**Maria Schinko**

The presented paper deals with the relationship between the language policy of the former Crown Land of Moravia and the linguistic affiliation and competence of the students of the four grammar schools (Gymnasien) in Brno between 1867 and 1918. It examines student data from historical school programs and chronicles and statistically analyzes their development and change. Furthermore, it is dedicated to historical legal texts and evaluates them with regard to sociolinguistic content.

From 1867, there was a tendency for students to choose a school whose language of instruction corresponded to their native language. However, until about 1890 up to 25% of Czech speakers still attended a German school. At the beginning of the 20th century two national types of school had been established.

As the Constitution of 1867 prohibited to force citizens to learn a second official language, these languages were only taught as relatively obligatory subjects. However, in Czech schools German classes were de facto compulsory and therefore attended by all students. The percentage of German students studying Czech, on the contrary, strongly depended on the type of school and most of all on the political situation. Therefore, attempts to establish both Czech and German as official languages in the 1880s and 1890s and the Moravian Compromise of 1905 led to significant increase of German students learning Czech.

The comparison with schools in other Czech-speaking areas shows that all Czech pupils spoke German. But the share of German-speaking grammar-school students who learned Czech in school also rose during the end of the Habsburg monarchy – and not just in towns and cities with a high share of Czech speakers, such as Brno.

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# Strangers in Their Own Land(s). The identity of Bimodal Bilinguals on the Example of Polish Deaf Community

Michał Górnik

This research is meant to examine paradoxes of sociocultural identity developed by the bimodal bilinguals from the Polish Deaf community. The majority of bilingual studies examine two spoken languages. Nevertheless, this approach focuses on only one mode of communication, whereas bilingualism may manifest itself in more complex, less analysed forms. Bimodal bilingualism, being one of them, involves using both sign language and oral or written language. The examples of bimodal bilinguals are to be found within the world of Deaf communities. Promoting such a type of bilingualism is becoming popular among researchers in the area of Deaf education. Being able to transfer meaning by two different modes should enhance the communicative skills of these bilinguals; they should be able to fit in two different sociolinguistic backgrounds. It was observed though, both by the researchers in the field of Deaf education and the members of the Deaf community themselves, that the Deaf may struggle to adapt to different communicative challenges. In this paper, the author would like to present the preliminary outcomes of the research on Polish bimodal bilinguals. The research is meant to study the paradoxes of becoming a Deaf bilingual. The results are drawn upon from a number of questionnaires and interviews performed within the Polish Deaf community. The analysis of the results is based on two theoretical models on Deaf cultural identity (i.e. Maxwell-McCaw's DAS scale and Glickman's DIDS scale). The author expects his findings to determine whether bimodal bilingualism may have a negative effect on defining one's identity. It would mean that being bimodal bilingual may paradoxically prevent the Deaf from maintaining successful communication with the members of their nation and/or a specific culture. In extreme cases, it would even mean becoming outcasts to one's mother culture(s).

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# Multilingualism as a factor in the formation of the national identity of Belarusians (based on materials from the Vilnius Belarusian-language newspaper *Nasza Niwa* 1906-1907)

**Viktar Korbut**

The newspaper *Nasza Niwa* was oriented towards the Belarusian-speaking Catholic population, who knew the Polish alphabet, and the Orthodox, who knew the Russian alphabet, therefore it was published in parallel in two alphabets: the so-called Russian and Polish letters.

In view of the powerful influences on the Belarusian writing system from the developed literary languages — Polish and Russian — the question arises as to how these influences were reflected in the language of *Nasza Niwa*.

The analysis of publications shows that the Belarusian literary language of that time was still in the stage of formation, the linguistic norm was unstable, and the editors did not set themselves puristic tasks (this was first announced only in August 1907).

It can be stated that for a number of authors the Belarusian language was, to one degree or another, under the influence of three elements:

1-2) the Russian and (or) Polish literary languages: *za wodka* (Pol. *wódka*, Rus. *водка*); *na pradažu harełki* (Pol. *gorzałka*); *literami* (Pol. *litera*); *bukwami* (Rus. *буква*); *wujezd* (Rus. *уезд*); *pawiet* (Pol. *powiat*); *rachunak* (*smietu*) (Pol. *rachunek*, Rus. *смета*); *Duma* (*Sejm*) (Rus. *Дума*, Pol. *Sejm*);

3) Belarusian dialect speech: *miesca* (Pol. *miejsce*, Rus. *место*); *atkaz* (Pol. *odpowieź*, Rus. *ответ*); *piered Wielikodniem* (Pol. *przed Wielkanocą*, Rus. *перед Пасхой*). The formation of lexical means on the Belarusian basis also occurred through phonetic, morphological adaptation of Russian and Polish vocabulary: *piłnawali* (Pol. *pilnowali*); *żandarami* (Rus. *жандармами*); *dyrechtar* (Pol. *dyrektor*, Rus. *директор*); *ũ cieatry* (Pol. *w teatrze*, Rus. *в театре*); *archirej* (Rus. *архиерей*).

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# Exemplary Leaders of Multilingual Students: A Cross National Study

**Maria Coady**

What do exemplary educational leaders of multilingual students do and know? This presentation reflects findings from a two-year investigation of exemplary leaders of multilingual students in multiple countries and across multiple languages. Although we have an emerging yet significant knowledge base of what effective teachers of multilingual students do and know (Ascenzi-Moreno, Hesson & Menken, 2016; Coady, 2001; de Jong, Coady, & Harper, 2013; DeMatthews & Izquiero, 2018, 2020; Lucas & Villegas, 2013; Menken & Solorza, 2014; Minkos et al., 2016; Palmer, 2019; Wong-Fillmore & Snow, 2000), we know very little about the role of leadership in the context of multilingual students' education and learning, language development, and equity. This study examined leaders from Ireland, Poland, South Africa, and the United States. The study answered the question, how do exemplary educational leaders of multilingual students foster learning and address equity? Seidman's (2013) three-part interview series was followed, and on-site observations were conducted with each participant. Data show how leaders consistently navigated educational policies from outside the school, while repeatedly negotiating language policies inside schools. The role of collaboration among leaders and teachers was a strong theme. In essence, leaders had the effect of changing the discourse and building counternarrative perspectives among their staff to support multilingual students' learning and personal and social development.

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# [OS16] Code-switching

# The nature of ‘triggered’ phonetic interaction in English migrants to Austria within a code-switched paradigm

Ineke Mennen, Robert Mayr, Ulrich Reubold, Sanne Ditewig, Kerstin Endes, Sarah Melker

Phonetic changes in the L1 of late sequential bilinguals are typically investigated in productions where bilinguals’ languages are separated to avoid dual language activation [1]. Few studies have investigated L2-induced changes to L1 speech in code-switched (CS) environments, where both languages are maximally activated (but see [2]-[9]).

In such a CS paradigm, 25 (AoA: 21-58 years) native speakers of Standard Southern British English (SSBE) prior to post-pubescent emigration (LoR: 2-37 years) to Austria (bilingual, BIL), read out sentences in an L1 frame in which German items were inserted, containing segments that were expected to trigger transfer (sound pairs: <ɪ> /ɪ-ɪ/, <w> /v-w/, <st(r)> /ʃt(ɹ)-st(ɹ)/). These occurred before or after the German item to determine whether the transfer is progressive or regressive: e.g. <st> /ʃt-st/: “She walked to Stadteck station”, “They stayed at Stiftung”. Additionally, the BILs and 10 monolingual SSBE controls (MON) living in England recorded sounds of the same type in non-CS (L1) contexts.

Comparisons within the sound pairs in non-CS speech (capturing potential attrition) revealed no statistically significant effects of speaker-group (BIL, MON). For the BILs in CS speech, only subtle and non-significant shifts of /s,w,l/ towards /ʃ,v,l/ (=the expected direction) were found on the group level, but some individuals did show significant shifts (13/25 [s=>ʃ]; 5/25 [w=>v], and 3/25 [l=>l]). No effect was found for the progressive vs. regressive influences. The individual shift sizes were correlated with predictor variables AoA, LoR, amount of L1 use, amount of L2 use, L1 contact in settings where code-mixing is likely, and L1 contact in settings where code-mixing is unlikely. Only amount of L2 use predicted the shift sizes in CS speech significantly, but only for /w/. These results have important implications for the role of dual language activation and theories of CS ([1,10-11]) in the speech of late sequential bilinguals.

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# Clarifying the Role of Cognitive Control in Code-switch Comprehension

Lauren Salig, Jorge Valdés Kroff, L. Robert Slevc, Jared Novick

Bilinguals demonstrate switch costs during comprehension, taking longer to process code-switches from one language to another than non-switched input (e.g., Altarriba et al., 1996). However, the cause of switch costs in comprehension is not entirely clear. One explanation is that linguistic representations from the two languages conflict, slowing sentence processing. Indeed, studies suggest that mixed-language or code-switched content promotes bilinguals' engagement of cognitive control—an executive function that helps resolve conflicting representations (Adler et al., 2020; Wu & Thierry, 2013). But is cognitive control engaged to resolve conflict between lexical representations at a switch? Or, does cognitive control resolve higher-level pragmatic conflict (e.g., interpreting the reason for a code-switch)?

To specify the role of cognitive control in code-switch comprehension, we asked if the longer processing time needed for a code-switch is reduced when bilinguals are in a state conducive to resolving conflict. We manipulated Spanish-English bilinguals' cognitive-control engagement (using Flanker-arrow trials) to observe the effect on self-paced reading of a subsequent sentence that was either code-switched or in one language. If the conflict elicited by a code-switch occurs at a lexico-syntactic level, then engaging cognitive control should reduce code-switch reading times by facilitating resolution of lexical conflict. If the conflict occurs later in processing at pragmatic representations, then cognitive-control engagement may not impact reading of words immediately following a code-switch because the conflict is not associated with lexical/syntactic processing. Bilinguals (N=101) demonstrated classic switch costs and Flanker effects. However, placing bilinguals in a state conducive to resolving conflict did not affect code-switch processing. This suggests that relative cognitive-control engagement may not impact the resolution of lexical/syntactic conflict during code-switch reading. Future research should 1) test this with more sensitive measures, and 2) address whether the upregulation of cognitive control following a switch (Adler et al., 2020) indexes pragmatic conflict.

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

Robyn Berghoff, Marianne Gullberg, Gerrit Jan Kootstra

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).

In the priming task, participants listened to a code-switched sentence (the prime). They then read a lead-in fragment cueing either shared (SVO; English=Afrikaans) or non-shared word order (SOV; English≠Afrikaans), and subsequently completed the sentence by describing a picture, switching languages only once. Lexical repetition (LR) was either present or absent.

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.

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# Comparing Measures of Code-Switching in Bilingual Children: Scripted Confederate Dialogue, Conversation, and Parent Report

Megan Gross, Allison Root, Joanna Kalucki

When measuring code-switching, there is often a trade-off between experimental control and ecological validity.<sup>1</sup> We developed a child-friendly scripted confederate dialogue task<sup>2</sup> to study discourse while maintaining experimental control. The current study evaluated whether children's code-switching during this task is reflective of their code-switching during conversation, and in daily life based on parent report.

The study included 20 Spanish-English bilingual children, ages 4-6, who participated in both the scripted confederate dialogue and conversation tasks. During the scripted confederate dialogue, children took turns describing pictures with monolingual speakers of English or Spanish. During the conversation samples, a bilingual examiner engaged children in English and Spanish, in separate sessions, around the same three themes: family, school, and hobbies. Picture descriptions and conversation samples were coded for cross-speaker code-switching (responding in the opposite language from the interlocutor) and intra-sentential code-switching (mixing languages within an utterance). Parents completed the Language Mixing Scale<sup>3</sup> about their own code-switching, and a modified Bilingual Switching Questionnaire<sup>4</sup> about their child's code-switching.

Logistic regression revealed that children who engaged in intra-sentential switching with the Spanish-speaking confederate were more likely to code-switch intra-sententially during Spanish conversation ( $b=2.48$ ,  $p=.03$ ). Cross-speaker switching during the scripted confederate dialogue was too rare to analyze. Cross-speaker switching during English conversation was predicted by parent report of children's tendency to switch from English to Spanish ( $b=2.44$ ,  $p=.007$ ) and during Spanish conversation by parent report of their own switching from Spanish to English ( $b=1.45$ ,  $p=.04$ ).

Intra-sentential code-switching during the scripted confederate dialogue task may reflect conversational use. Children exhibited pragmatic sensitivity by refraining from cross-speaker switches with monolingual confederates, even if they did engage in such switches with a bilingual conversation partner. Parent-reported code-switching was more associated with cross-speaker switching, which may be more salient to parents.

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# Effect of cognate status on code-switching and disfluency

Margarethe McDonald, Anne Neveu, Margarita Kaushanskaya

“Triggered switching” is the theory that code-switching happens more often with words connected to both languages, such as cognates<sup>1,2</sup>. Corpus analyses have supported this theory, showing that cognates often co-occur with switches, suggesting that cognates can trigger switches. However, the examination of corpus data does not allow testing for directional causality. That is, we do not know whether cognates co-occur with code-switching or cause code-switching. To address this gap, we designed an experimental task to test whether cognates trigger code-switching compared to non-cognates in Spanish-English bilinguals. We also examined whether cognates might trigger interference that does not result in an overt switch, and instead might lead speakers to produce more disfluencies. Spanish-dominant (n = 12) and English-dominant (n=28) bilinguals living in the US completed a sentence production task. In three conditions, participants saw an image of a concrete noun and were asked to produce a sentence based on the image. Half of the images represented Spanish-English cognates (e.g. bebé-baby) and half were non-cognates (e.g. niño-boy). In one condition, participants were asked to produce sentences only in English, in another condition only in Spanish, and in the final condition, they were asked to use both languages to a similar extent. Contrary to the triggering hypothesis, results indicate that participants were not more likely to switch languages for non-cognates than for cognates. Further, participants were more likely to produce disfluencies for non-cognate trials than cognate trials, especially in their non-dominant language. These experimental findings contradict the conclusions from corpus studies which suggest that cognates trigger a language switch. Rather, cognates seem to facilitate fluency in sentence production.

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# Bilingual prefabs: Evidence from the predictable code-mixing in Hong Kong Cantonese

Nga-Yan Hui, Manson Cheuk-Man Fong, William Shi-yuan Wang

Previous studies on the comprehension of code-mixing suggested that it was cognitively demanding (Macnamara & Kushnir, 1971), as the readers/listeners would not know when to prepare for a language switch (Adler, Valdés Kroff, & Novick, 2020) and had to switch back and forth from different language lexicons. However, the code-mixing commonly found in Hong Kong Cantonese does not occur randomly. Some words are produced in a fashion almost like loan-words even though the Cantonese equivalents exist, and therefore people expected to see them expressed in L2 (English) during a L1 (Cantonese) conversation. We hypothesized that the predictable code-mixing in Hong Kong did not require additional cognitive demand in processing because the L2 equivalents were prefabricated into Cantonese (Wang, 1989) and therefore no switching between lexicons was needed.

Thirty-two subjects (16M, 16F, Mage = 21.24) participated in a two-by-two eye tracking study, with Expectancy (Expected/Unexpected; whether the word was presented in the expected language) and Language-Presented (L1/L2; the language of the stimulus presented in the trial) as the two variables. The mean total fixation duration of the Unexpected conditions (M = 609 ms when presented in L1 and 524 ms in L2) was significantly longer than the Expected conditions (M = 417 ms in L1 and 458 ms in L2),  $F(1, 31) = 15.80, p < .000$ . No presentation language effect was observed ( $F(1, 31) = .34, p = .562$ ). The result was consistent with the assumption that some Cantonese-English expressions were indeed bilingual prefabs and no switching between different language lexicons was needed. It suggested that the two languages of a bilingual might not be distinctively separated into two mental lexicons, instead, words from the two languages might be prefabricated into a bilingual mental lexicon.

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# Ecologically valid frequency judgement task successfully captures differences in dense code-switching in bilingual speakers of typologically distant languages

Zehra Ongun, Jeanine Treffers-Daller

Individual differences between bilinguals' code-switching practices have been suggested to underlie the effects of bilingualism on processing. It is therefore crucial to (a) develop ecologically valid methods to assess code-switching, and (b) better understand individual differences in code-switching patterns. This paper focuses on whether the most intimate form of code-switching, congruent lexicalization (dense code-switching), is found among bilinguals who speak typologically unrelated languages: English and Turkish, and which variables explain the occurrence of this type of code-switching. Based on Muysken (2000; 2013), we hypothesized that bilinguals with a long tradition of language contact, i.e. Turkish Cypriots in Northern Cyprus (N=40) and Turkish Cypriots in the UK (N=30), would engage more in congruent lexicalization than first generation immigrants from Turkey to the UK (N = 30). We developed a Standard Turkish and Cypriot Turkish version of a code-switching frequency task, based on Onar Valk and Backus (2013), containing naturalistic examples of code-switching. Respondents indicated on a scale of 0-100 how frequently they encountered such sentences in their environment. We found that there was a significant main effect ( $F(1) = 6.29$ ,  $p = 0.014$ ,  $\eta^2 = 0.063$ ) of current country of residence (UK versus Cyprus) on the frequency of congruent lexicalization, with UK-based informants indicating encountering this type of code-switching more frequently ( $M = 44.45$ ,  $SD = 13.20$ ), than Cyprus-based informants ( $M = 40.20$ ;  $SD = 9.90$ ). Cultural affiliation (Turkish versus Cypriot culture) was only marginally significant (ANOVA,  $F(1) = 3.82$ ,  $p = 0.054$ ,  $\eta^2 = 0.039$ ) in favour of Turkish Cypriots, which challenges the hypothesis that intensity of language contact is the key explanatory variable modulating congruent lexicalization. Our study shows that it is possible to capture such subtle differences in code-switching patterns with an ecologically valid code-switching frequency task. Therefore this is a good option for researchers studying code-switching in experimental settings.

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# Is code-switching a threat to aviation safety?

Anna Borowska

The global aviation communication context seems to be a temptation for a multilingual speaker to change the language of communication due to many reasons. Therefore, we can easily observe examples of code-switching and mixing with local languages or dialects on the frequency. Pilots and controllers must have the ability to communicate successfully in order to avoid the communication breakdown that is a threat to aviation safety. The paper presents the results of empirical research of dialect and language transition that take place in aeronautical communications on a regular basis. Firstly, proper code-switching definitions and types in the aviation context are mentioned. Secondly, as the aviation communication is strictly regulated, the binding provisions in this context must be presented for better comprehension of the phenomenon. Thirdly, the author shows common real-life examples of code-switching together with the possible reasons of their use. Last but not least, the profound analysis of advantages and disadvantages of code-switching in aeronautical communication is discussed. The author clearly answers the question presented in the title of the paper and proves her opinion. It looks like that apart from the fact that usually speakers feel more comfortable using their mother tongue, other speculations about possible reasons of the discussed transition are often rooted deep in culture. Consequently, the paper also deals with human factor in the presented context. Finally, the author points to the need of situational awareness between the interlocutors that is directly linked to the aviation safety.

# Preposition stranding in Spanish-English code-switching: Evidence from an acceptability judgment task

Bryan Koronkiewicz

Languages vary when extracting determiner phrases (DPs) from prepositional phrases (PPs) (Law, 2006; Salles, 1995). English allows for preposition stranding (p-stranding) (1), but in Spanish the preposition is pied-piped with the DP (2-3). Interestingly, heritage speakers of Spanish have shown variability: sequential bilinguals exhibit this distinction, while simultaneous bilinguals allow p-stranding in both languages (Pascual y Cabo & Gómez Soler, 2015). Yet to be tested experimentally, however, is the availability of p-stranding in code-switching (4).

(1) Lucy is the girl that Gabe is going out with.

(2) Leticia es la chica con quien Arturo está saliendo.

‘Leticia is the girl with whom Arturo is going out.’

(3) \*/? Leticia es la chica que Arturo está saliendo con.

‘Leticia is the girl that Arturo is going out with.’

(4) Zoey doesn't know what girl Octavio está saliendo con.

‘Zoey doesn't know what girl Octavio is going out with.’

Heritage speakers of Spanish (N=24) completed a 7-point written acceptability judgment task. It included code-switched sentences (N=16) with p-stranding, as well as monolingual equivalents for Spanish (N=8) and English (N=8).

Sequential bilinguals showed the expected asymmetry, accepting p-stranding only in English,  $t(94)=11.544$ ,  $p<.001$ . Simultaneous bilinguals accepted it in both, while preferring English,  $t(94)=4.210$ ,  $p<.001$ . As for code-switching, sequential bilinguals only accepted p-stranding in Spanish-to-English sentences, whereas simultaneous did in both directions, preferring Spanish-to-English. An interaction was found between bilingual type and language(s),  $F(3,375)=7.777$ ,  $p<.001$ . Post hoc analysis revealed that the code-switching results pattern directly with the monolingual results.

Since simultaneous bilinguals' grammars allow p-stranding in both languages, there is no restriction in code-switching. However, the asymmetry found for sequential bilinguals shows that extraction of a Spanish DP out of an English PP is acceptable, but not vice versa. These findings support the previously reported differentiation among heritage speakers with regard to p-stranding.

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[OS17] Cognitive and language impairments in bilingual speakers



# Cross-linguistic Interference Resolution During Word Retrieval in Bilingual Aphasia

Priscilla Martinez, Anahy Barragan, Jonathan Robinson, Alexa D'heilly, Linda Nadlet, Valeria Garcia, Henrike Blumenfeld, Stephanie Ries

In bilinguals, both languages are active simultaneously during production. This co-activation can facilitate or interfere with word retrieval. How individuals with stroke-induced aphasia resolve cross-linguistic interference has been understudied. The current study investigates how Spanish-English bilinguals with aphasia and control participants perform when asked to name pictures while ignoring distractor words in a Picture Word Interference (PWI) paradigm. The distractor words were either false cognates (words similar in form but not meaning, e.g. “pared” which resembles “parade” but means “wall” in Spanish), identical, or unrelated to the picture name. Participants included 2 Spanish-English bilingual adults with aphasia caused by left hemisphere stroke-induced lesions (Bilinguals With Aphasia, BWA), 1 Spanish-English bilingual with a right hemisphere stroke-induced lesion and no aphasia (Bilingual Patient Control, BPC), and 6 bilingual controls. The control group showed a large interference effect ( $d=-1.72$ ) on error rates. Critically, both BWA showed a very large error rate in the False Cognate condition compared to the controls ( $z_{BWA1}=5.91$ ,  $z_{BWA2}=12.47$ ), and compared to BPC ( $z=1.14$ ). On naming latencies, interference effects were more variable. Importantly, BWA had longer naming latencies than the control group across all conditions (BWA1:  $z=2.52$ , ID:  $z=0.85$ ; BWA2:  $z=2.15$ ), but one patient showed an absence of interference ( $d=0.01$ ) while the other showed a large interference effect ( $d=-0.72$ ). Our BPC had no interference effect on RTs ( $d=0.004$ ). Our results support our hypothesis that bilingual patients with aphasia have impaired cross-linguistic interference resolution compared to bilingual patients with right hemisphere lesions and to controls. However, there were differences between our BWA on reaction time results. We are currently conducting large scale online data collection to better understand which linguistic or demographic factors influence cross-linguistic interference resolution during word retrieval.

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# Do picture-naming errors differ across languages? Error patterns in bilingual people with aphasia.

Mareike Moormann, Joana Cholin, Lyndsey Nickels, Solène Hameau, Gary Dell, Larissa Kühnel, Elizabeth Ambrose, Britta Biedermann

## Background/Aim

Word-retrieval difficulties are common in aphasia, an acquired language disorder[1]. While such deficits have been thoroughly investigated in monolingual aphasia, further systematic exploration is required in bilingual aphasia[2]. This study examines the picture naming performance of a case-series of sequential bilinguals with aphasia with the aim to further specify theories of spoken word production, which have largely been constrained by monolingual data[3,4].

## Method

Five bilingual speakers with aphasia (mean=66 years, SD=7.54) and word-retrieval impairments named ~350 picture objects[5] with >80% name agreement. Responses were collected for each participants' language combination in a counterbalanced order over four sessions and were coded for accuracy and error type. Analyses focused on error distribution across languages for each participant.

## Results

Accuracy: Three participants showed higher naming accuracy in their second and dominant language compared to their first but non-dominant language, one participant (P2) with a statistically significant difference (P1: L1-[Dutch]-62%, L2-[German]-65%,  $p=.632$  two-tailed; P2: L1-[Dutch]-45%, L2-[German]-59%,  $p=.010$ ; P4: L1-[French]-70%, L2-[English]-73%,  $p=.569$ ). The remaining two bilinguals showed significantly higher naming accuracy in their first and dominant language (P3: L1-[English]-80%, L2-[German]-60%,  $p=.002$ ; P5: L1-[English]-87%, L2-[French]-52%,  $p<.001$ ).

Error types: One participant showed the same error-pattern across both languages (P4: no response [L1-32%, L2-22%] > semantic [L1-18%, L2-14%] > phonological [L1-3%, L2-0%] error), while four participants featured different error patterns across their languages (e.g., P5: L1- semantic [13%] > no response [6%] > phonological [4%] error; L2- no response [21%] > semantic [17%] > phonological [12%] error).

## Discussion/Conclusion

We will discuss the influence of bilingual language profile, level of breakdown, word similarity, and other linguistic variables on error patterns displayed across languages. These patterns will be used to offer insights into the extent of activation within and between languages during picture naming and will thus enhance theories of bilingual speech production[6] and its breakdown in aphasia.

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# Bilingualism-related neural adaptations in Mild Cognitive Impairment patients are modulated by language experiences

Toms Voits, Jason Rothman, Holly Robson, Marco Calabria, Lidón Marín Marín, Victor Costumero, Naiara Aguirre, Christos Pliatsikas

Bilingualism has been shown to result to neurocognitive adaptations in the older age (Anderson et al., 2018; Calabria et al., 2018), contribute to cognitive and brain reserves (Bialystok, 2021) and lead to a later onset of symptoms in cases of clinical neurodegeneration such as Alzheimer's Disease (Anderson et al., 2020). However, most studies examining bilingualism effects on clinical neurodegeneration do so via behavioral measures; structural and/or functional brain data are seldom available (Alladi et al., 2013; Bialystok et al., 2007; Woumans et al., 2015). Furthermore, bilingualism is often operationalized as a dichotomous group factor, despite it being a nuanced experience, which may result in distinct neurocognitive adaptations (Leivada et al., 2020). Herein, we present a study of bilingual Mild Cognitive Impairment (MCI) patients who vary in their bilingual language use – from active bilingual Spanish and Catalan speakers to Spanish speakers with comprehension knowledge of Catalan. We relate the extent of bilingual engagement and language proficiency to hippocampal shape and volume, episodic memory performance, age of MCI symptom onset, and age at MCI diagnosis. The results reveal increased bilingual engagement significantly correlates with delayed onset of MCI symptoms. Active bilingualism was also associated with increased volume of the right hippocampus. Nevertheless, bilingual engagement or bilingual language proficiency does not predict episodic memory performance in these clinical populations. These findings are discussed in the context of the wider literature linking bilingualism, ageing, and neurodegeneration.

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# Predictive ability in bilingual individuals with and without aphasia

Ingeborg Sophie Ribu, Ane Theimann, Ekaterina Kuzmina, Mira Goral, Michela Iacorossi, Minna Lehtonen, Monica Norvik, Hanne Gram Simonsen

Eye-tracking studies with neurologically healthy monolingual and bilingual adults show that young adults are able to predict upcoming nouns (e.g., bread) while hearing restrictive verbs (e.g., eat) in sentences (Altmann & Kamide, 1999; Dijkgraaf, Hartsuiker & Duyck, 2017). A study with people with aphasia (PWA) – a language impairment resulting from brain lesion – showed that PWA did not predict the target nouns but showed preferential gazing patterns to the target noun at the offset of the verb (Mack, Ji, & Thompson, 2013). This study investigates whether bilingual PWA and neurologically healthy adults predict upcoming nouns in sentences with restrictive verbs, and whether language proficiency, working memory and processing speed mediate prediction ability (Huettig, 2015). Twenty-six neurologically healthy Norwegian-English bilinguals (aged 20-35 years) and two multilingual PWA with mild aphasia participated in the study; One Norwegian-English bilingual, and a Swedish-Norwegian-English trilingual. Verb-mediated prediction ability was measured via a visual world paradigm in Norwegian and English. The experiment included 36 restrictive sentences (E.g., Mary eats Anna's pizza) and 36 non-restrictive sentences (E.g., Mary looks at Anna's pizza). Language proficiency was assessed via verbal-fluency tasks, self-report and a translation task. Working memory was measured with digit span and Corsi block tasks, and processing speed through reaction times on the Flanker and Corsi block tasks. The neurologically healthy participants predicted upcoming nouns in both languages, but they were faster at predicting in L1 (Norwegian) than in L2 (English). One PWA showed prediction ability in both languages similar to controls, whereas the other showed preferential looks to the target after the verb offset. We find correlations between processing speed and prediction ability for the control participants. Our findings suggest that bilingual individuals predict content in their L1 and non-L1, but that processing may be faster in L1, and that this ability may be preserved for PWA.

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# Word representation, processing, and awareness in adult bilinguals with and without a history of Developmental Language Disorder: Preliminary results from an online study

Jonathan Robinson Anthony, Dafne Demos-Farias, Moriah Harden, Halie Shea Doan, Giang Pham, Henrike Blumenfeld

Vocabulary development is negatively impacted for individuals with a history of Developmental Language Disorder (DLD). Adults with a history of DLD acquire smaller vocabularies over time than their typically developing peers (Rice & Hoffman, 2015). However, for bilingual adults, vocabulary is supported by crosslinguistic interaction at the lexical level (BLINCS, Marian & Shook, 2013), as translation equivalents that share similar lexical form (cognates; e.g., English-Spanish pear-pera) are recognized more accurately and quickly than ones that share little to no form (noncognates; e.g., apple-manzana). The majority of research on DLD in bilingual populations is focused on childhood and adolescence. By investigating DLD in bilingual adults, this proposal seeks to better understand how external factors (language background and experience) may specifically support vocabulary skills in more mature populations with suspected language disorder. This proposal seeks to illustrate the intersection of crosslinguistic influence and language disorder on word comprehension in Spanish-English bilingual adults targeting 1) word comprehension accuracy, 2) word comprehension speed, and 3) word metalinguistic awareness. Data presented are from 18-21 year old, Spanish-English participants. Participants are characterized by their language experience and background, as well as core language and literacy skills. Participants completed picture-word identification tasks to measure accuracy and speed of cognate and noncognate word comprehension. Cognate status for each of the tasks was determined using a previously used criterion for phonological and lexical similarity (Potapova et al., 2016, Robinson Anthony & Blumenfeld, 2019). Participants additionally completed a visual word comprehension task with accompanying interview for data on metalinguistic awareness. Metalinguistic awareness was coded using a grounded approach in identifying within-language and crosslinguistic themes (e.g., Yu, 2013). The preliminary results of these studies are discussed within the framework of a dynamic bilingual word comprehension model and further predictions are made regarding the influence of bilingual language experience on language disorder.

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# How do Cantonese-English bilingual children with Autism Spectrum Disorder comprehend focus?

Haoyan Ge, Fang Liu, Hoi Kwan Yuen, Virginia Yip

Focus is a key concept of information structure, signifying new or contrastive information in a sentence. In Cantonese, focus can be realized by syntactic means (Matthews & Yip, 2011) or prosodic prominence (Wu & Xu, 2010). This study examined the impact of bilingualism on focus comprehension in children with Autism Spectrum Disorder (ASD), who usually have difficulties in language development and lead many to conclude that bilingualism imposes an additional burden on autistic children (Yu, 2013).

In our study, we investigated the influence of English exposure on the comprehension of focus in 5 to 7-year-old Cantonese-English bilingual children with ASD (N=14), compared to age- and nonverbal IQ-matched typically-developing (TD) bilingual peers (N=28). Children first listened to question-answer dialogues while looking at pictures depicting the scenarios presented on a computer, and subsequently judged whether the answers were correct response to the questions. The answers were varied in syntax or prosody, leading to either contextually appropriate or inappropriate focus. We examined how group (ASD, TD) and English exposure influenced children's judgments and reaction times.

Our results show that bilingual children with ASD exhibited TD-like performance in the use of syntactic and prosodic cues to interpret focus, although they were significantly slower than TD counterparts across both conditions. Within groups, bilingual autistic children were significantly faster in responding to inappropriate prosody than appropriate prosody, whereas TD peers showed similar response times to appropriate and inappropriate prosody. The amount of English exposure was not associated with autistic bilingual children's use of either syntax or prosody to comprehend focus, indicating that the group divergence shall be attributed to ASD rather than bilingualism. Our findings provide novel evidence that bilingual exposure did not impede focus comprehension by Cantonese-English bilingual children with ASD, and inform evidenced-based language and educational decisions to be made by parents and professionals.

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# The needs of Polish speech therapists regarding diagnosis and therapy of bilingual children: a survey-based study

Joanna Zawadka, Marlena Kurowska, Elżbieta Sadowska

Although many researchers have addressed the issue of recognizing challenges and shortages of SLPs with the provision of appropriate assessment, identification, and intervention for bi- and multilingual children (Teoh et. al 2018; Williams & McLeod 2012) in Poland such studies are very limited in number and were conducted only at a fairly small scale (Gaweł et al. 2015). In order to learn about the current needs and scope of experience of Polish SLTs working with bilingual children, a questionnaire was designed based on themes identified in previous studies (Guiberson & Atkins, 2012, Jordaan 2008) which comprises questions about some demographic information on SLPs, information about bilinguals on their caseload, practices in bilingual assessment and challenges faced. A nationwide internet survey was conducted from February 2020 to May 2021.

The questionnaire was completed by 827 SLPs – 581 (70%) of them declared conducting diagnosis and / or therapy of bilingual children, and 246 declared they did not have that kind of experience. The survey results highlight the need for developing a standard procedure for diagnosing bilinguals. Many respondents did not provide a clear answer on the question what tools do they use to (1) conduct a biological and environmental interview with the parents of a bilingual child; (2) assess the level of language acquisition in bilingual children in terms of: vocabulary, grammar and articulation. Accessibility of diagnostic tools was rated on the scale from 1 (very difficult to access) to 5 (very easily accessible). An average of 1,95 indicate the need for developing easily accessible diagnostic tools taking into account foreign languages most often appearing in speech therapy practice in Poland. One third of all SLPs remembered having classes in bilingualism therefore we expect to see a greater inclusion of bilingualism and cultural diversity theme in the program of speech therapy studies in the future.

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# Teachers' identification of language disorders in bilingual children: A study of attitudes

Felicity Parry, Eirini Sanoudaki

Previous research has demonstrated the variable academic provision afforded to bilingual children with and without language disorders, depending on teachers' expectations (Bedore & Peña, 2008; Jankowska, 2014), language status (Flores & Smith, 2008), and bilingual teaching experience (Crutchley, 1999; Greenfield, 2013). However, very few studies have investigated teachers' role in the early identification of language disorders in their bilingual pupils. Without clear guidelines on how to proceed with bilingual pupils of concern (Law et al., 2000), teachers may rely on their own attitudes (beliefs/opinions) to make decisions.

The current study employs Ajzen's (1991) Theory of Planned Behaviour to structure attitudes' potential predictive power towards behaviours and actions. We aim to produce evidence as to whether a) teachers' attitudes towards their role in the language disorder identification process, and b) teachers' ability to accurately identify bilingual children showing signs of a language disorder, predict teachers' likelihood of referring bilingual children to speech and language therapy.

England-based primary school teachers are asked to complete an online questionnaire to gather quantitative data, utilising a Likert scale to record teachers' attitudes and other factors towards referring bilingual children. This questionnaire also examines identification abilities by recording teachers' responses to vignettes describing bilingual children and monolingual English children with and without language disorders.

Preliminary data suggests that all teachers hold positive attitudes towards referring bilingual pupils of concern, and as the positivity of these increase, teachers are more likely to refer bilingual children with signs of a language disorder. Additionally, teachers' identification accuracy of signs of a language disorder or typical language development in bilingual children correlated with their likelihood of carrying out a referral.

This research will ultimately help to suggest practical improvements to early identification procedures, school policy, teacher training, and ultimately bilingual pupil attainment.

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# Longitudinal Development of Language in a Bilingual Individual with Rett Syndrome

Rebecca Day, Eirini Sanoudaki

Rett syndrome (RTT) is a rare disorder caused by a random mutation on the X chromosome (Amir et al., 1999) which disturbs both physical and cognitive development in affected individuals. Communication difficulties, often including a complete loss of productive speech, are a common trait of individuals with this disorder (Einspieler & Marschik, 2019). The preserved speech variant (PSV) of RTT is often characterised by comparably milder symptoms, including retention of productive verbal ability in some cases (Zappella, 1992).

Studies of bilingualism in developmental disorders conducted so far have found no evidence that bilingualism has a detrimental effect on individuals with a number of conditions, including Down syndrome (Kay-Raining Bird et al., 2005), Autism Spectrum Disorder (Reetzke et al., 2015), Developmental Language Disorder (Paradis, 2007), and individuals with a dual diagnosis of Down syndrome and Autism Spectrum Disorder (Ward & Sanoudaki, 2020). Despite a lack of evidence to support the view that bilingualism may cause further delays in individuals who already experience a number of difficulties, reports suggest that healthcare professionals still advise against dual language exposure for individuals with developmental disorders (Kohnert et al., 2005). To the authors' knowledge, there have been no publications on bilingualism in Rett syndrome to date.

The current study utilised standardised tests to assess the language skills of an English-Welsh bilingual adolescent with PSV RTT, including tests for the reception of both English and Welsh vocabulary, and of English grammar. Data on the participant's productive vocabulary were also collected through means of naturalistic conversations and parental reports. This longitudinal case study measured the participant's language development at 18-month intervals, at ages 15;1, 16;7, and 18;1. Results document continuing development in the participant's language abilities consistent with exposure, and provide no evidence to suggest that bilingual exposure had a detrimental impact on the participant's language development.

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# Active use of two languages alters the amplitude of spontaneous activity in the thalamus in mild cognitive impairment

Lidon Marin-Marin, María-Ángeles Palomar-García, Anna Miró-Padilla, Jesús Adrián-Ventura, Naiara Aguirre, Esteban Villar-Rodríguez, Víctor Costumero

The amplitude of low-frequency fluctuations (ALFF) refers to the magnitude of the resting-state fMRI signal in the range of 0.01-0.08 Hz and has been suggested to reflect the intensity of spontaneous neural activity of the brain, while fractional ALFF (fALFF) measures the relative contribution of low frequency fluctuations to the whole detectable frequency range, with increased sensitivity and specificity than ALFF (Zou et al., 2008). Previous studies show that fALFF values tend to decrease in prodromal dementia and mild cognitive impairment (MCI) in the precuneus, middle frontal gyrus and precentral gyrus, among other regions (Cha et al., 2015; Zeng et al., 2019). In addition, bilingualism is proposed as one of the protective factors against dementia, causing a delay of 4-5 years in the first clinical symptoms in bilinguals compared to monolinguals (Woumans et al., 2015). Therefore, the aim of our investigation was to comprehensively study the neural basis of this protective effect by comparing fALFF in bilingual and monolingual subjects suffering from MCI. We found no significant differences between the groups in sociodemographic measures or cognitive level, but bilinguals showed higher fALFF than monolinguals in several nuclei of the thalamus bilaterally. These results suggest that bilingualism may act as a protective factor against dementia by means of a higher amplitude of regional spontaneous activity in the thalamus, a brain region related to language processing and bilingualism (Crosson, 2013), specifically in nuclei that show atrophy in dementia (Zarei et al., 2010) and are related to memory impairment (Fedio and Van Buren, 1975; Harding et al., 2000; Danet et al., 2017).

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# Bilingualism and autism. Speech-language therapy for children with developmental disorders raised in bilingualism

Marzena Błasiak-Tytuła

Autism spectrum disorder (ASD) is a developmental disability caused by differences in the brain and diagnosed regardless of race, ethnicity, or socioeconomic group. In the United States, the CDC's Autism and Developmental Disabilities Monitoring (ADDM) Network estimates that approximately 1 in 54 children have been identified with ASD. Some of these children are being raised bilingually. There is still a fairly widespread belief among various professionals (speech therapists, physicians, educators, psychologists) that to communicate with a child with developmental disabilities, only one language should be chosen and the parents must give up the other language.

There is still relatively little research comparing the language development of monolingual and bilingual children with autism. There is an even greater lack of scientific publications describing language therapy for these children. Scientific research and clinical experience clearly show that bilingualism does not cause developmental delays, and bilingual children with the autism spectrum do not show additional delays in language development compared to monolingual children with the same disorder.

Studies conducted in 2017-2020 involving bilingual children with autism document the development of their language skills. 10 autistic children from Polish-English families participated in speech therapy and were systematically assessed for their communicative skills. The transfer of skills from one language (Polish) to the other (English) was observed over many months of therapy.

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# [OS18] Bilingualism and the brain

# Language control in bimodal bilinguals: Evidence from ERPs

Mathieu Declerck, Gabriela Meade, Katherine J. Midgley, Phillip J. Holcomb, Ardi Roelofs, Karen Emmorey

It is currently unclear to what degree language control, which minimizes non-target language interference and increases the probability of selecting target-language words, is similar for sign-speech (bimodal) bilinguals and spoken language (unimodal) bilinguals. To further investigate the nature of language control processes in bimodal bilinguals, we conducted the first event-related potential (ERP) language switching study with (20) hearing American Sign Language (ASL) - English bilinguals. Prior language switching ERP research with unimodal bilinguals typically report an early switch-related negativity (e.g., Jackson et al., 2001), and most studies also report either a switch-related modulation of the late positive complex (e.g., Martin et al., 2013) or a late switch-related negativity (e.g., Declerck et al., 2021). In the present study, the results showed an unexpected switch-related positivity over anterior sites and a switch-related negativity over posterior sites during ASL production in both the early and late time windows. No switch-related ERP modulations were found during English production. We take these results as evidence that bimodal language control differs from unimodal language control. More specifically, we interpret these results as evidence that bimodal bilinguals uniquely engage language control at the level of output modalities.

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# Functional connectivity during a naturalistic language comprehension paradigm in English monolingual and Spanish-English bilingual adolescents

Sibylla Leon Guerrero, Laura Mesite, Veronica Whitford, Gigi Luk

Formal academic instruction often relies on spoken language to impart novel information. However, the complex syntax often found in spoken academic language may present a challenge for L2 learners. Prior literature on sentence processing in children (e.g., Arredondo et al., 2018) suggests that bilinguals engage similar, but more extensive, left temporal and frontal regions than monolinguals during L2 comprehension. Additionally, engagement of cognitive control regions may reflect language use and proficiency (Green & Abutalebi, 2013). Using a naturalistic listening paradigm, we investigated functional connectivity of the core language network during an English-language science video lesson among English monolinguals (n=19) and Spanish-English bilinguals (n=19) living in an English-dominant environment. We analyzed seed-to-whole brain connectivity using seed regions previously demonstrated in a meta-analysis (Rodd et al., 2015) to be associated with syntactic processing: left inferior frontal gyrus (IFG), middle temporal gyrus (MTG), left insula, left precentral gyrus and left supplemental motor area (SMA).

Consistent with prior literature, bilinguals displayed more extensive connectivity across left hemisphere seed regions, with right hemisphere homologues, and with cognitive control regions, e.g., cingulate cortex and caudate nucleus. English lexical proficiency was associated with left MTG to left IFG connectivity for monolinguals, but with left SMA to left caudate and right cerebellum in bilinguals. In bilinguals, left IFG cluster connectivity was associated with L1 Spanish syntactic skills measured by a cloze task. Spanish syntactic skills were also associated with connectivity of left IFG, MTG and SMA seeds with language control regions when watching the video, suggesting regulation of linguistic processing is tied to both L1 and L2 knowledge and experience. Overall, our findings suggest that language processing and control networks (particularly nodes associated with syntactic processing) are differentially engaged for adolescent L1 vs. L2 speakers in a context where learning relies on comprehension of simulated spoken academic instruction.

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# Bilingual experience modulates oscillatory dynamics in task switching

Vincent DeLuca, Katrien Segaert, Ali Mazaheri, Andrea Krott

Bilingualism affects the neural underpinnings of domain-general cognition, irrespective of whether this manifests in performance changes (Grundy et al., 2017). Individual differences in bilingual experience have been found to modulate the nature and extent of neurocognitive adaptations (DeLuca et al., 2020). We examined whether bilingual experience increases cognitive efficiency and how this efficiency is related to individual differences, focusing on oscillatory neural dynamics during task switching. 116 young adults (78 bilingual, 38 monolingual) completed a number-letter and color-shape switching tasks while EEG was recorded. Participants also completed language demographic questionnaires. EEG was analyzed via time-frequency representations (TFR), with epochs locked to cue-onset. TFRs and task performance (RTs and accuracy) were examined for switch costs across- and within groups, between groups within conditions, and switch costs between groups. Switch trials incurred significantly slower RTs than stay trials and were associated with significantly higher theta (3-5Hz) power in central electrodes, approximately 150-750ms post cue onset, and lower alpha (8-12hz) power in centro-parietal electrodes 400-1000ms post cue-onset. There were no significant group differences in task performance or alpha/theta power for switch costs. However, within both the stay- and switch conditions, monolinguals were found to exhibit significantly higher theta power than bilinguals in central electrodes and greater alpha power in centro-parietal electrodes. The higher theta power induced in monolinguals in both conditions indicates greater executive control requirements during the task. The higher alpha power for monolinguals in both conditions suggests increased inhibition of task-irrelevant brain regions to handle switching demands. SEM revealed several relationships between continuous measures of bilingualism and neurocognitive outcomes. For instance, intensity of bilingual experience correlated with the degree of cue-locked theta- and alpha power, which correlated with RT. These results support the hypothesis that variations in bilingual language use modulate adaptations to increased efficiency of handling domain-general switching demands.

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

Jia'en Yee, Ngee Thai Yap, Doug Saddy, Christos Pliatsikas

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-Malay-Chinese/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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# Non-native noun phrase production in multilingual learners: An ERP study

Sarah von Grebmer zu Wolfsthurn, Leticia Pablos Robles, Niels O. Schiller

When naming objects in a non-native language, speakers frequently experience difficulties compared to native production. One source for this difficulty is cross-linguistic influence (CLI) between languages. Here, we exploited two phenomena to investigate the implications of CLI for the temporal unfolding of the underlying production stages with respect to current word production theories. First, we studied the gender-congruency effect. It reflects CLI of the gender systems and was previously linked to gender processing during lemma retrieval and phonological code retrieval in Romance languages. Secondly, we explored the cognate facilitation effect indexing CLI of the phonological systems. It was previously associated with phonological encoding stages. Further, we studied the implications of CLI for target language selection.

Our research questions were concerned with first, traceable behavioural and neural CLI effects as a function of gender-congruency and cognate status, with a focus on P300 and N400 effects; and second, the implications of CLI effects regarding the locus of target language selection. This has direct implications for the temporal unfolding of non-native speech production.

We investigated the behavioural and EEG correlates of non-native noun phrase (NP; determiner + noun [the flower]) production in thirty-three German late learners of Spanish using an overt picture-naming task.

At the behavioural level, we found evidence for a gender-congruency effect. At the electrophysiological level, we found modulations of the P300 by gender-congruency and cognate status. Therefore, our results suggested that speakers faced CLI of the gender systems and the phonological systems in non-native NP production. This demonstrated that both the target and non-target language remained active at least until the phonological processing stages.

Our study has important theoretical implications for the time course of the processes of non-native NP production and complements existing research on native single word production.

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# Multidialectal and multilingual experience modulate ERP responses in English sentence processing

Sibylla Leon Guerrero, Gigi Luk

Differences in bilingual and monolingual sentence processing have been extensively examined in studies using the N400 to index early lexical access and semantic expectation (Kutas & Hillyard, 1980) and the P600 to measure syntactic reanalysis in response to incongruent or unexpected grammatical elements (Osterhout & Holcomb, 1992). However, N400 and P600 responses vary with language proficiency and exposure, and little is known about how highly proficient but dialectal and heritage bilingual speakers process grammatical variation (Bice & Kroll, 2021).

The current study explored this question in multidialectal Caribbean English speakers ( $n=21$ ) and heritage Spanish-English bilinguals ( $n=21$ ), both dominant in English and matched in English proficiency. Participants completed a sentence reading task comprising 75 English sentences with the main past tense verb in one of three conditions: 1) canonical, or acceptable in both Caribbean and standard English (e.g., Yesterday the young woman drove the car down the road.) 2) dialectal, or acceptable in Caribbean dialectal but not standard English (e.g., Yesterday the young woman drive the car down the road.), or 3) ungrammatical in both standard or dialectal English (e.g., Yesterday the young woman driving the car down the road.).

Heritage, but not multidialectal, speakers demonstrated a significant N400 response to the ungrammatical condition and P600 response to the dialectal condition; earlier age of English acquisition and higher English proficiency were associated with larger N400 and smaller P600 amplitudes. While multidialectal speakers did not display significant condition differences on average, smaller P600 amplitudes were associated with higher English proficiency and later age of standard English acquisition in this group. Results suggest flexibility of multidialectal speakers towards grammatical variation, potentially facilitating early lexical access and semantic integration. Early multidialectal and multilingual experience may influence the processing of grammatical variation in distinct ways, even when speakers have similar levels of language proficiency.

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[OS19] Cross-linguistic influence

# Cross-language interpretation of intent in Malay-English bilinguals

Mirrah Maziyah Mohamed, Rogayah Abdul Razak, Debra Jared

We examined whether habitual ways of interpreting intent based on the grammar in L1 carry over to the interpretation of intent in L2. In Malay, accidental actions are marked with the prefix *ter-*. When the prefix is absent, Malay speakers assume a deliberate intent. English does not have such a prefix. We first examined whether Malay speakers accurately encode intentions. We then investigated whether Malay-English bilinguals, when reading in English, interpret an action as deliberate when the intent is not clearly indicated as accidental. In Experiment 1, 36 Malay native speakers (M.age=20.2) read 75 Malay sentences and completed a recognition memory task. Accuracy on the task was high, indicating that Malay speakers encode the intentions of actors. In Experiment 2, 56 Malay-English bilinguals (M.age=21.5) and 56 English monolinguals (M.age=19.0) completed a cross-modal priming task. They heard scenarios in which a character's action was indicated as either accidental or was ambiguous in intent (e.g., Jackie left the salon and had forgotten to tip/without tipping her hairdresser. The next time she went for a haircut, she...). Then, they saw a sentence-final word that was either consistent with an accidental-action interpretation (e.g., apologized), an unrelated word (e.g., walked), or a nonword, and made a lexical decision. If Malay-English bilinguals interpret intent in English as they do in Malay, then they should show a similar priming effect as monolinguals for sentences with an unambiguous intent (e.g., faster RTs for apologized than walked) but a smaller priming effect than monolinguals for sentences with an ambiguous intent. The hypothesis was supported. The results for ambiguous scenarios suggest that Malay-English bilinguals were more likely than monolinguals to interpret ambiguous actions as deliberate (e.g., apologized was unexpected given the intent in mind). The study provides evidence that Malay-English bilinguals transfer their interpretation of intent from Malay to English.

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# Cross-linguistic influence in trilingual first language acquisition of affricates and fricatives: The role of regional variation

Marieke Einfeldt, Luisa Dautner, Tanja Kupisch

We investigate the acquisition of fricatives and affricates by a trilingual child acquiring Standard German, Italian and Swiss German, discussing the roles of cross-linguistic influence (CLI) and regional variation.

The acquisition of phonetic inventories in bilingual children has received substantial attention (e.g., Fabiano-Smith & Barlow, 2010; Fabiano-Smith & Goldstein, 2010; Ingram, 1981), while being under-researched in trilingual acquisition (Montanari, 2011; Yang & Hua, 2010). Irrespectively of number of languages, most studies argue for separated systems but CLI. Montanari (2011) further suggests trilingual advantages due to increased metalinguistic awareness.

In this longitudinal study (1;3-2;8, bimonthly recordings), we focus on affricates ([tʃ kx pʃ ts dʒ]) and fricatives ([f v/v̥ s z/z̥ ʃ/ʒ ç x ʁ h]). German, Italian and Swiss German (i) share some sounds (e.g., [tʃ pʃ ts f s]), while differing in phonetic realization (e.g., [v/v̥ z/z̥ ʃ/ʒ]) and (ii) language-specific sounds (e.g., [dʒ kx ç]). Furthermore, regional phonological processes may shift the relative frequencies of certain sounds in the input, specifically deaffrication in Sicilian and s-palatalization in South Germany. In German and Italian, fricatives are acquired before affricates (e.g., [f v] between 1;5-2;5, [ts dʒ] after 3;11 (Fox, 2007; Zmarich & Bonifacio, 2003)). An exception is [ʃ], which is late-acquired in both languages (German: 3;6 -3;11, Italian after 4;11). Reference data for Swiss German is lacking.

Our results show accelerated acquisition of fricatives and affricates in the trilingual child compared to monolingual children. We discuss three potential explanations: (i) cross-linguistic influence: e.g., [f v] are acquired earlier in Italian because they also exist in German, (ii) support from regional varieties: [ʃ] is acquired earlier in German and Italian (2;3-2;6), because the child is exposed to varieties with increased [ʃ]-occurrence, (iii) increased metalinguistic awareness resulting in overall advanced production skills.

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# Differential Object Marking in Catalan and Spanish: Cross-linguistic effects in a Catalan-Spanish bilingualism continuum

Rut Benito, Núria de Rocafiguera, Aurora Bel

The aim of this study is to investigate bidirectional cross-linguistic influence degrees along a Catalan-Spanish bilingualism continuum, focusing on differential object marking (DOM). These two closely related languages (with prolonged and intense contact in the society) have, however, different DOM distributions. In Spanish, [+human,+animate] objects are marked depending on the referential stability (RS): high stability is DOM-triggering and low stability is DOM-inhibiting (Farkas & von Heusinger, 2003). In Standard Catalan, DOM is much more restrictive: only personal pronouns always show DOM, although [+human,+animate] objects are frequently marked in colloquial varieties, probably due to long-lasting Spanish contact. The few studies focusing on Catalan-Spanish bilingualism have shown bidirectional cross-linguistic effects in DOM marking (Guijarro-Fuentes & Marinis, 2007; Perpiñán, 2018; Puig-Mayenco et al., 2018) but the interaction between RS and language dominance has not been systematically addressed yet.

Four groups of Catalan-Spanish bilinguals representing different ranges within the bilingual continuum (ca. 30/group) completed two equivalent AJT in Catalan and Spanish with a 4x2 design (four RS and two DOM levels). The Spanish task was also performed by 40 Peninsular Spanish monolinguals. GLMMs revealed that the RS only partially holds for Spanish, but not for Catalan. In Spanish, cross-linguistic effects were found only in unmarked objects of the highest RS levels, especially in unbalanced bilinguals. Catalan results show that all conditions were accepted above 50%, which is compatible with (1) Spanish influence in the Catalan DOM system and (2) optionality in (non-standard) Catalan DOM marking. Our findings add evidence to the proposal that contact effects between DOM-languages can lead to an increase of DOM, but not to a decrease (D'Alessandro, 2020): marked objects in Catalan are more accepted than expected (at least according to the normative) and regardless of language dominance and any bilingual group shows less acceptance of DOM in Spanish than monolinguals.

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# Language contact within the bilingual: Adapting a model from sound change to crosslinguistic influence

Khia A. Johnson, Molly Babel

A recent model of sound change posits that the direction of change is determined, at least in part, by the distribution of variation within speech communities (Harrington et al., 2018). We explore this model in the context of bilingual speech, asking whether the less variable language constrains phonetic variation in the more variable language, focusing on two variable consonant patterns in a corpus of spontaneous speech from early Cantonese-English bilinguals (Johnson et al., 2020), and two monolingual English comparison corpora (North American varieties; Pitt et al., 2005; Swan, 2016). Corpus phonetics methods and mixed-effects models probe crosslinguistic influence and language mode.

As predicted, given the phonetic distributions of stop obstruents in Cantonese compared to English, intervocalic English /b d g/ were produced with less voicing, and word-final English /p t k/ were more likely to be unreleased for Cantonese-English bilinguals, compared to spontaneous speech from the monolingual corpora. English is reportedly highly variable in both of these cases (Davidson, 2011; 2016), where Cantonese is not. First, Cantonese has no categorically voiced obstruents. Second, while Cantonese phonology permits both short-lag and long-lag initial stops, oral stops are unreleased in codas (Bauer & Benedict, 2011). For each study, a second model examined language mode in the bilingual corpus—operationalized as proximity to a code-switch and the order of languages in the corpus interviews. Neither variable was significant, though interview order patterned as expected.

Our results provide evidence that the distribution of phonetic variation within each language shapes bilinguals' productions of speech sounds with a phonological match in the other language. That our results differ from prior lab-based work (Polinsky, 2018) highlights the importance of examining spontaneous speech when making generalizations about behavior. Altogether, this work supports a mechanistic account for why some segments are more susceptible to crosslinguistic influence than others.

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# Cross-Linguistic Influence in Initial L2 Syntax Acquisition

Kepa Erdozia, Noèlia Sanahuja

The Competition Model (MacWhinney, 1992), the Full Transfer/Full Access Model (Schwartz & Sprouse, 1996) and the Shared Syntax Account (Hartsuiker & Berolet, 2017) assume that first language (L1) syntax facilitates the learning of similar second language (L2) structures. Previous studies have found evidence supporting this claim (e.g. Tokowicz & MacWhinney, 2005; Chang & Zheng, 2015). This study seeks to contribute to the literature by exploring whether when two constructions are available to convey the same meaning in the L2, one similar to an L1 structure and the other unique to the L2, the rule underlying the first one is learnt with greater ease than rule underlying the second.

44 Spanish natives with no knowledge of Galician learnt a semi-artificial language with a Spanish-Galician cognate vocabulary and Galician-based syntax. Participants learnt two types of subordinate clauses. One existed in Spanish, but the other did not. Participants were first exposed to the language while performing a rule-search task. Then, learning of the similar and unique rules was tested in a grammaticality judgement task (GJT) with feedback. Finally, a verbal report assessed awareness of the rules.

Learning was measured by accuracy and  $d'$  scores on the GJT. The latter measure sensitivity unaffected by response bias. Participants were significantly more accurate when classifying sentences complying with or violating the similar rule compared to the unique rule ( $p < .001$ ). Sensitivity to violations of the similar construction was also greater than to violations of the unique construction ( $p < .01$ ). Rule knowledge was conscious for 68% of participants.

In conclusion, learning was greater for the rule that was similar in the L1 and the L2 than for the rule that was unique to the L2. This result goes in line with previous studies supporting the facilitatory role of L1 syntax in L2 syntax learning.

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# What makes cognates vulnerable to cross-language sublexical intrusions? An analysis of the relationship between individual cognate properties and individual cognitive abilities

Laura Muscalu, Laura Spinu

Presence of overlapping sublexical nodes can facilitate as well as impede translation of cognates. Facilitation reflected in faster responses was explained by cumulative activation of common phonological or orthographic nodes that provide a strong basis for access to the target translation. Interference reflected in delays or cross-language intrusions was explained by competition between language-specific phonological or orthographic nodes that preclude efficient access. In accurate word production, competition must be reduced by inhibition of the non-target and selection of the target units. Such mechanisms are presumed to derive from domain-general mechanisms that monitor and regulate behavior and ensure cognitive performance in general. To examine the connection between language-specific and domain-general mechanisms, performance on a linguistic task that induces competition, inhibition, and selection (cognate translation L2 to L1) and performance on two non-linguistic tasks that induce similar challenges are compared in Romanian-English bilinguals. We tested whether individual differences in translation of cognates with various degrees of phonological and orthographic overlap could be underlain by individual differences in general inhibitory skills or ability to select the target from competing alternatives. A domain-general inhibition task in which previously activated information inhibits other to-be-recalled information (retrieval-induced inhibition) is analogous to a linguistic cognate translation task because, in translation, previously activated phonological and orthographic nodes must be inhibited in order to produce an accurate version of the to-be-translated word. Likewise, a domain-general attentional switching task in which the response requires selection between two constantly alternating dimensions (dimensional-switch) is analogous to cognate translation because, in translation, continuous switching between two language-specific phonologies and orthographies must be skillfully performed to avoid cross-language sublexical intrusions. Positive correlations between performances (timing and accuracy) on the linguistic and nonlinguistic tasks support the view that efficient mental manipulation of two languages relies on control mechanisms that are generally involved in higher-order cognition.

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# Cross-linguistic influence in the bilingual-morphology emergence

Oksana Bailleul, Mehmet-Ali Akinci

Recent studies have shown the existence of proto-morphemes known as 'filler syllables' which are placed in positions where grammatical morphemes are expected to occur (Peters&Menn, 1993; Bassano, 2010; Veneziano&Sinclair, 2000; Kilani&Dressler, 2000). Crosslinguistic variation in fillers production is explained in terms of the child's sensitivity to the language-specific rhythmic patterns (Demuth, 2001). Quantitative differences were observed in filler use between monolinguals and bilinguals (Belikova et al., 2009; Lléo, 2006). One of the explanations is that the acquisition of two grammatical systems helps the child to bridge two stages: proto-morphological and morphological.

We explore morphological development of a bilingual child from 2;1 to 4;0 growing up with French and Russian languages from birth. The corpus consists of 28 hours of transcribed data collected during 'parent - child' conversations.

Our results have shown that filler use respects the morphology of both languages, even if Russian is acquired with a substantial time delay. French fillers are recurrent in prenominal position where determiners are to appear. From 2;2 to 2;6, the average is 65% for French filler syllables. A substantial decrease has been observed from 2;8 and on, which is highly correlated with an increase of French grammatical morphemes, similarly to French monolingual children. In Russian utterances, fillers stand for Noun-Case markings, as in Russian-monolingual children. In mixed-Noun phrases structured around a French noun, determiners and fillers are omitted much more often than in French monolingual utterances (for the overall period, 6% against 24%). This shows that there's an important influence of the Russian determiner-free morphology on the French Noun in the bilingual context. This supports the idea of qualitative differences in filler use by young bilinguals and shows evidence of a common underlying proficiency that they apply in the acquisition of grammars, even if they develop separate mental representations for their two languages.

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# A cross-linguistic study of the L1 influence on the L2 and FL syntactic acquisition of Thai EFL learners

Rungpat Roengpitya

In psycholinguistics, the first language (L1) of learners helps acquire their second language (Steinberg, Nagata & Aline, 2001). It is very interesting to study whether learners' L1 would influence their second (L2) and foreign (FL) languages in terms of their syntactic perception and production. In this paper, the aim was to cross-linguistically study the Thai-EFL learners' syntactic production of four different languages, consisting of two known languages: Thai (L1) (Pantumeta, 2016) and English (L2/ FL) (Fillmore & Kay, 1994); an unknown (91%)/ known (9%) language: French (Mauger, 2014); and an absolute unknown language: Cree (Ratt, 2016). Fifty-seven Thai EFL learners (53 females and 4 males), with the age ranging from 19-21 years and with the mean age of 19.98 years, participated in this study. All participants were English-major sophomores at a state university in Thailand. Their tasks were to write five different types of syntactic sentences of four languages (Thai, English, French, and Cree) and to draw the related syntactic trees of all syntactic sentences. There were a total of 1,140 items (5 types X 4 languages X 57 participants). The gained data were analyzed in terms of the correct answers of syntactic sentences, as well as syntactic trees. The results revealed that the % correct answers of the syntactic sentences, constructed by Thai EFL learners, were at 98.65% for Thai (L1) and 99.55% for English (L2); and dropped to be at 64.6% for French and only 33.98% for Cree. Furthermore, it was English (L2), instead of L1 (Thai), that assisted learners to construct the French syntactic sentences. Surprisingly, the % correct answers of the syntactic trees were only at 8% (Thai), 13% (English), 6.3% (French), and 2% (Cree). It is hoped that more cross-linguistic studies on syntax at the surface and deep levels will be explored in the future.

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[OS20] Language contact

# Language change by contact in di(a)glossia situations

Jos Swanenberg, Kristel Doreleijers, Joske Piepers

All over Europe, standard languages are gradually replacing or impacting local dialects. This leads to a change from diglossic constellations into diaglossic constellations (Auer 2005). Instead of diglossia between dialect and standard, we now often find that dialect and standard converge. Due to simultaneous processes of convergence and destandardization (Van der Horst 2008), variation decreases, as dialect forms are replaced by standard forms and intermediate forms emerge.

We will present data on two dialects in the Netherlands, Limburgian and Brabantian. We approach these settings as cases of language contact. Similar to cases of bilingualism with typologically different languages, contact with Dutch causes changes in the use and structure of these dialects. As in other contact settings, impact of the sociolinguistically stronger language leads to borrowing and to erosion of structures not shared with the standard. We focus on adnominal gender markers in Brabantian and referential pronouns in Limburgian. For Limburgian, 41 speakers participated in a language production task, consisting of the retelling of fairy tales using visual stimuli. For Brabantian, 75 Standard Dutch sentences were translated by fifteen adolescent dialect speakers.

Findings indicate that gender markers are disappearing from Brabantian because they are lacking in Dutch. The neuter pronoun *het* can refer to female referents in Limburgian, unlike in Dutch, but its use seems to decrease. However, we also found ample variation, indicating divergence through innovation or exaggeration (Doreleijers, Van Koppen & Swanenberg 2020; Piepers, Backus & Swanenberg 2021).

This suggests that the dominant presence of Dutch in the lives of dialect speakers leads to utterance planning processes in which structures shared with Dutch get activated but also to growing metalinguistic awareness which may lead to the conscious selection of dialectal forms. We will present evidence for both processes and discuss implications for joint concerns of dialectology and contact linguistics.

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# Indigenous lexical creativity in bilingual settings: The case of modern Nahuatl

Szymon Gruda, Gregory Haimovich, John Sullivan

Nahuatl is the most widely spoken Indigenous language of Mesoamerica, counting about a million and a half speakers and thirty recognized varieties, most of them spoken across Central Mexico. It has a long history of contact with Spanish, during which the status of Nahuatl has been gradually marginalized. Nowadays the language shift from Nahuatl to Spanish maintains a steady pace, although recently there have been multiple initiatives for revitalization and revalorization of the language. The vast majority of modern Nahuatl speakers are bilingual, and a very small percent of children learn the language at home. In daily speech, the native speakers demonstrate a strong inclination towards code-switching and use of loanwords from Spanish. In many cases, these loanwords become phonologically and morphologically assimilated into Nahuatl, for example, Spanish verbs can easily acquire a Nahuatl verbal paradigm.

However, in our presentation we will deal with a different linguistic phenomenon, which is the coinage of Nahuatl neologisms based on indigenous morphemes and not on borrowed lexical material. As a result of the fieldwork of our research team in Mexico, in multiple interviews and workshops with native speakers of Nahuatl, we have amassed rich data of such neologisms that designate objects and concepts imported from European culture. In our demonstration and analysis of the data, we choose not to focus on morphosyntactic strategies of word-formation (it would be little comprehensible to listeners who do not have knowledge of Nahuatl grammar) but on the conceptual structure of neologisms and the impact of language contact on their coinage through so-called 'pattern' borrowing. Our data has been collected in various communities and represent six different varieties of the language, which allows for detection of common patterns and better generalization of the results

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# Language Dynamics in Immigration: Russian and English in Canada

Uliana Morozovskaia, Veronika Makarova

The proposed paper investigates the dynamics of learning English and French vis-à-vis maintenance of Russian by Russian-speaking immigrants in Canada. The research question is whether the perceived importance of learning the official languages of Canada and of maintaining the native language differ between the time immediately after immigration and in subsequent years. The theoretical framework is a socio-cultural approach to acculturation and diasporic research (Isurin, 2011). The data came from a survey of 100 Russian-speaking participants residing in 6 Canadian provinces. The survey was administered online and included multiple choice and short answer questions about participants' demographic background, acculturation and linguistics experiences and attitudes. Chi-square analysis was employed to establish the significance of the observed differences in responses that describe the time immediately following immigration and the time of participation in the survey (2020). Pearson 2-tail correlation was employed to identify covariance of parameters. The results indicate that immediately upon immigration, learning English was a major concern for 73% of the participants, whereas maintaining Russian was important for only 45% of participants. However, over time, maintenance of the Russian language became more important overall. These differences in the increase of the importance of Russian maintenance ( $\chi^2(1, N=100)=14.17, p=0.006$ ) vis-à-vis the decrease in the importance of learning English ( $\chi^2(1, N=100)=12.34, p=0.014$ ) were statistically significant. Learning French remained unimportant for most participants. There were more participants being proactive in learning English than in maintaining Russian. In addition, negative correlations were observed between self-reported amount of Russian use in everyday life and language attrition ( $r=-0.44, p<0.0001$ ) as well as between the perceived importance of English and its use in daily life ( $r=-0.21; p=0.004$ ). The results are interpreted via the authors' theory of Linguistic Equilibrium.

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# Peculiarities of the Yakut vocabulary of medicinal plants

Ninel Malysheva, Marina Osorova

The largest number of borrowings in the Yakut language came from Russian. This fact is due to the arrival of Russian Cossacks in Yakutia at the beginning of the 17th century and its entry into the Russian state. According to rough estimates, in the issue of these close linguistic contacts even before the October Revolution over three thousand Russian words penetrated the Yakut language, not counting proper names. The borrowing of so many words has no analogs in any of the Turkic languages of Russia at that time. The research material is collected from different lexicographic sources and during the expeditionary observations since 2017 from various regions of the Republic of Sakha (Yakutia). During the research, various lexical and semantic borrowings from Russian into Yakut were identified. For example, the name of an aquatic perennial plant of duckweed that is used as an antipyretic, diuretic, and choleric agent that is presented in the Yakut language by the three following nominations: ryaska 'duckweed', ustü ryaska 'ivy duckweed' and kyra ryaska 'common duckweed'. There is a direct borrowing with full reproduction of the Russian-language morpheme 'ryaska' and with the preservation of the meaning of the word. The nominations ustü ryaska and kyra ryaska are formed on the principle of direct or literal translation according to plant species. Also, semantic tracings were identified, for instance, moghoy töbö 'dragonhead', ruish moghoy töbö 'Ruish dragonhead', tarbakhtyngy moghoy töbö 'palmate dragonhead' and namylykhay moghoy töbö 'drooped dragonhead'. It should be noted that the studying of the peculiarities of the Yakut vocabulary of medicinal plants borrowed from the Russian language can help to study the unsolved problems of Yakut-Russian language contacts, including their study in the aspect of the formation of bilateral bilingualism in the region, as well as the linguocultural concepts of contacting languages.

## Acknowledgments

The research was funded by the grant No. 2020-220-08-6030 from the Government of the Russia for the project „Preservation of Linguistic and Cultural Diversity and Sustainable Development of the Arctic and Subarctic of the Russian Federation”.

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# On writer's language use in some multilingual letters of the past

**Carmela Perta**

Switching between languages is a frequent discourse strategy of bilingual speakers: the number of empirical studies and theoretical models with different approaches- structural , functional and sociolinguistic - confirms the relevance of the phenomenon. The growing number of studies in Contact Linguistics has favored a new perspective of analysis of multilingual documentation of the past; this has been considered as an evidence of writers' bilingual ability and a likely reflection of their multilingual community, rather than a proof of their imperfect languages competence. Therefore, the presence of code switching and mixing phenomena in multilingual texts has encouraged a partial application of theories and models of Contact Linguistics, creating a new line of research, Historical Code Switching (HCS) within the Historical Sociolinguistics framework. Therefore, in this place I consider intra-writer variation as writer's language choice and use within his/her multilingual repertoire. I examine the multilingual context of Medieval England: the high number of studies on English multilingual texts belonging to different textual genres within HCS framework does not lack of generalizations and approximations and makes this choice necessary. I analyze some ego documents, particularly the multilingual letters of the Welsh rebellion written by Richard Kyngeston, Archdeacon of Herford to king Henry IV in 1403, even though these letters were analyzed by Schendl (2002) within HCS framework. However, the reason of my choice lies in the fact that in Schendl's analysis contact phenomena are not fully individuated and examined according to Contact Linguistics models, making confusion between structural and functional approaches as well. Therefore, on the basis of the results I try to confirm the possibility to apply either internal or external approaches to contact phenomena to some particular multilingual texts of the past, even reflecting on the possibility of considering mixed language texts as a testing ground of Contact Linguistics theories.

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# Functioning of phraseology in the conditions of Polish-Russian linguistic contact (on the example of Russian Old Believers living in Poland and the Polish community in Vershina in Siberia)

Magdalena Grupa-Dolińska

The aim of the paper is to present the way phraseology functions in the conditions of Polish-Russian linguistic contact which is based on the linguistic situation of Russian Old Believers in Poland and Poles in Vershina in Siberia. Both examined communities share the fact of using a dialect which is influenced by the language of the environment. In the case of Old Believers it is the Russian dialect of the Pskov type and in the case of the inhabitants of Vershina it is the Lesser Polish dialect. The communities also share having remained in the situation of a language island (Grek-Pabisowa 1968: 13; Ananiewa 2012: 5-12). The aforementioned factors result in the common but idiolectally diverse bilingualism. Moreover, the factors also cause continually deepening interference processes at all levels of the language, especially lexical and phraseological (Paško-Koneczniak 2011; Grupa-Dolińska 2020: 109-121). In terms of phraseology, various examples of phraseological calques and half-calques appear. They have different structures and consist of native words from standard language and dialect as well as adapted borrowings and foreign words. There also often occurs the phenomenon of code switching both within the phraseological units themselves and on their fringes in the speech act.

The paper is a case study and therefore its main goal is to present the similarities and differences in the functioning of both phraseological resources in Polish-Russian bilingualism. The first research problem is whether the presence and structure of phraseology depends on the age of informants. The second issue is whether phraseology stimulates the code-switching process in the utterances of informants. The third question is whether phraseology stimulates the appearance of borrowings in the primary code for the informant. Finally, there are inquiries about the existence of significant differences in the structure of phraseological units borrowed from the language of the environment.

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# Bilingual writers in the Alpe-Adrian Region

Jadranka Cergol

The term ‘bilingual writers’ or ‘translingual writers’ is a relatively modern term in the literary and psycholinguistic professions, as it began to gain ground only in the 21st century with Steven G. Kellman’s anthology *Switching Languages: Translingual Writers Reflect on Their Craft* (2003), in which the author defined multilingual writers as those who “write in more than one language or in a language other than their mother tongue”. The anthology contains thirty different works by various authors from around the world, including works by African, South American, Chinese and European literary creators. Interest in multilingual writing, however, actually developed earlier, after the publication of Hoffman’s book *Lost in translation. A life in a new language* (1989). Since then, typical examples of works, autobiographies (eg Uhlman 1960; Canetti 1977), biographies and interviews have been studied. Based on the hypothesis that the works of these authors can reveal a unique and important aspect in the study of the relationship between language / languages and emotional relationships (Besemeres 2006), the question arises how these writers and poets creatively analyse internal dialogue, thoughts and emotions in different languages .

The purpose of this contribution is to analyse the state of art of bilingual writers in the Alpe-Adrian region taking in account both minority writers but also other immigrant authors: some of them in fact decided to continue writing in their own mother tongue, others in the language of the incoming country to feel more accepted by the majority. The author intends to describe the reasons and the motivations that guide bilingual writers to choose one or the other language form of literary expression by studying their literary work, but also other types of texts, like interviews, essays, articles etc.

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# The effects of language policies on education: a case study of minority schools in Lithuania

**Ineta Dabašinskienė**

The Baltic states have been described as a unique case among European nations because of their ethnic composition and the history of russification in the Soviet period that has shaped their integration and language policies (Vihalemn et al. 2011). The status of languages and the format of societies in the post-Soviet transition era are still debated intensively, focusing primarily on language policies and ideologies. On the other hand, the integration based on the 21st-century reality, where questions such as nation-building based on a common language and culture are doubted (cf. Lazdiņa, Marten 2019), gets prominence, especially in the themes of education. In Lithuania, between minority speakers, the last decade marks a slow but steady increase of more positive attitudes and competences in the titular languages. The present study concentrates on schools with a minority language of instruction (Russian and Polish) and presents the results of analysis based on the national and international standardized tests. A comparative approach is applied to explore the dynamics of pupils' academic achievements in diverse disciplines in minority schools, with a particular focus on Lithuanian as a titular language. The study investigates secondary sources, i.e., national examination results and surveys, enriched by the data from interviews. Specifically, the study discusses the pupils' academic achievements in Visaginas – an ethnically, linguistically, and culturally isolated Lithuanian town with a very peculiar sociolinguistic situation. The data demonstrate that national and international school examination results differ significantly in terms of disciplines (Lithuanian language vs. other subjects), ethnicity (titular vs. minority), and municipality (large cities vs. small towns). In most cases, children from minority schools located in small towns and/or rural regions underperform compared to the average national results.

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# Doukhobor Russian vocabulary: some outcomes of Russian and English language contact in Canada

Veronika Makarova

This presentation analyzes distinctive layers of Doukhobor Russian (DR) vocabulary with a focus on loan words from English. Doukhobors (Doukhobortsy or Spirit Wrestlers) are a religious, linguistic and cultural minority group who immigrated to Canada from Russia in 1899 (Tarasoff, 1984; Makarova, 2019). Doukhobor Russian language needed to develop new vocabulary to reflect the realia of life in a new host country as well as the outcomes of technological and social development in the early 20th century. Due to the contact of DR with the majority English language in Western Canada, English became a lexifier, with hundreds of words borrowed from it into DR and restructured phonologically and morphologically. Doukhobor vocabulary has remained unexamined so far, with the exception of some studies of the DR ritual style (Schaarschmidt, 2012). The reported study is based on 48 hours of audio-records of 50 speakers of Doukhobor Russian collected by the author between 2012 and 2018. The transcripts of the records with a total vocabulary of about 7,000 distinct lexemes were manually analyzed to select loan words from English and illustrate the patterns of morphological and phonological restructuring. The theoretical approach to the analysis of vocabulary in DR resulting from language contact draws on the concept of lexifier in creolistics (e.g., Michaelis, 2008).

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# [OS21] Early second language acquisition & learning (I)

# The effect of Spanish immersion schooling on bilingual children's knowledge of null and overt subjects in English and Spanish

Michele Goldin, Esther Hur, Abril Jimenez, Julio César López Otero, Jennifer Markovits Rojas, Patrick Thane, Liliana Sanchez, Jennifer Austin

Null subjects involve the syntax-pragmatics interface because of their reliance on syntactic and discourse-pragmatic knowledge (Sorace & Serratrice, 2009). Due to this complexity, they show cross-linguistic influence in language contact (Hulk & Müller, 2000; Müller & Hulk, 2001; Rothman, 2009; inter alia). Despite abundant research on Spanish null subjects in bilingual children, the effect of increased exposure at school on null subjects and verb morphology in both the socially dominant and non-dominant language is still an underexplored area (Goldin, 2020). We investigated whether increased exposure to Spanish via immersion schooling affects the development of heritage bilingual children's knowledge of the discourse-pragmatic constraints guiding null and overt subjects. The study included a group of child heritage bilinguals ( $n=18$ , mean age=5;5) and comparison groups of adults: a pre-migration baseline Mexican Spanish monolinguals ( $n=15$ ; mean age=44), a baseline of U.S. heritage bilinguals ( $n=16$ , mean age=38) (HBA), and U.S. English monolinguals ( $n=16$ , mean age=28), an English baseline. We administered a language background questionnaire, a portion of the Bilingual English-Spanish Assessment (BESA) in English and Spanish, a forced-choice task (FCT) in Spanish, an acceptability judgment task in English (AJT-EN) and Spanish (AJT-SP) to all groups except for the BESA (only to children). Three GLMs were run to examine the effect of Spanish exposure. For the Spanish tasks, the models showed that accuracy increases with greater exposure to Spanish ( $\beta=0.8$ ,  $SE=0.02$ ,  $z=3.86$ ,  $p<0.01$ , for FCT;  $\beta=-0.5$ ,  $SE=0.02$ ,  $z=-2.00$ ,  $p=0.01$  for AJT-SP). However, the third model did not find a meaningful interaction between AJT-EN and Spanish exposure ( $\beta=0.03$ ,  $SE=0.01$ ,  $z=1.75$ ,  $p=0.05$ ). The results indicate that Spanish immersion schooling has a positive effect on accuracy in the pragmatic conditions that license null subjects in Spanish without affecting the overt subject patterns in the dominant language.

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# From kindergarten to primary school: Long-term predictors for heritage and society language lexicon size

Sophia Czapka, Nathalie Topaj, Natalia Gagarina

In this paper we analyzed longitudinal data of Russian- and Turkish-German bilinguals, who were tested annually over 6 years in kindergarten and primary school, to uncover early predictors for expressive lexicon size in their heritage languages (HLs) and German. We first compared their lexicon development in HL and German to investigate a potential dominance shift from HL to German. Second, we examined various (non)linguistic factors at kindergarten age to identify predictors of lexicon size in HL and German six years later, in third grade.

At the beginning of the study, the 28 Russian- and 21 Turkish-German children were  $M=3;2$  ( $SD=5;8$ ) years old. They began to acquire German with  $M=21$  months ( $SD=12$ ). Expressive lexicon was tested with the Russian language proficiency test for multilingual children (Gagarina et al., 2010) or an adapted Turkish version in kindergarten and in school, with the CLT (Haman et al., 2015) for both HLs. For German, we used PDSS (Kauschke & Siegmüller, 2010) in kindergarten and WWT (Glück, 2011) in primary school. At the first test point, intelligence (SON-R, Tellegen et al., 2007) was assessed and parents completed a questionnaire on the family's language use, their language proficiency, socioeconomic status, etc.

Linear regressions verified a dominance shift from HL to German as HL performance was initially higher than German ( $b=34.0$ ,  $p >.001$ ) but grew significantly slower (TIME:  $b=16.2$ ,  $p <.001$ ; HLxTIME:  $b=-9.6$ ,  $p <.001$ ). No difference between HLs was found. With regard to the predictors, only intelligence correlated with German lexicon in third grade ( $r=.5$ ). More HL use by siblings ( $r=-0.4$ ) and higher HL proficiency in parents ( $r=0.3$ ) correlated with greater HL lexicon. These results support the usage-based theory (Tomasello, 2003) since the quantity and quality of HL influenced long-term success in HL acquisition. German lexicon was not influenced by home language use, but only by intelligence.

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# Language-fair tasks to assess the relation between oral language and broader communicative and cognitive skills in bilingual preschool children

Solène Belogi, Letizia Volpin, Katrin Skoruppa

This study is part of larger multi-site and multi-disciplinary project that follows the developmental trajectories of monolingual and bilingual preschool children learning German, French, Italian and Turkish, focusing on the relationship between linguistic skills and broader cognitive and communicative aspects of development. To assess the latter, we designed new tasks that, contrary to previous studies, minimize the use of verbal material in a particular language. Our presentation focuses on pilot results of two such “language-fair” tasks (detailed below), for which we will present accuracy data according to language status (monolingual vs. bilingual), controlling for age and socio-economic status, as well as correlations with overall language abilities. Finally, we will conclude on the longitudinal perspectives and related phenomena of interest that will be analyzed over the course of this project.

1. Word learning task: We observed fast mapping skills and the use of the mutual exclusivity (the ability to consider that each object has only one label and then assume that an unknown word will refer to an unknown object) in a combined task, using drawings of unknown objects and non-words (e.g. “deti”), in order to minimize the effects of word familiarity. Even if monolingual and bilingual children learn new words equally fast and well, monolinguals use the mutual exclusivity strategy to a significantly greater extent.
2. Gesture recognition task: Here, we present data from a completely nonverbal gesture recognition task, in which children are first shown videos of persons performing a gesture (e.g. drawing) and then asked to choose an object that fits with this gesture (e.g. pen, but not boot). Scores on this task are strongly related to language skills. This effect is more important for bilinguals than monolinguals and holds for both the language skills in the societal language and home language.

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# English vocabulary predicts the acquisition of grammatical inflections in Mandarin-speaking preschoolers

Nan Xu Rattanasone, Jae-Hyun Kim, Christos Pliatsikas

**Background:** Many Mandarin-speaking preschoolers are learning English (typologically distant from Mandarin) as a second language (L2) and show persistent and prolonged challenges in acquiring English inflectional grammar 1,2,3. However, little is known about children learning English earlier, at 1 or 2 years, and what factors might affect early L2 acquisition.

**Method:** We address this question with 21 4- to 6-year-old Mandarin-English bilingual preschoolers (Mage = 4;8, Range: 4;0 – 6;7; 12 Girls; mean age of acquisition (AoA) for English = 12 months; Range: 0 – 24). The English grammatical inflections task elicited plural, past, and present tense morphemes with half in segmental and syllabic forms (e.g., cats vs. horses), and progressive –ing (10 morphemes in each type). Expressive vocabulary in both English and Mandarin was elicited<sup>4</sup>. Children and one parent (the primary carer) were tested on both tasks. Parents also provided a 7-day diary of hourly language heard and used by the child and a language questionnaire.

**Results:** Children produced the progressive and plurals significantly more than present and past tense morphemes (Figure 1), with segmental forms (e.g. cats) produced significantly more than syllabic forms (e.g., horses) (Figure 2). Children's English vocabulary was the only significant predictor of performance on inflectional grammar, with no effect found for AoA (due to restricted range), maternal education (incl. language), parents' vocabulary in both languages, children's Mandarin vocabulary, percent of daily input and use of English, Mandarin or both.

**Conclusions:** For Mandarin-speaking preschoolers learning English at 2 or earlier, the progressive and plural morphemes emerged earlier than present and past tense, and a larger English vocabulary predicted better performance. Both findings are like those reported for monolinguals<sup>5,6</sup>. The role of L1 and L2 input and use in both parents and children on early bilingual development will be discussed.

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# Early second language learning at school can boost creativity

Valeria Agostini, Ian Apperly, Andrea Krott

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 is beneficial to general cognitive skills. Children growing up bilingual display advantages in cognitive control measures, for instance, in control over attention (Yang et al., 2011) and switching between rules (Bialystok & Martin, 2004). Young bilinguals also show 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 Primary schools in England. One group (N=32) attended bilingual schools, another group (N=29) had weekly L2 classes, and a third control group (N=38) did not have any L2 education. Groups were matched by SES, extracurricular activity, 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.

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# Shared reading as a practice for fostering the development of L2 receptive vocabulary in a bilingual preschool.

Magdalena Olpińska, Mateusz Patera

The paper is concerned with shared reading of picture storybooks by adults and children and its impact on the development of children's second language skills. The main issue of the presentation is the contribution of shared reading to the development of receptive vocabulary in second language learners. The paper presents results of a study conducted in a bilingual Polish-German kindergarten in Poznan, Poland. The analysis was based on data collected in April-July 2017 and in January-June 2018 from 31 respondents aged 3 to 6. The data consisting of 674 units (words) from 6 picture storybooks was assessed in a binary manner based on the pre- and post-tests founded on the Peabody Picture Vocabulary Test (Lenhard et al. 2015).

The study aimed to ascertain whether the development of the L2 lexical competence by shared reading of picture books was influenced by the length of the child's stay in kindergarten, the category of the word – it was assumed that words clearly identifiable in the illustrations in the storybooks will be easier to acquire than words that do not appear in the pictures, and the language situation and language policy of the child's family – it was presumed that children whose family uses German as their second language will achieve better results than children from monolingual families. The findings of the study support the assumption that the increase in the number of months spent in the kindergarten (independent variable) positively affects the result in the development of children's lexical competence (dependent variable). The findings reveal also that neither the word category (independent variable) nor the language situation and language policy of the children's families (independent variable) have an impact on the results.

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# How do children talk about spatial relations – the use of prepositions by young Polish-English bilinguals and EFL learners

Jadwiga Cook

The research focuses on the way two groups of children describe spatial relations: ten Polish-English bilinguals aged 4-8, and six Polish monolinguals, EFL learners, aged 10. As “prepositions appear to be particularly susceptible to interference, as both observers of bilinguals and teachers of foreign languages can testify” (Hoffmann 1991: 98) and as research by Romaine (1989) has shown that irregular use of prepositions by bilinguals might be related to developmental factors and not necessarily to interference, my main focus will be the comparison of the use of English locative prepositions by the two groups of subjects.

Both groups were given the task of localising some elements shown in illustrations. Their answers were recorded on a digital voice recorder and transcribed. Then, the locative constructions were extracted and analysed in order to find out which prepositions are in the lexical repertoire in both groups and which prepositions were used for describing the spatial relations of support, occlusion and proximity. Analysis shows that for the bilingual children the order of appearance of spatial prepositions follows the pattern presented by Johnston and Slobin (1979) and at the age of 8 their use of prepositions is close to that of an English-speaking adult. The EFL children are still in the process of acquisition of spatial prepositions, their repertoire is related directly to the EFL teaching program and the order in which they are introduced in the consecutive years of learning.

De Houwer (2021: 55) underlines the importance of recognizing in research on bilingualism the heterogeneity of language use, due to different language learning environments (BFLA and SLA). Given the limited number of participants, the results of my study cannot be generalized, however they can be treated as an additional element of wider research comparing Language Alpha / L2 acquisition by bilingual and SLA children.

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# The language in the border region: the development of German-Polish bilingualism of pre-school and primary school students

Justyna Hryniewicz-Piechowska

What are the circumstances of language acquisition of Polish as a heritage language in Germany and how these conditions are reflected in the language competence of heritage speakers? How does the process of acquiring Polish as a heritage language look like in the Polish-German border area? The following paper presents the hypothesis that the proximity of the border region gives Polish-German bilingualism a distinct character. It is partially shaped by an increase in movement of people across the border and partially by the higher than average amount of contact that heritage speakers have with the language. These factors play an important role in the development of speakers' language capabilities.

The following paper will analyse a set of newly collected data, gathered throughout a longitudinal research process that evaluated the linguistic development of Polish and German capabilities of 80 pre-school and primary school pupils located in Germany. The data consists of samples of narrative texts, collected using a standardised set of assessment tools. An analysis of the writing capabilities of surveyed pupils (both languages) shall also be presented. The texts were analysed according to a set of varied criteria – on one hand the methods analysed the narrative capabilities and the ability to properly format the text, while on the other the linguistic competence of students in the domain of morphology and syntax was analysed. The results show that formal instruction in Polish and a cross-border environment do influence the development of language skills of the pupils. Participants in the study know how to properly write narrative texts in Polish, but they use simpler structures, typically found in the spoken variety of the language. When it comes to German – unexpectedly the weaker language in the pair – the participants are struggling with some elements of the language's morphology and syntax.

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# Literacy Development of Roma children in L2: A comparative Study

Hristo Kyuchukov

The paper presents results from a comparative empirical L1 / L2 literacy study with first-grade Roma and non-Roma children, resident in Bulgaria and Slovakia.

Bialystok (2007) says that the oral skills of bilingual children in their L1 and L2 play an important role in the preparation for literacy. The Roma children's oral skills in their L1 are not further developed at the primary school level and their L2 oral skills are initially often very limited.

60 first-grade children (20 Roma and 40 non-Roma children) were tested using the RAN Test at the end of the school year, in Bulgarian and Slovak. Various aspects, including comparative differences in literacy performance between Roma children tested in Bulgaria and Slovakia, are discussed in detail. The findings show that (1) the time for naming the RAN Test in L2 can be used as a predictor for the children's literacy level in L2; (2) A low level of language competence of the children in their L1 appears congruent with a low literacy proficiency in L2; (3) The place of residence of the children appears to be a factor influencing the performance by Roma children in the RAN Test. The Roma children from the village have better results than Roma children living in the city. The level of oral proficiency in L1 of Roma children influences the timing of the naming of the RAN Test in L2. The Roma children resident in town have a more isolated life and do not possess such a rich vocabulary in their mother tongue. The children living in a village have more daily contact with non-Roma Bulgarians, for example, and thus develop a richer vocabulary in their mother tongue as well.

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# [OS22] Early second language acquisition & learning (II)



# Language-Specific Sound-Shape Matching in Bilingual Infants at 4 and 12 Months

Christine Muscat, Jovana Pejovic, Monika Molnar

Sound symbolism, including sound-shape associations, (e.g., associating rounded or spikey shapes with speech-sound combinations), reflects mechanisms that may support early word learning. Investigations have shown that sound symbolism emerges by about 12-months in monolinguals and bilinguals (Fort et al., 2018; Pejovic & Molnar, 2017) using universally sound symbolic non-words (e.g., buba, kiki). We investigated sound-symbolism patterns in 4- and 12-month-old bilingual Spanish-Basque infants using Spanish-like non-words (bubano, raceto), to test whether language-specific sound patterns affect the development of sound-shape bias. We hypothesized that bilingual infants with more Spanish exposure will show increased sensitivity to congruent (e.g., bubano with rounded shapes) and incongruent (e.g., bubano with spikey shapes) trials at 12-months due to increased Spanish exposure and the emergence of sound symbolism patterns. Further, we do not expect increased sensitivity at 4-months, due to lower Spanish exposure. To generate Spanish-specific stimuli (rounded “bubano”, spikey “raceto”), Spanish-Basque bilingual adults created and rated non-words more Spanish or Basque-like, and more rounded or spikey-like. Using a spontaneous preference looking paradigm, 4-month ( $n=19$ ; mean Spanish exposure=51.4%) and 12-month ( $n=16$ ; mean Spanish exposure=62.2%) Spanish-Basque bilingual infants were presented with congruent and incongruent sound-shape conditions. No differences between conditions were observed between looking times in 4-month ( $t(18)=0.52$ ,  $p=0.6$ .) and 12-month ( $t(15)=0.36$ ,  $p=0.73$ ) Spanish-Basque bilingual infants. Further, exposure of Spanish does not affect matching preference at 4 ( $b=-.04$ ,  $t=-.99$ ,  $p=0.33$ ) and 12-months ( $b=-0.007$ ,  $t=-0.18$ ,  $p=0.86$ ). This study demonstrated that language-specific non-words (bubano, raceto) diminished the sound-shape effect at 12-months in contrast to previous findings with language-universal non-words (e.g., kiki, buba). Additionally, Spanish exposure does not seem to affect matching preference. Increased complexity in Spanish-like stimuli compared to stimuli presented in the literature may have contributed to our results. Overall, the combination and complexity of sounds likely impacts the sound-shape correspondence effect during development.

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# Narrative comprehension abilities in 'left-behind' ethnic minority children in China: Evidence from Kam-Mandarin bilinguals

Wenchun Yang, Angel Chan, Natalia Gagarina

Variations in language acquisition are prominent theoretical themes, despite contemporary evidence still skewed towards Indo-European languages and the so-called WEIRD (Western-Educated-Industrialized-Rich-Democratic) societies. This study, by contrast, features children raised in a distinctly unique linguistic and sociocultural environment. They typically live in remote rural areas in poorer provinces and are 'left behind' as their parent(s) went to cities for employment (SCPRC 2016). Diverse caretakers, mostly low-educated, provide (linguistic) input. Prolonged absence of parental care, loss of solid family structure, poor living conditions and lack of learning resources could implicate a non-conducive socio-communication environment for children's language and impact acquisition of narrative skills.

While research on oral narratives had proliferated in the last years (Weber et al. 2019), this study is innovative because it (i) addresses narrative comprehension elicited by MAIN (Multilingual Assessment Instrument for Narratives, Gagarina et al. 2019) in a new language pair and a unique socio-communicative context; and (ii) provides an in-depth analysis of children's reasoning about the internal states (IS) of the protagonists.

Twenty typically-developing eight-to-nine year-olds heard/(re)told stories and then answered ten comprehension questions in two languages (L1 Kam, L2 Mandarin). Comprehension of macrostructure was examined focusing on Goals and IS.

These children generally performed lower than even some younger children from WEIRD contexts specifically in IS even in their better language (e.g. Bohnacker 2016, Kapalková et al. 2016). Moreover, they performed generally better in L2 Mandarin than in L1 Kam ( $p < .05$ ), and specifically better in understanding of IS in Mandarin ( $p < .05$ ).

The findings suggest that while these left-behind children might be relatively disadvantaged in the development of ISs, probably due to their lexical skills and input conditions, school experience and exposure to the outside Mandarin-speaking world via TV and cell phones might compensate for their relative disadvantage to some extent in these bilinguals.

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# Speakaboo as a way of measuring phonological acquisition among multilingual children: developing a Frisian adaptation

Jelske Dijkstra, Liesbeth van der Zijden, Mirjam Blumenthal

Frisian is a minority language spoken in the province of Fryslân, in the north of the Netherlands. Almost 50% of the population of young children in the province of Fryslân are raised in Frisian (Provinsje Fryslân, 2015). Little is known about the phonological development of Frisian-speaking children, and until now, no instruments are available for speech and language therapists (SLTs) to assess young Frisian children's phonological development. Speakaboo is an app that SLTs can use to assess young multilingual's phonological development. While playing a game, the app elicits the item words from the child, records them, and the SLT can analyze the pronunciation afterwards. The app is available in over a dozen languages, including Dutch and English.

Recently, three linguists and SLT specialists decided to develop a Frisian version of the app. The current paper presents how the Frisian adaptation was developed. The first step in the process was the creation of an overview of the Frisian consonants and vowel system. Next, 40 Frisian items were selected based on concept (concrete nouns) and complexity of word structures (CV-CVC-CCVC-CVCC etc.). Subsequently, these items were tested amongst 20 Frisian children aged between 2;6 and 6;0 years. Based on this test, the 36 items of the final version were chosen. The final version will be used in a large-scale study of the Frisian-Dutch phonological development of 340 children living in Fryslân. The paper discusses not only the importance of the Frisian version of this app, but also the implications for SLTs working with young Frisian speaking children.

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# Accounting for Individual Variation in Heritage Language Outcomes: Insights from Persian as a HL

Khadij Gharibi, Fatih Bayram, Gustavo Guajardo

Heritage language (HL) outcome differences from the monolingual baselines do not seem to be random; instead, these differences can be related to the continuum of individual variation in HL exposure and use (Kupisch & Rothman, 2018; Polinsky & Scontras, 2020). To that end, we present data from child heritage speakers (HSs) of Persian (aged 6-13, N: 38) and their own mothers (aged 33-49, N: 20) in New Zealand and the UK as well as a control group of age-matched child monolinguals in Iran. All participants completed a film retelling task and their speech samples were measured in terms of clausal density (CD) (Scott & Stokes, 1995) and lexical sophistication (LS) (Schmid & Jarvis, 2014). Additionally, the mothers were interviewed based on a sociolinguistic questionnaire on language use/exposure patterns of their own and their children (Gharibi & Boers, 2017, 2019). The analysis showed differences between the HSs and their monolingual controls only in LS scores ( $p = 0.01$ ). We did a follow-up Random Forest analysis to extract variables (demographic and/or sociolinguistic) that correlate to the HSs' LS and CD scores. We were particularly interested in the relationship between the mothers' linguistic performance and language use patterns and their children's task performance scores. The analyses showed that while literacy was the most important variable for the HSs' CD ( $p < 0.05$ ), for LS, age of the HSs at the time of the study was the most important one ( $p = 0.001$ ). In addition, the mothers' scores were only important for their children's LS scores ( $p < 0.05$ ). We will discuss these results with references to the role parental input plays in lexical development (Pearson et al., 1997) and the role of access to HL education in morphosyntactic complexity (Bayram et al., 2019).

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# The effect of age of onset of acquisition on long term achievement in child L2 German

Aldona Sopata, Kamil Długosz

One of the important issues in child L2 acquisition research is the effect of age at which learners are first exposed to their L2. It is still an open question, up to which age and in which grammatical domains the language making capacity is affected (e.g., Meisel 2000, Unsworth 2016).

This study addresses the question of whether age of onset of acquisition (AoA) has long-lasting effects on grammatical competence of L2 German children, and if so, which domains are vulnerable to these effects. To answer our research question, we used a sentence repetition task, which has been shown to reliably reflect children's linguistic competence (Klem et al. 2015). The task included 30 sentences of different length and morphosyntactic complexity assessing the knowledge of word order, null arguments, and definiteness.

The study included 79 children, subdivided into the following age-matched groups: (i) 45 bilingual children who started to acquire their second language – German at the age of 1;3-11;0 ( $M = 4;1$ ), (ii) 12 simultaneous bilingual children exposed to German and Polish from birth, and (iii) 22 German monolinguals.

Group-comparisons show that successive bilingual children perform significantly worse than simultaneous bilingual ( $p = 0.012$ ) and monolingual children ( $p < 0.001$ ), indicating an important role of AoA. A multiple regression analysis reveals a negative correlation between L2 children's performance and AoA ( $B = -89.09$ ,  $p = 0.001$ ), but not length of exposure. Post-hoc analyses indicate a significant decrease in the correctness among children with  $AoA > 3;0$ , suggesting that first changes in the language making capacity occur between ages 3 and 4 and are detectable even after prolonged exposure to L2. The children's errors are of three types: (i) overuse of the nominative case, (ii) omission of obligatory elements such as articles and overt pronouns, and (iii) incorrect gender assignment.

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# Language skills in Greek-English bilingual children attending Greek supplementary schools in England

Athanasia Papastergiou, Eirini Sanoudaki

Many parents in the U.K. see the benefits of Greek supplementary schools in providing their children the opportunity to learn and maintain the Greek language and culture alongside English mainstream education. Supplementary schools support and maintain the language and culture of many immigrant communities (Wei, 2006). Despite fears about the effects of this heritage language use on children's skills in the majority language, research on these somewhat hidden schools to date tends to focus on teachers' and parents' views and teaching strategies and is qualitative in nature. The current study is the first quantitative study to examine the effect of attending a Greek supplementary school on the language skills of Greek-English bilingual children in both the majority language (English) and the heritage language (Greek). It is undertaken in the context of the so-called new Greek migration, that is, the rise in the migration of first-generation Greek nationals and their children to the U.K. due to the 2010 government-debt crisis, which has only recently started to receive attention in the literature (Karatsareas, 2021). To address these aims we administered a battery of vocabulary and grammar tests in both languages to 31 Greek-English bilingual children, 5-13 years old, and closely looked at the participants' language history using parental questionnaires. Using multiple regression analyses we examine the relationship between relevant variables, such as language use and years in supplementary school, with vocabulary and grammar skills in English and Greek. We find that the higher the use of Greek, the higher the scores in the Greek language tasks, although no significant relationship was detected between years in supplementary school and the development of English and Greek vocabulary and grammar skills. Crucially, use of Greek does not negatively predict scores in the English language tasks. Implications of our results and future directions are discussed.

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# Reference introduction and maintenance in Estonian-Russian bilingual children's narratives

Reili Argus

Research on the acquisition of discourse cohesion in a narrative context has largely focused on monolingual children. The results for bilingual children vary from study to study: bilinguals may score low on production measures (Gagarina et al. 2015: 256), they may behave similarly (Finnstedt 2013) or differently (Álvarez 2003, Serratrice 2007) to monolinguals.

On the basis of the results for elicited narratives of Estonian-Russian bilingual and Estonian monolingual children, main research questions of our study are: 1) Are there differences between the bilingual and monolingual children's reference chains? 2) To what extent is referent introduction and maintenance similar for two groups? 3) What type of differences between groups can be observed in using different linguistic means for the reference?

The study is based on data from 4;9- and 7;0-year-old Estonian–Russian early bilinguals (N=15) and Estonian monolinguals (N=15), elicited with MAIN Baby Goats in Estonian. Linguistic means used for reference introductions, reference maintenances, as well the length of reference chains and general scores for the test were analysed.

Results concerning the scores for narrative structure indicated that the performance of the bilingual children was not significantly different from that of monolinguals. Reference chains in the bilingual children's narratives were longer and they used slightly more null-subject reference and much more personal pronouns than monolingual peers. Referent introduction was very similar in both group. Still, in the reference maintenance bilingual children used twice as many personal pronouns than monolinguals, while monolinguals preferred bare nouns.

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# English-Spanish bilingual children's emergence of prepositional and double object constructions: crosslinguistic influence or adult input effects?

Silvia Sánchez Calderón, Raquel Fernández Fuertes

English (1) and Spanish (2) prepositional structures that alternate as double object constructions (DOCs) have been accounted for in different ways. In English, the debate focuses on whether *to/for*-datives (1a) are the source structure of DOCs (1b) (Larson 1988), or whether DOCs are the original structure (Haspelmath 2006). Snyder and Stromswold's (1997) proposal establishes a common configuration.

- (1) a. John sends a letter to Mary  
b. John sends Mary a letter

In Spanish, *a/para*-datives (2a) are analyzed as stemming from the Dative-Clitic-Doubled structures (DCLDs) (2b) (Demonte 1995).

- (2) a. Entregué las llaves al conserje  
b. Le entregué las llaves al conserje

We analyze English-Spanish bilinguals' data to shed light on (i) how syntax is shaped for these constructions; and (ii) the possible syntactic relation the two pairs have as seen in acquisition. Data come from CHILDES (MacWhinney 2000) and both the input and the spontaneous production of 9 English-Spanish bilingual children (ages: 1;01-6;11) are analyzed. These data are compared to 13 English monolinguals (ages: 0;06-8;00) and 9 Spanish monolinguals (ages: 0;11-4;08). Results show that double object and prepositional constructions emerge at a similar age ( $t(4) = -1.858$ ,  $p = .160$  English;  $z = -1.414$ ,  $p = .157$  Spanish;  $z = -1.414$ ,  $p = .157$  double object;  $z = -1.342$ ,  $p = .180$  prepositional constructions across languages), as per Snyder's proposal that the two structures are underived, and this is possibly so for the bilinguals' two languages, akin to their monolingual peers. Developmentally, double objects show a higher use than prepositional constructions ( $t(11)$ ,  $-4.453$ ,  $p = .001$  English;  $z = -2.366$ ,  $p = .018$  Spanish) as could be explained by adult input effects. This is also reflected in their monolingual counterparts. Crosslinguistic influence from English into Spanish or vice versa does not seem to have occurred in the bilinguals' acquisition of double object and prepositional constructions.

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## [OS 23] Linguistic landscapes

# Covid-19 Linguistics Landscape in a Multilingual Ukrainian Town

Csernicskó István, Tóth-Orosz Enikő, Hires-László Kornélia

The COVID-19 pandemic, among many others, plays a significant role in shaping the linguistic landscape, as epidemic measures have enriched the public space with numerous inscriptions. In a small Ukrainian town, Beregszász, Transcarpathia, it can be observed that at the entrances of most shops and public institutions, signage draws the attention to the mandatory use of masks. In addition, there are often signs asking customers to socially distance, to disinfect their hands, to measure the maximum number of people in the room.

The main function of pandemic signage is the transmission of information: a text posted in both Ukrainian and Hungarian reaches more people than if the same piece of information is posted only in Hungarian or Ukrainian. This is especially important for stores, as they can be severely fined if they or their customers fail to comply. In January 2021, it may already be stated that everyone, regardless of the language of the signage, is aware that without a face mask they cannot enter anywhere other than private homes, however, the number of people that can be at a store at one time cannot be known by the average customer without being given the proper information. The placement of multilingual signs also serves the interests of shops and entrepreneurs. In our paper, based on the materials of the linguistic landscape collected during the fieldwork in the autumn of 2020, we would like to present the language/languages – in which signage related to the coronavirus pandemic appears in the public in a multilingual environment, such as the town of Beregszász.

In addition to the analysis of the linguistic landscape, we present the legal background regulating the use of minority languages and the results of previous linguistic landscape analyses published in connection with the multilingualism of the region.

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# Virtual Linguistic Landscape (VLL) of COVID-19 health information in multilingual Southern Africa

Michael M. Kretzer

On the 7th of January 2020, the World Health Organization (WHO) reported a new unknown pneumonia outbreak in China. Over the next weeks, COVID-19 spread to an endemic situation mainly concentrated in the Hubei province, with few isolated cases outside China. The WHO hesitated until the 11th of March to use the term pandemic although cases of COVID-19 were reported already in Europe at that time. Sub-Saharan Africa only reported its first cases in mid-February. It was only then that the media in South Africa started to report extensively about the COVID-19 outbreak. Various governmental ministries in South Africa or Lesotho informed their population about COVID-19, attempts to control the outbreak of the disease and awareness campaigns to counteract ‘fake news’ or spread of myths developing alongside the pandemic. Although most of the information was in English, a substantial amount of audio and video files were available in several African Languages in South Africa, plus many governmental announcements in Sesotho in Lesotho. This paper intends to investigate how various health ministries or relevant other governmental agencies of two Southern African countries, namely Lesotho and South Africa, tried to inform and communicate with the public. To evaluate the quality of multilingual crisis communication, the following four dimensions were used: Availability, Accessibility, Acceptability and Adaptability (O’Brien et al., 2018; O’Brien and Federici, 2019). Underlying language policies of both countries and its implementation as well as above four dimensions were used to evaluate how inclusive and equal such communication approach was. Due to various lockdowns and physical distancing and other restrictions in place, data collection was entirely online and included governmental health websites of both countries and directly linked or related websites as a reflection of the Virtual Linguistic Landscape (VLL) during health crisis communication.

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# Sound up! Digital soundscaping of local businesses

**Enikő Biró**

The present paper discusses the flux of bi- and multilingual identities of local businesses by capturing linguistic diversity in the digital social media. Besides the visibility of the linguistic landscape, there are novel research methods in order to “compensate for the neglect of spoken language in linguistic landscape” (Scarvaglieri et al. 2013), hence using the concept of linguistic soundscape. In the present study, soundscape refers to the audible environment of local businesses in the social media. Using netnographic research methods and content analysis of videos uploaded by local small businesses in the social media, the soundscape elements can be documented. It is relevant to find out whether the first language (Hungarian), or the only official state language (Romanian), or rather a global language (e.g. English) are used and in what ways and for what end in a bilingual (Hungarian-Romanian) ethnic minority community of Romania. It can be concluded that studying these linguistic practices allows us to understand the patterns of bi- and multilingual identity construction of local businesses. The interpretation of the elements of digital soundscape has to consider the placement of these signs in a social and cultural context, with a complex interaction of language(s), society, identity, economy and power. The findings suggest that within the dynamic changes in society and economy, local businesses construct their linguistic identity by their language choices and practices; nonetheless, these have to be aligned with the collective linguistic identity of a bilingual community in order to secure a place in the local market.

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# Multilingualism: The Symbolic Construction of the Public Space in Cyprus

Sviatlana Karpava

The topic of linguistic landscapes (LLs) is very important in the area of sociolinguistics of multilingual societies (Wardhaugh & Fuller, 2015). A linguistic landscape reflects the underlying ideologies regarding languages and their speakers (Hélot et al., 2012), linguistic diversity, language statuses and perceived values (Stroud & Mpendukana, 2009). This study investigated multilingual LL of Cyprus by implementing an in-depth ethnographic landscape analysis of visible semiotic signs in public space, trying to interpret their indexicality and deeper layers of meaning (Blommaert, 2013; Blommaert & Maly, 2014) in relation to multilingualism situation in the country as well as the perceptions and attitudes of Greek Cypriot population (100 participants: 47 males and 53 females, age: 18-62, from various socioeconomic and educational backgrounds; questionnaires and semi-structured interviews) towards multilingual LL, their feelings, emotions and experiences (Bevan, 2014; Merriam, 2009). We focused on the main shopping streets and highway/street billboards in our analysis. We used photographic material in our data collection — 4,200 photos of five geographical areas: Larnaca, Agia Napa, Nicosia, Limassol and Paphos. The photos were analysed and interpreted in terms of language, text, LL genre, placement and surroundings in line with the principles of the symbolic construction of the public space (Ben-Rafael et al., 2006; Ben-Rafael et al., 2010). It was found that although, an overall pattern of Cyprus LL is monolingual, with a prominent role of English, there is a tendency for the appearance of more bilingual and multilingual signs that are socially constructed and related to globalisation, customisation, language policy and identities, cultural and political ideologies. Greek Cypriots are aware about multilingualism in Cyprus. Most of the participants have a positive attitude towards multilingual LL on the island, though there are individual differences in terms of their reactions and evaluations of monolingual, bilingual and multilingual signs, language pairs and combinations.

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[OS24] Language acquisition,  
learning & teaching (I)

# The role of background languages in peer learner communication and progress during intensive immersive language courses: A computational social network analytic perspective

Michał B. Paradowski, Andrzej Jarynowski, Jeremi Ochab, Chih-Chun Chen, Karolina Czopek, Magdalena Jelińska, Agnieszka Cierpich

We demonstrate how computational Social Network Analysis (SNA) can illuminate the influence of peer interactions on L2 outcomes among immersion/Study Abroad (SA) sojourners. Unlike extant SA research merely tending to identify ego networks (when a respondent is asked about their contacts, but not the other way round), we focus on the full network approach (Paradowski et al., 2021a, b).

In two studies carried out in Germany (n=40) and Poland (n=391), we find among others i) that the best predictor of progress is reciprocal interactions in the TL, ii) that outgoing interactions in the TL are a stronger predictor than incoming interactions, iii) a negative relationship between performance and interactions with same-L1 speakers (routgoing= -0.31\*) and iv) more intense interactions taking place across proficiency groups. v) Competence in other languages positively correlated with progress ( $r = .49$ ), but not in terms of the number of languages spoken, but cumulative proficiency in the languages (see also our ISB talk “Multilingualism correlates with teachers’ coping with emergency remote instruction, but this depends on the measure: Methodological and practical implications”). Additionally, participants’ patterns of social embeddedness in TL communication are significantly moderated by their vi) individual entry TL competence (positively) and vii) psycho-situational portrait, while viii) negatively by competence in lingua-franca English. ix) The influence of the network is strongest in the domains of pronunciation and lexis, where degree centrality in TL positively correlates with progress (routdegree=.258\*\*\* for pronunciation; routdegree=.304\*\*\* and rindgree=.263\*\*\* for vocabulary), while betweenness in total communication is significantly anticorrelated ( $r = -0.242$ \*\*\* and  $r = -0.204$ \*\*, respectively), x) mirroring the influence direction—on global TL progress—of closeness centrality. Combined with the detrimental impact on language acquisition of a high in-degree, this suggests that for language acquisition, the structural properties of the network matter more than processes such as information flow.

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# The use and perception of foreigner-directed speech in L1 and L2 speakers of English

Susan Bobb, Rose Baker, Sharon Falkins, Jaeyoung Kum, Madison Capps, Kathrin Rothermich

L1 speakers often accommodate L2 speakers in a phenomenon known as “foreigner-directed speech” (FDS; Hatch, 1978). FDS is frequently employed as a strategy by L1 speakers to adapt their speech when talking to learners of a specific language; it is generally described as a rapport-building behavior that helps L2 speakers understand the conversation better. In a recent questionnaire study, 85% of L1 speakers reported adjusting their English when speaking to L2 speakers (Margić, 2017). Critically, L2 speakers’ reports on its consequences or effectiveness were not included. Through Qualtrics Panels, we surveyed 192 L1 speakers of English (Mage= 53 years old; 97 female/94 male/1 no response) and 201 L2 speakers of English (Mage= 37 years old; 100 female/98 male/3 non-binary) using a newly developed FDS questionnaire to determine how speech accommodation is perceived. Contrary to previous findings, over half of our L1 participants reported that they do not change their speech when talking to L2 speakers (61%). Half reported they do not like doing it (52%), and 30% are frustrated when it is expected of them.

Consistent with our L1 findings, only a third of L2 participants reported L1 speakers change their speech when talking to them (36%), 47% do not like it, and 64% are frustrated when L1 speakers do not accommodate them. Additionally, 57% report they avoid talking to L1 speakers out of fear of being judged, and 40% say that they have been talked down to by L1 speakers.

Individual differences appear to modulate how L1 and L2 speakers use FDS and perceive it: For both groups, we found interactions between the FDS questionnaire and measures of anxiety, personality, L2 proficiency, as well as the frequency of interactions between L1 and L2 speakers. Results are interpreted in light of Communication Accommodation Theory (Beebe & Giles, 1984).

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# Bridging the ‘dual lives’: Polish EFL teachers’ perspectives on working with bi/multilingual learners

Joanna Rokita-Jaśkow, Agata Wolanin, Werona Król-Gierat, Katarzyna Nosidlak

Over the last decade, L2 teachers around Poland might have observed an increase in the number of primary school children with bi/multilingual and culturally diverse backgrounds. They are, among others, children of return migrant, immigrant or transnational families. Regardless of their complex experiences, they all face many cultural, social, linguistic and educational challenges once they enter primary school. English teachers are often at the forefront, helping them navigate through the intricacy of their “dual lives” (Wei & Hua 2013: 531). It seems, therefore, utterly important to investigate Polish EFL teachers’ perspectives and beliefs concerning their experience working with bi/multilingual children.

The aim of our presentation is to present the results of our research, the aim of which was to get a deeper insight into EFL teachers’ opinions, beliefs and strategies they adopt while working with bi/multilingual children in the Polish educational system. In an effort to answer these questions 23 structured interviews were conducted with those EFL teachers who have had an opportunity to work with bi/multilingual students. The collected data was coded following the content analysis approach (Krippendorff 2003) with the help of the NVivo 10 software.

The complex coding system allowed for an emergence of an ecosystem (see Bronfenbrenner 1993; van Lier 2004), where bi/multilingual children and their EFL teachers navigate through the complexity of the increasingly multilingual environment in order to negotiate meaning. The results show that child socialisation depends on an intricate network of interrelated factors and agents, such as child’s age of arrival, migration experience, language repertoire, parental support, or teacher’s attitudes and competence. The preliminary analysis allows us to assume that the interviewed teachers are in great need of systemic support that would provide them with adequate guidelines and strategies tailored to their local contexts.

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# Language exams in the life course of non-EU nationals in the Czech Republic

Tamah Sherman, Jiří Homoláč

Third-country (non-EU) nationals applying for permanent residence in the Czech Republic have been required to pass A1 level of the Common European Framework of Reference for languages (CEFR) exam for Czech since 2008-2009, and individuals may apply for permanent residence after a stay of five consecutive years. Such a lengthy period theoretically provides ample opportunity for language acquisition even far exceeding the A1 level. Yet as previous research (e.g. on Vietnamese speakers Sherman & Homoláč 2017, 2020) has suggested, this acquisition may not take place, as Czech is either not used at these individuals' places of employment at all, or a minimal Czech repertoire is needed in order to do the job. This phenomenon extends across the entire spectrum of ethnicities, countries of origin, languages and professions, from white-collar workers in large companies, to independent entrepreneurs, to people working in the ethnic economy or in blue-collar jobs. We analyze the lived, reflected effects of the preparation for and taking of the language examination for the purposes of long-term residency of third-country nationals in the Czech Republic on their integration into the country. Utilizing the frameworks of language biographies, life trajectories, and language management theory (Nekvapil 2016), particularly the concept of management summaries (Nekvapil 2004, Sherman & Homoláč 2014), the research entails qualitative language biography interviews with third-country nationals (above all Vietnamese, English and Russian/Ukrainian speakers) who have already successfully passed the exam. We explore the phenomenon of key transitions in the life course perspective (Elder et al. 2003, Wingers et al. 2011, Divita 2014, Peters & Vink 2016), posing the question of to what degree the language exams serve as a key transition in the life courses of third-country nationals on the trajectory of language acquisition and use.

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# Between Language and Culture: how textbooks for learning Chinese as a foreign language intertwine multilingualism and multiculturalism

Neva Cebron, Tjasa Vilotic

In the last few decades, the development of students' communicative competence in a foreign language has become central to language teaching, thus focusing attention on development of skills needed for a meaningful and real communication. The sociocultural dimensions of communication plays an integral part in such teaching materials, bringing to the fore the question of cultural representation and the role it plays in developing bi/multilingualism, as well as intercultural awareness and competence. Textbooks for adult learners of Chinese have followed this trend, drawing heavily on English models for materials production, since they also aim at wide international audiences. The present paper reports on a research scrutinizing five popular textbooks for adult beginner to intermediate learners (CEFR A1-B1) of Chinese as a foreign language, through the lenses of cultural representation conducive to developing bilingual and intercultural communicative competence. The Chinese textbooks were further compared to textbooks for the same level of English (2 popular textbooks) and Italian (2 popular textbooks) in terms of presentation of cultural and linguistic elements. The study examined whether the textbooks include elements of surface or deep culture, and how linguistic functions are contextualised in each textbook. The preliminary findings indicate that the Chinese textbooks focus mainly only static and congratulatory topics of surface culture, thus missing an important opportunity to promote interest and deeper understanding of the target language and relevant communities, along with facilitating intercultural communication. While drawing on earlier research and critical intercultural studies, this study also develops a novel assessment approach and proposes guidelines for interweaving culture and language in teaching materials, so as to promote better intercultural communication in students aiming at achieving bilingual competence.

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# Can eLearning promote multilingualism?

Neva Cebron, Lara Sorgo

The pervasive presence of ICT (information and communication technology) in everyday life and the appeal these technologies have for our students force teachers of foreign languages to consider how language teaching might be enhanced by including these new tools into their teaching practice and exploit such a dynamic language and technology environment. The present paper will, therefore, first focus on the novelties offered by CALL (Computer Assisted Language Learning), MALL (Mobile Assisted Language Learning) and mobile language learning (mLearning) by drawing a brief overview of the research into their affordances, along with the implications for a new language learning methodology. In the second place, the paper will explore attitudes of adult learners (tertiary students, academic and administrative staff) to studying or improving their language and communicative skills in various languages immersed in the ICT, in particular the options proposed by the language learning mobile apps. In order to gather adult learners' views, a quantitative research has been carried out among 359 participants from 6 EU countries within the international project LanGuide, taking part in a pilot survey into exploitation of ICT in language learning. The research, based on an e-questionnaire, examined learners' attitudes to eLearning in general, as well as their views on the range of language skills it can most profitably be adopted for at various levels of language knowledge. Most importantly, the study reports on language learners' views, whether the ease and accessibility of language learning e-tools prompt students to consider learning new languages and become multilingual speakers, or serves mainly to enhancing their pre-existing communicative skills in English as a lingua franca. The results of this research lead to re-evaluation of some teaching approaches and suggest recommendations for teaching practitioners and materials developers as to how best bring into play the new opportunities provided by ICT.

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# Prototypical Associations in EFL Textbooks: Representations of Multilingual Cultures in Reading Comprehension Activities

Jaqueline Mora Guarín, Maria Daniela Cifone Ponte

A semantic prototype is seen as the best, central, and most representative exemplar in a category (Rosch, 1975). However, not all members in a category might be considered prototypical as the cognitive organization of vocabulary varies according to every individual and their culture (Wierzbicka, 1997). In this vein, research on semantic prototypes associated with the vocabulary input may shed light on how multilingualism and its cultures are encoded in the vocabulary selection of EFL textbooks. Such an understanding is essential as the integration of cultures in EFL context facilitates communication and fosters learners' sense of belonging (McKay 2003). Studies on the identification of prototypes by monolingual and bilingual L2 and L3 learners regarding vocabulary input tasks have been conducted (Ibbotson and Tomasello, 2009; Šifrar Kalan, 2014). Research on prototypical associations in EFL textbooks is rather scarce.

This study aims to account for the role that cultural prototypical associations play in the vocabulary input of reading comprehension activities of two EFL textbooks. The sample consists of a selection of two of the most used 6th Primary EFL textbooks in La Rioja, Spain, where more than 12% of students between 6 and 11 are immigrants. The analysis attempts to determine whether (i) EFL textbooks include prototypes regarding cultural elements through levels of categorization in the vocabulary input of their reading content; and (ii) if prototypical associations evidence multilingual learners' cultures or, otherwise their inclusion is limited to describe the target culture. The results indicate that (i) there is evidence of prototypical associations in the words elicited in the textbooks readings, (ii) although there is evidence of multilingual learners' cultures in the vocabulary contained in some of the reading tasks, most are focused on the target culture, (iii) the words found do not specifically address the most predominant cultures in the region.

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# Adult English for Speakers of Other Languages during COVID-19: A community-based approach

Jessica Cox, Harriet Okatch

COVID-19 disrupted language instruction around the world, including in-person English classes for adult learners. English proficiency is vital for the economic and general well-being of bilinguals in the United States, as it correlates with job opportunities, healthcare outcomes, and social integration (Arxer et al., 2017; Martínez, 2010). Therefore, disruption to English classes could profoundly affect individuals and communities.

Following community-based research methodology, we sought to understand adult English learners' needs by working first with local English for Speakers of Other Languages (ESOL) instructors, the experts available for technologically mediated conversations, to inform the writing of a large community survey which we translated into ten languages other than English. To date, 57 (of a targeted 100) adult multilinguals have completed the survey (non-English first languages predominantly Spanish, Arabic, and Swahili). Of the 36 respondents who self-reported intermediate or lower English proficiency, 13 were attending in-person ESOL class in February 2020 and 23 were not attending any ESOL class. Common barriers reported for attending online class were time (n=8) and access to/comfort with devices and high-speed internet (n=10); five respondents reported no potential barriers. Respondents favored instruction on digital literacy (n=34) and completing exercises on paper (n=30). The least favored type of instruction was group videoconference (n=23 interested). A majority of respondents (n=29) indicated interest in online ESOL once the pandemic has passed.

A preference for autonomous work may stem from additional impacts of the pandemic, such as disruptions to childcare or employment, which also arose as potential barriers to online class. If those constraints improve and access and comfort with technologies increase, online ESOL classes may be fruitful in the long term. Discussion will include challenges of community engagement during a pandemic and processes for working iteratively with community partners, including developing implications of our findings.

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# Digital natives and COVID-19: Reasons for Planning an IT-supported Curriculum - Teaching Italian as a second language in the bilingual area of Slovenian Istria

Maja Gržina Cergolj

The transitional nature of Slovenia and the development of information technology (IT) enabled international connections and an increase of migration. The Constitution of Slovenia defines Italian minority, bilingual area and Italian language as an official and second language. Slovenian education system is focused on the school environment and on the living environment, while the use of the virtual environment (IT tools) is meant as a support. Therefore, we investigated how living, school and virtual environment are relevant for digital natives that, as Prensky (2001, 1) said, are no longer the people for whom our educational system was designed. A survey conducted in March 2018 with 118 digital natives showed that these students would like to learn Italian in a school (46,6 %) and in a blended (31,4 %) environment first, and only later in a virtual (16,9 %) and in a living (5,1 %) environment. The established practice says that learning Italian in the bilingual area of Slovenian Istria takes place in the living environment, while responses show us that in the future digital natives do not see the living environment as a possibility for learning Italian. During the COVID-19 pandemic, in order to avoid the spread of the virus, digital natives were faced with two realities: they were distanced from their favorite environment (school) and they were given the possibility to use IT tools for everything related to school (lessons, note, homework, etc.). Everything shifted to the virtual environment which took the role of the school environment. Slovenian educational system was not prepared for this shift, not only methodologically, but also in terms of assessment and review policies. The time of COVID-19 pandemic was a good reason for planning an IT-supported curriculum for the second language. The paper proposes some solutions at hand and draws recommendations for future practices.

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[OS25] Language acquisition,  
learning & teaching (II)



# The knowledge of non-compositional expressions (idioms) of Heritage Russian speakers and L2 Russian learners

Ekaterina Gridneva, Maria Grabovskaya, Anastasia Ivanenko, Nina Ladinskaya, Nina Zdorova

The current study examines the knowledge of non-compositional expressions (idioms) of Heritage Russian speakers comparing the results with L2 Russian learners. On the one hand, heritage language is a weaker one which makes Heritage Russian speakers close to L2 learners. On the other hand, heritage speakers are bilinguals and their language acquisition takes place in a family which is similar to native speakers. Basically, knowledge of idioms always differentiates native speakers. As a consequence, idioms' awareness can be a marker which shows on which level heritage speakers are: native speakers or L2. We examine idioms' knowledge by using a self-paced reading test. First, we divided our idioms in accordance with a cross-linguistic factor: there are Russian - English full equivalents, semi-equivalents and no-equivalents. Based on the reading time data, Matlock and Heredia suggested that less advanced L2 learners first translated the L2 idiom into L1 and then attempted to make sense of it before they accessed its figurative meaning. At a more advanced level of L2, it was hypothesized that learners might process idiomatic expressions by directly retrieving their figurative meaning, consistent with the Direct Access Model proposed by Gibbs for monolingual language users (1980). Additionally, we take into account idioms' usage frequency (for this purpose The Russian National Corpus was used) plus their figurative meaning level.

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# Relationship between language use experience and emotional regulation among multilingual adults

Justin Feng, Katie Hartwick, Tina Montreuil, Gigi Luk

Language is the foundation of human communication, allowing listeners to understand others' intentions, and speakers to convey ideas and thoughts. Previous research shows that multilingual speakers process emotional information differently than monolinguals, particularly when the emotional information is represented in their second language (L2). One open question is whether multilingual experience also moderates emotional regulation (ER), the ability to monitor, evaluate, and modify emotional reactions, particularly in situations where negative emotions become overwhelming. We investigated this question in a sample of multilingual young adults (N=42) who completed a Language and Background Questionnaire, the picture vocabulary subtest in KBIT-2, and the Emotional Regulation Questionnaire (ERQ). All participants spoke English as L2 and reported different degrees of multilingual usage in speaking and listening on a daily basis. Items in ERQ were analyzed using principal component analysis as a data reduction method, yielding two components reflecting different strategies: (1) General ER (accounting for 37% of the total variance) and (2) Expression-Suppression (accounting for 27% of the total variance). These components were correlated with features of multilingual experience, namely, onset age of active L2 usage, L2 receptive vocabulary, degree of multilingual usage in speaking and listening using pairwise partial correlations. Results revealed that multilingual speaking experience was significantly positively correlated with general ER (partial  $r=0.42$ ,  $p<0.02$ ). However, multilingual listening experience (partial  $r=-0.55$ ,  $p<.001$ ) and L2 receptive vocabulary (partial  $r=-.45$ ,  $p<.001$ ) were negatively correlated with General ER when controlling for all other variables. None of the multilingual features correlated with Expression-Suppression. Findings suggest that ER is associated with multilingual usage, particularly in speaking and listening multiple languages on a daily basis. Results may have important clinical implications on interventions that target measurable improvements on ER in multilingual individuals. Multilingual experience should be taken into consideration as a potential confounding variable in intervention studies involving ER.

# International sojourn experience as a possible factor of increased verbal irony use

Aleksandra Siemieniuk, Anna Mitrowska, Piotr Kałowski, Natalia Banasik-Jemielniak

Over half of the world's population is bilingual (Grosjean, 2010). However, people often refer to the narrow definition of bilingualism, not calling themselves bilingual if they lack confidence about mastery of more than one language. In our study, we focused on the variable that we called international sojourn experience (ISE), which indicates having lived in a country other than the homeland for at least 12 months. ISE combines certain familiarization with not only a second language, but also a second culture.

In verbal irony, there is a difference between the intended and the literal meaning (Garmendia, 2018). Up to 8% of conversational turns among English speakers in the USA include irony (Gibbs, 2000). Knowledge of more than one language is a factor that might potentially be related to irony use. Since bilingualism has been linked to theory of mind development (Goetz, 2003), we expected that irony use may also be related with ISE.

To verify this hypothesis, we asked two Polish and Turkish speakers to fill in online questionnaires, including The Sarcasm Self-Report Scale (Ivanko & Pexman, 2004). We found that in the Turkish sample, people with international sojourn experience ( $M=55$ ,  $SD=21$ ) use irony significantly more often,  $t(334)=-2,69$ ,  $p=.007$ , than people without it ( $M=47$ ,  $SD=19$ ). Interestingly, in the Polish sample, no difference was found. Sojourners ( $M=67$ ,  $SD=18$ ) use irony as often as people without the sojourn experience  $t(29)=1,25$ ,  $p=.222$ , ( $M=63$ ,  $SD=16$ ).

The results of the study might indicate future directions for both research on figurative speech and the new possible impact of living in more than one language.

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# The Moral Foreign Language Effect in Sakha-Russian and Russian-English Bilinguals: A Process Dissociation Approach

Alena Kirova, Ying (Joy) Tang, Milana Hachaturova, Paul Conway

People tend to accept sacrificial harm that maximizes outcomes more often in a foreign language (FL) than first language (L1), called the Moral Foreign Language effect, inconsistent with deontological norms against harm and consistent with utilitarian concerns about outcomes. This pattern may reflect blunted aversion to harm (i.e., reduced deontological responding), rather than enhanced concern for overall outcomes (i.e., enhanced utilitarian responding).

In Experiment 1, 314 Sakha-Russian bilinguals answered dilemmas either in Russian or Sakha (a Turkic language in Russia). Participants made both more deontological and more utilitarian decisions in Russian than in Sakha, and perceived Russian as more emotional on the Emotional Phrases Task. In Experiment 2, 353 Russian L1/English L2 bilinguals read dilemmas in either Russian or English. Participants rejected harm more often in Russian than in English, and those with lower L2 proficiency scored lower on both deontological and utilitarian responding.

These results suggest that L2 proficiency increases moral concerns about sacrificial harm, but the emotionality of the language itself may also play a role—participants who were similarly adept at Russian and Sakha demonstrated increased deontological and utilitarian responding in the language they rated more emotional, and those more adept in L2 English showed a similar pattern. These results are inconsistent with the argument for heightened utilitarian concerns in L2, but are consistent with blunted emotional processing about harm in either FL or a language that is perceived as less emotional.

Consistent with past work, these findings also suggest that proficient, emotional language processing increases aversion to causing harm (deontological responding), but also increases concerns about maximizing outcomes (utilitarian responding). Hence, ‘increased utilitarian’ responding in L2 appears to reflect a measurement artifact of treating utilitarian responses as the opposite of deontological responses.

# Onset age of active bilingualism and linguistic features in speech production among multilingual young adults

Lauren Schellenberg, Katie Hartwick, Gigi Luk

Onset age of active bilingualism is proposed to be a sensitive measure that characterizes bilingualism. We examined the relationship between objective performance on a standardized assessment on second language (L2), onset age of actively using multiple languages (Age of Active Bilingualism, AoAB), and linguistic features from speech production in a group of (N=42) multilingual adults speaking English as L2. We expect that AoAB modulate the relationship between objective assessment performance and linguistic features. Participants reported AoAB, completed the Kaufmann Brief Intelligence Test, 2nd edition (KBIT), and provided two samples of speech production in response to a series of pictures depicting an event. AoAB was categorized into those who became bilingual before adulthood, or at age 17, and those with AoAB occurred after adulthood. Speech samples were transcribed following the standard protocol on the Systematic Analysis of Language Transcripts (SALT, Miller & Iglesias, 2012) and includes measures on morpho-syntactic diversity (e.g., mean length utterances in words and in morphemes), semantic diversity (e.g., moving average type-token ratio, number of total and different words), and speech rate (e.g., words and utterances produced per minute). Six variables from the morpho-syntactic diversity and semantic diversity were entered into a principal component analysis to extract the latent structures of morpho-syntax and semantic diversity. General linear models showed that KBIT and AoAB did not predict morpho-syntactic diversity and semantic diversity as main or interaction effect. However, age-corrected KBIT verbal score predicted words produced per minute ( $F(1,38)=9.94$ ,  $p<.004$ ) and this relationship was only statistically significant for those who had an  $AoAB \leq 17$  as revealed in an interaction ( $F(1,38)=9.1$ ,  $p<.006$ ). Similar findings were observed for utterances produced per minute with a KBIT main effect ( $F(1,38)=6.3$ ,  $p<.02$ ) and a KBIT by AoAB interaction effect ( $F(1,38)=9.9$ ,  $p<.004$ ). Conventional AoA was not a statistically significant predictor of any linguistic features in speech production.

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# L2 implicatures – language-specific or context-determined?

Urszula Topczewska, Kamil Zubrzycki, Małgorzata Szupica-Pyrzanowska

Prior research examining L2 implicature comprehension has yielded mixed findings (Taguchi et al., 2016). However, there is considerable evidence that global L2 proficiency has a significant effect on a. the ability to make inferences of non-literal meaning (Cook & Liddicoat, 2002; García, 2004; Shively et al., 2008) and b. the degree to which an L2 implicature is conventionalized (Bouton, 1994; Taguchi, 2012). Thus, implicature comprehension is likely to be facilitated by convention resulting in reduced processing load (higher accuracy scores and shorter response time).

So far, most studies on implicature comprehension have focused on L2 English whereas the research on other European languages has been scarce. In order to increase the cross-linguistic generalizability of findings to date, we have designed a study including not only English but also German, Italian, and Spanish. Given the inconsistent results of studies on Japanese and Chinese (Taguchi, 2008; Taguchi, Li, & Liu, 2013), extending this line of inquiry to European languages may increase the validity of findings.

This pilot study seeks to contribute to the understanding of the role of language conventions in comprehension of implied meaning in an L2 by means of examining L2 English implicatures. Consequently, the effect of proficiency and implicature type on implicature comprehension was investigated in two L2 English groups: advanced and intermediate learners who completed an online pragmatics test. The application (Testportal) used to collect data enabled both the assessment of accuracy and response time. Similar results obtained in both groups were interpreted as an indication that implicature depends on context and not L2 proficiency; divergent results were seen as evidence that implicature relies on language convention and its comprehension is determined by L2 proficiency. We argue that comprehension of language-specific implicatures requires a high level of proficiency, whereas general cognitive skills are sufficient to infer context-determined implicatures.

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# Visual simulations during sentence comprehension in a first and a second language

Tal Norman, Orna Peleg

Theories of embodied cognition assume that language comprehension involves simulation-based processes, in addition to the activation of linguistic representations (e.g., Barsalou, Santos, Simmons, & Wilson, 2008). Consistent with these theories, substantial evidence indicates that first language (L1) comprehenders simulate sensorimotor features of the verbal content (e.g., Zwaan, Stanfield, & Yaxley, 2002). To examine whether simulation-based processes are employed to a lesser extent in a formally learned second language (L2), relative to a naturally acquired first language (L1), we tested late bilinguals who have learned and used their L2 primarily in formal settings. Participants completed the same task in their L1 and L2 in two separate and consecutive blocks. In the task, they read sentences and decided immediately after each sentence whether a pictured object had been mentioned in the preceding sentence. In all critical sentences, the pictured object was indeed mentioned in the sentence, however, its shape could have either matched or mismatched the sentence-implied shape. Responses were significantly faster when the shape of the pictured object matched rather than mismatched the sentence-implied shape (i.e., the shape effect), but only in the L1, indicating that the visual shapes of mentioned objects were simulated only during L1 sentence reading. This finding suggests that in this type of bilinguals, while L1 sentence comprehension generates substantial visual simulations, L2 sentence comprehension relies mainly on linguistic-based processes. Further, in both languages, the shape effect was modulated by the block in which the task was administered, but in opposite directions. While in the L1, the effect was weaker when the task was performed after the L2 block, in the L2, the effect was stronger when the task was performed after the L1 block. This finding demonstrates immediate cross-language influences on simulation-based processes during sentence comprehension.

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# The acquisition of L2 Polish by speakers of East Slavic (Russian, Ukrainian, Belorussian)

Jacopo Saturno, Olga Popova

This paper presents the results of a research project aiming to describe the acquisition of L2 Polish by East Slavic (ES) speakers, a phenomenon which in recent years gained momentum following large-scale immigration to Poland. Polish and ES are fairly close in terms of grammar and lexicon, so much so that both positive and negative transfer can spontaneously take place. In addition, numerous ES speakers also study L2 Polish in a formal context, often alongside non-Slavic learners. In light of the proximity of ES to the target language, the management of classes with such mixed L1 backgrounds requires special didactic attention.

The research objective was pursued from several points of view. First, the learners' perspective was explored through a survey in order to highlight their expectations and desired improvements, but also the sociological context of the acquisition process. A second survey collected the opinions of L2 Polish teachers on the strengths and weaknesses of ES speakers as well as on the need for specific teaching materials and techniques addressing this group of learners. Finally, an Elicited Imitation task (Spada, Shiu & Tomita 2015) was used to collect production data from a sample of learners with comparable L2 Polish proficiency, but with various L1 background, so as to highlight the acquisition patterns attributable to L1 ES.

The paper concludes with a discussion of the language teaching applications of the results, with particular regard to the goal of maximising L1 positive transfer (Marx & Mehlhorn 2010; Saturno 2020) while limiting negative transfer.

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# Testing ways of enhancing L2 collocational competence

Anna-Katharina Scholz

In our globalized world, the competence to communicate fluently and efficiently in English is highly valued. One important factor contributing to this ability is collocational competence, which usually develops naturally when learning an L1 but poses a challenge in the context of foreign language learning. A key factor here is the fact that the language input situation in an EFL context is highly limited with the learning and teaching materials serving as main sources for the L2. This makes it difficult for incidental collocation learning to take place. The question arises therefore, how L2 collocational knowledge can best be enhanced. Several influential factors have been identified in the literature (e.g. Boers et al. (2017), Szudarski & Carter (2016), Wolter & Gyllstad (2013), Webb & Kagimoto (2011)) but it has not become clear yet, how strongly these individual factors contribute to the acquisition of collocational knowledge or how they work in combination. As part of a larger project which is dedicated to shed more light on this matter, the present paper addresses the issue as to how this can be tested. Thus, an intervention study is presented which is designed to empirically investigate the influence of individual factors on learners' acquisition of L2 collocations. These factors include (1) learners' language and collocation awareness, (2) frequency, (3) L1-L2 congruency, (4) certain semantic features displayed by the collocations, (5) typographic enhancement and (6) different exercise types. Different combinations of the factors are planned to be tested across 14 different groups of participants, each group exposed to its own set of intervention material followed by an immediate and a delayed post-test. Eventually, the study will yield insight into which strategies should ideally be followed in a foreign language classroom setting in order to achieve the best possible results when it comes to collocation learning.

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[OS26] Language acquisition,  
learning & teaching (III)

# Bi-dialectal Chinese Children's Early Literacy Development: The Case of Pinyin Learning

Yuqi Wu, Stephen Matthews, Virginia Yip

The Pinyin romanization system for Mandarin Chinese is positively associated with literacy development. However, whether bi-dialectal students can master Pinyin as well as their monolingual counterparts remains unknown. This study investigates how dialect experience influences the Pinyin learning of second graders in a dialect-dominant city Meizhou (MZ) and a Mandarin-dominant migrant metropolis Shenzhen (SZ).

**Subjects:** Age-matched students in MZ (N=124, mean age=7;6) and SZ (N=117, mean age=7;7) participated in the study. All MZ participants have regular Teochew/Hakka exposure from birth, whereas only 10% of SZ participants continually receive dialectal input at home.

**Task:** Five Pinyin written production tests were conducted, covering onsets, rimes, and tones. Parental questionnaires and teacher interviews were included to explore the ecology for literacy development.

**Results:** Both facilitation and impediment from dialects were found. SZ participants attained significantly higher accuracy rates overall, but not for all items. A negative correlation between Pinyin performance and dialect proficiency was seen in SZ group only. While SZ group were likely affected by Cantonese n-l merging, MZ group showed facilitation from the clear n-l distinction in their dialects. MZ students performed better on Mandarin tones, reflecting their dialects' more complex tone systems. Among the disadvantages, the absence of retroflex consonants in Teochew caused dialect-speaking students' difficulty in distinguishing Mandarin affricate/fricative onsets (e.g. s-sh). MZ participants' confusion in manipulating Mandarin nasal finals suggests that striking dialectal features might amplify the developmental difficulty. Reversal errors (e.g., b-d, ei-ie), ellipsis and addition of sounds indicate that both groups are still building up sound-letter correspondences.

Three main factors are argued to account for our findings: (a) quantity and quality of input, (b) language dominance, and (c) language shift and dialect proficiency. These findings contribute to the discussion of dialectal impacts on early Chinese literacy, and have educational implications for Pinyin teaching in dialect-speaking regions.

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# Early predictors of reading acquisition in bilingual novice readers: preliminary results of a longitudinal study

Victoria Kishchak, Marcin Szczerbiński, Anna Ewert

Predictors of reading acquisition in monolingual children have been studied extensively (Ziegler et al., 2010; Caravolas et al., 2012; Moll et al., 2014). Cross-linguistic similarities and differences in those predictors have also been explored in several studies (Landerl et al., 2019; Caravolas et al., 2019). However, much less is known about predictors of literacy acquisition in the bilingual contexts. There, potential cross-linguistic facilitation (e.g. phonological awareness in one language supporting reading skills in another) is a phenomenon worth exploring.

The study reported here attempts to fill this lacuna in the context of Ukrainian-Polish bilingualism. A rapidly growing Ukrainian migrant/expat community in Poland made such investigation possible. Polish and Ukrainian are both Slavic languages, yet they differ considerably in grammar and lexicon, and use different scripts. The study compares three groups of children: 34 monolingual Ukrainian, 18 bilingual, and 20 monolingual Polish, all of whom were in the 1st grade of primary school (aged 6;0 – 7;6) at the outset. They will be followed until the 3rd grade and assessed on their reading skills (word recognition, pseudoword decoding, text comprehension) as well as their potential predictors: letter knowledge, phonological awareness, rapid automatized naming, working memory vocabulary knowledge, letter knowledge, and listening comprehension. Bilingual children will be assessed in both languages.

In the presentation we report data from the first phase of the study. They were collected between October and December 2020 via Zoom to accommodate COVID-19 lockdown restrictions. Preliminary results of T1 correlational analyses revealed that RAN, PA and letter knowledge measures moderately predicted reading outcomes in both monolingual groups. In the bilingual group PA skills in both languages strongly correlated with the word reading outcome in L2 (Polish); moreover, PA skills in L2 correlated strongly with the pseudoword reading in L2.

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# Phraseology in the assessment of L2 writing

Agnieszka Leńko-Szymańska, Piotr Pęzik, Michał Adamczyk

The last two decades have witnessed a surge of interest in the role of phraseological competence in second language acquisition and assessment (cf. Wray, 2002; Leńko-Szymańska, 2020). Learner corpus methodology in particular offers an extensive range of data and tools to explore the development of L2 phraseology both quantitatively and qualitatively (e.g. Bestgen & Granger, 2014; Paquot, 2019). This presentation belongs to this research trend. Its aim is to investigate the influence of phraseological productivity, complexity and accuracy on raters' assessment of L2 writing at the B2 level.

The data used in this study were 497 argumentative essays randomly selected from a pool of scripts in an English certification exam at the B2 level. The essays were evaluated holistically by 5 tandems of raters in the exam's regular marking procedure and after three months evaluated again using an analytical rubric. Two types of collocations were extracted from the scripts: adjectival modifiers of nouns and adverbial modifiers of verbs. The collocations were compared against a list of collocations drawn from reference L1 corpora. For the word combinations which could be found in the reference corpus, their strength of association (MI) was computed based on the L1 corpus data. The acceptability of the L2 combinations not found in the L1 list was checked in context by a native speaker.

Several statistics were computed for each L2 essay: the total number of items belonging to the two collocational categories, their mean MI score and the number of unacceptable collocations. The gauges were generated separately for collocation types and tokens. Finally, the measures were juxtaposed with the holistic and analytic scores using linear regression.

The results indicate that all the three variables have an influence on the raters' scores. The relative importance of each of these variables will be discussed in detail.

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# Reading strategies of learners with English as an additional language: Does their home language matter?

**Agnieszka Kałdonek-Crnjaković, Ivana Lukica**

Reading acquisition is a complex problem-solving process irrespective of the first (L1) or second language (L2). One needs to require a repertoire of strategies to successfully decode and comprehend the text. How second language learners approach reading has been widely researched; however, little research has focused on younger learners in the context of metacognitive awareness of reading strategies. In the presentation, drawing on the findings of our two studies that we conducted on learners with English as an additional language (EAL), we will discuss the importance of the participants' home language in reading strategies use. The first study involved 683 EAL children aged 11-15 from five secondary schools in London, UK, and investigated the importance of individual differences in reading strategy use. The second study involved 290 students from one of the schools and examined the effect of strategy instruction. The linguistic and cultural background of the participants in both studies was very diverse. They spoke more than 30 languages belonging to more than ten language groups, including Chinese, Finno-Ugric, Indo-Iranian, Romance, Slavic, and others. The data in both studies were collected using an adapted version of the Metacognitive Awareness of Reading Strategies Inventory (Mokhtari & Reichard, 2002), which was designed to determine the frequency of strategy use while reading school-related materials using a 5-point Likert scale. The findings of the first study suggested that participants' L1 did not determine specific strategy use; other individual differences were significant. However, in the second study, after one year of reading strategy instruction, we observed a shift in strategy use in some groups of participants, especially in those with non-alphabetic L1. In conclusion, the home language of EAL learners matters considering reading strategy instruction.

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# Minority language literacy in Japanese-English bilingual children in Japan: Factors affecting English writing proficiency

Janice Nakamura, Suzanne Quay

Research on Bilingual First Language Acquisition (BFLA) has largely investigated oral proficiency with little focus on biliteracy development. While children usually acquire majority language literacy at school, great efforts are required to develop minority language literacy skills outside of formal education. The current paper examines 31 Japanese-English bilingual children, aged 9 to 15. They all attend Japanese public schools in Japan but are learning to read and write in English at home from their parents and from weekend school for one hour a week. Our study investigates: 1) the extent to which children can write in English, their minority language, and 2) the factors supporting their English writing development. Each child is assessed individually using the standardized Test of Written Language (TOWL, Hammill & Larsen, 2009) that measures five aspects of writing with norms for American peers aged 9 to 17. The benchmark against monolingual peers is used only to determine our bilingual children's English writing ability without any intention to compare them with monolingual children. The TOWL results thus far have revealed that many of our bilingual children can attain final composite index scores within the average (or satisfactory) range for American children. However, the Japanese-educated bilingual children are better at spontaneous writing (e.g., composing a story in English) than in contrived writing tasks (e.g., spelling or punctuation). We analyzed parents' responses to a questionnaire on literacy practices, such as attending weekend school, reading independently, and doing English homework. Our paper will discuss the main factors that promote the children's English writing development by focusing on the correlations we find between the high writing performance of some of our bilingual participants and specific factors in the home (such as parental involvement and literacy resources), at weekend school (participation), and in the child (reading motivation).

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# L2 Acquisition of Reciprocal Reading in Japanese Ellipsis

Kazumi Yamada, Mika Kizu

This paper discusses elided reciprocal pronouns by L1 English learners of L2 Japanese (E-JFLs). Takahashi (2016) shows that null arguments in Japanese have a sloppy identity reading (SIR), as in (1); the elided sentence in (1b) preceded by (1a) where the reciprocal pronoun *otagai* ‘each other’ is involved, can be read as “Ron despises Hermione and Hermione despises Ron,” as well as the strict identity reading (StR) ([e] = Harry and Ginny).

- (1) a. *Harii to Ginny-wa otagai-o sonkeishiteiru*  
 Harry and Ginny-TOP each other-ACC respect  
 ‘Harry and Ginny respect each other.’
- b. *Ron to Hermione-wa [e] keibetushiteiru.*  
 Ron and Hermione-TOP despise  
 ‘(Lit.) Ron and Hermione despise.’

SIR is known as a result of Argument Ellipsis (AE). The availability of AE in Japanese is due to the absence of  $\phi$ -feature agreement, or uninterpretable  $\phi$ -features (Saito, 2007). Since English observes  $\phi$ -feature agreement, E-JFLs need to “unlearn” this L1 feature to acquire AE. 19 elementary to intermediate E-JFL participants and six native Japanese speakers responded to a Truth-value Judgment Task on whether test sentences accurately portrayed described situations (Figure 1). We observed that the E-JFLs allowed elided objects under SIR approximately 60% of the time and the control group, 72% of the time, which shows no significant difference between their judgments ( $p=.408$ ). However, our follow-up study indicates that E-JFLs did not interpret the elided objects as reciprocals but rather as pronominals relying on the context. This fact shows that AE is not available in their L2 although it appears to exist on the surface. The current study suggests that E-JFLs still retains their L1  $\phi$ -feature. The results are compatible with the predictions of the Interpretability Hypothesis (IH; Tsimpli & Dimitrakopoulou, 2007); by extending the claim, once uninterpretable features are acquired in L1, they become difficult to be discarded if L2 lacks such features.

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# Studying bilingualism in flux: Language and literacy skills of international students in higher education

Justyna Mackiewicz, Danijela Trenkic

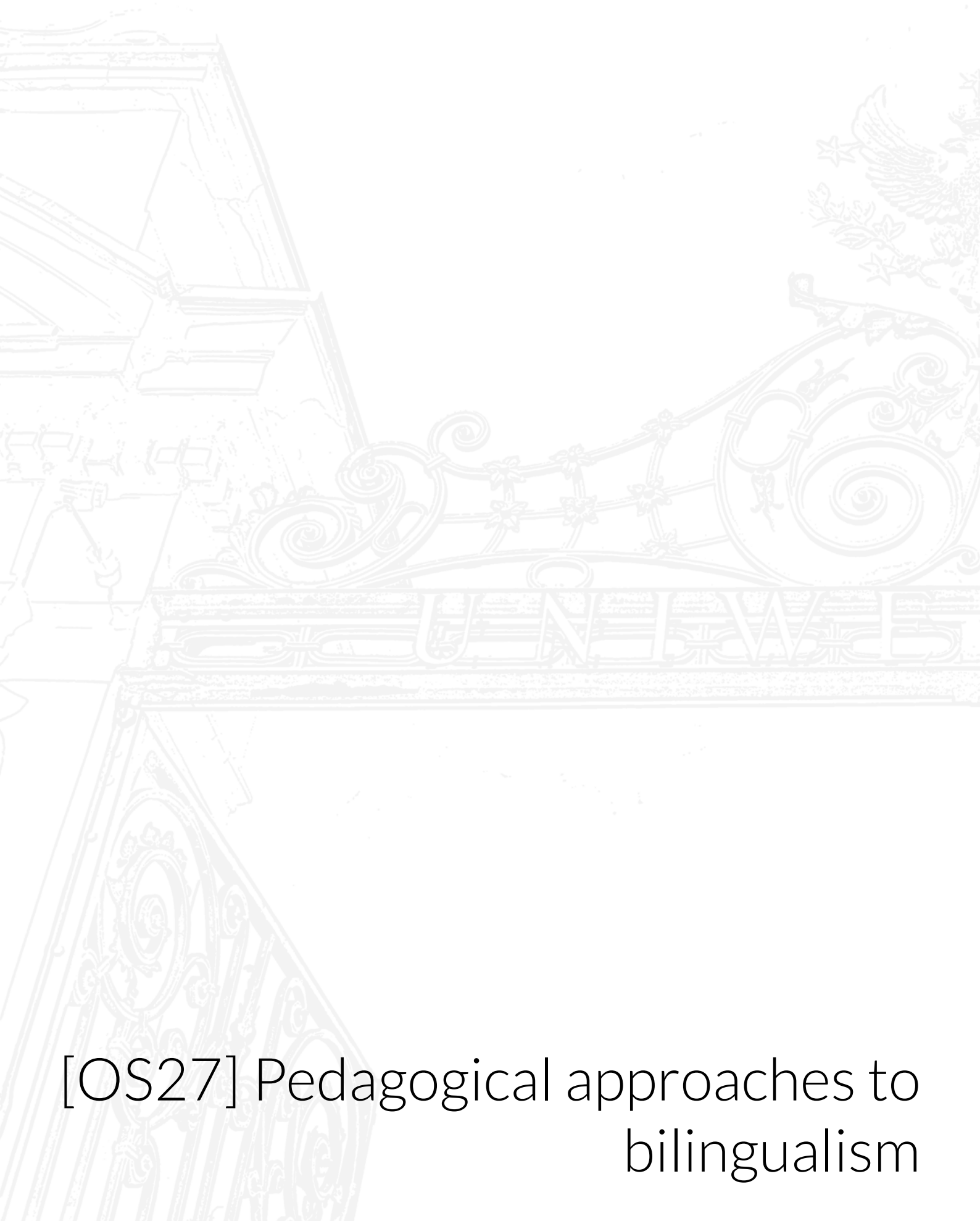
Language and literacy skills are vitally important for academic success. In contexts where home and international students study together, understanding how these skills differ is needed to put appropriate policies and support in place. Yet, by their nature, international students represent transient and diverse bilingual communities, comprising populations from different regions, cultural backgrounds and first languages (L1s). This poses a specific research challenge for the population validity of findings, as results from one population may not generalise to others.

Here we investigated to what extent the differences in language and literacy skills between British and international university students reported for the population of Chinese students (Trenkic & Warmington, 2019) generalise to students from typological closer L1s to English. We recruited three groups of first year undergraduate students at a UK university—British students (N=59), L1 speakers of one of the European languages (N=60), and L1 Chinese speakers (N=58)—and compared their language and literacy skills (vocabulary size, reading comprehension, grammar, writing, phonological skills), while controlling for general cognitive abilities. Despite no differences in cognitive abilities, one-way ANOVAs revealed significant group differences on all linguistic measures. Planned contrasts confirmed a large gap between home and international students, but also that this difference was primarily driven by Chinese students. Students with European L1s demonstrated not only stronger English skills than Chinese students, but they performed undistinguishably from British students on tasks measuring writing and phonological skills.

The results show that large differences in language and literacy skills observed in previous research are not inevitable and do not generalise to all international students. This indicates that different bilingual populations may require different levels of support. The similarity of international students' L1s to English or their cultural background may be important factors influencing their language and literacy abilities in English while at university.

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[OS27] Pedagogical approaches to  
bilingualism

# Plurilingual pedagogical approaches in compulsory and community heritage language schools in Iceland: Attempts and barriers

Renata Emilsson Peskova, Hanna Ragnarsdóttir, Lars Anders Kulbrandstad

Plurilingualism is linked to students' education, school achievement, and wellbeing. The purpose of the larger research was to explore the interplay of plurilingual students' linguistic repertoires and their school experience. The current contribution aims to describe how the interplay took place in compulsory school classes and the heritage language (HL) classes and what resources the educators drew on. The participants of the study were five plurilingual students, born in Iceland to two immigrant parents, age 10-13, who attended HL classes in their family languages, and their parents, class teachers, and HL teachers. The research was qualitative and based on the social-constructivist paradigm. Thematic analysis was used to analyze semi-structured interviews. The findings showed that the interplay took partially place in the students learning spaces, in their compulsory schools, community HL schools, and in their families. The class teachers showed general interest in their students' HL languages and HL school attendance while their pedagogies were largely monolingual. Some HL teachers had knowledge of Icelandic and the Icelandic school system, yet they generally aimed at their students' development of HL and applied monolingual strategies. One class teacher and one HL teacher showed exemplary plurilingual approaches to educating their plurilingual students. This research raises questions about the previously held views that it is the sole role of the school to teach students Icelandic, and the sole responsibility of parents to maintain and develop HL languages. It is in the interest of the plurilingual students that their educators assume holistic, empowering, plurilingual approaches to educating their students. This research suggests that educators need access to relevant professional development, they need to initiate respectful collaboration with immigrant parents, and in a broader sense, to understand students' plurilingualism as the norm and to recognize the equal value of all languages in schools and societies.

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# Multilingualism correlates with teachers' coping with emergency remote instruction, but this depends on the measure: Methodological and practical implications

Michał B. Paradowski, Magdalena Jelińska

We present the findings of a longitudinal survey study involving over 8,700 participants from 118 countries investigating how i) language learners and ii) educators were handling the transition to emergency remote instruction.

We compute the relationship between respondents' self-rated CEFR-aligned competence in languages spoken and their coping behaviour and attitudes. Two noteworthy findings emerge:

i) The Pearson  $r$  scores are highest when the competence levels are weighted by their more exponentially rising capacity (see also ISB talk "The role of background languages in peer learner communication and progress during intensive immersive language courses").

ii) On substantive terms, although 'more polyglot' teachers eventually found remote teaching harder than initially expected ( $r = .223^{**}$ ), they were consistently less likely to make huge adjustments to their lives ( $-.278^{**}$ ) or instruction ( $-.373^{**}$ ). They were more likely to believe that they will come out unscathed ( $.252^{**}$ ). They felt their students were coping well ( $.302^{**}$ ), and their classes tended to be longer ( $.271^{**}$ ). They were also missing lost conference trips the most ( $.314^{**}$ ). Correlations between multilingualism and pandemic handling among language learners are weaker; among the interesting ones are (again) ruined travel plans ( $.188^{**}$ ), missing daily conversations with and feeling physically isolated from classmates ( $.183^{**}$ ;  $.163^{**}$ ), feeling that their situation was not the worst ( $.147^{**}$ ), they were doing well in class ( $.132^{**}$ ) and had been through crises before ( $.125^{**}$ ). Higher competence in background languages also weakly correlated with personality traits such as love of learning ( $.185^{**}$ ), perseverance and self-discipline ( $.168^{**}$ ;  $.130^{**}$ ), creativity and curiosity ( $.166^{**}$ ;  $.121^{*}$ ), flexibility ( $.146^{**}$ ) and competence ( $.139^{**}$ ).

Among numerous other findings, on average, language teachers found that remote instruction depressed students' progress by 64.29% compared with in-person classes; future learning outcomes are the biggest cause for concern in beginner-level classes (Paradowski & Jelińska, under review).

Methodological and practical ramifications will be discussed.

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# “I can’t really relate to that”: The effect of heritage speaker background on classroom language ideologies

Nathan Campbell, Crystal Marull

Heritage Spanish programs in US institutions have been increasing rapidly to meet the demand of the increasing Spanish-speaking student population. These programs strive to meet the unique needs of these students, but often unintentionally prioritize certain Spanish varieties over others, reinforcing a postcolonial education that treats some varieties as deficient (Pascual y Cabo & Prada, 2018).

Heritage speakers (HS) come to the classroom with vastly different language experiences both in personal and educational settings. Extending the work of Gonzalez Darriba et al. (2021) that examines the interplay of instructors’ sociolinguistic background and student attitudes, this current study analyzes how HS’ heterogeneous backgrounds affect their ratings of language instructors along multiple dimensions including grammar knowledge and cultural relatability.

HS students (N=49) from geographically diverse US universities completed a survey about their sociolinguistic background, attitudes toward Spanish instructor profiles of varying national backgrounds, and attitudes toward their own Spanish variety. Post-survey interviews gathered additional insight into how individual experiences with the language shaped their perceptions.

The survey data, analyzed using Wilcoxon tests, revealed that HS of Mexican descent rated Mexican instructors significantly higher in nearly every category, both cultural and linguistic, suggesting that national identity impacts perceived language abilities. Interestingly, however, Puerto Rican students showed no such deference for Puerto Rican instructors. This suggests that Puerto Rican students internalize the negative discourses about Caribbean varieties of Spanish, which participants identified during interviews. Alternatively, the interview data indicates that community involvement plays a strong role in shaping attitudes. An interviewee of Mexican descent reported heavy engagement with a Mexican-American community that supported his language and culture, whereas the others reported less involvement. To better support HS within formal learning spaces, it is necessary that instructors and programs are prepared to acknowledge and address these complexities shaping classroom dynamics.

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# CLIL Teacher Education – Polish CLIL Teachers' Perspective

**Katarzyna Lidia Papaja**

It has been shown that high quality teachers achieve higher learning results in learners, with achievement in CLIL commonly being defined in terms of both content and language learning (Cammarata & Ó Ceallaigh, 2018). Furthermore, research has shown that CLIL is effective in various language settings; however, the understanding about content and language integration in Polish educational reality remains incomplete (Dalton-Puffer et al., 2010; Romanowski, 2018; Muszyńska & Papaja, 2019). Therefore, CLIL-teacher quality has to be defined in terms of teachers' knowledge and skills with respect to the integrated teaching of content-and-language.

The aim of the presentation is to discuss the research results on effectiveness of CLIL teacher education. Quantitative and qualitative data was collected from surveys, interviews with CLIL teachers and their diaries. Findings provide a unique insight into multiplicity of CLIL as well as its advantages and disadvantages. One of the most important outcomes of the study is that the CLIL teachers are in need of professional development services, which address both content and language teaching skills.

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# Translanguaging in Multilingual University Classroom

Katarzyna Gajda

The poster looks at translanguaging within the context of different perspectives such as discursive and pedagogical practices. Pedagogical translanguaging is planned by the teacher inside the classroom and refers to specific teaching strategies and spontaneous translanguaging refers to discursive practices used by multilingual speakers (Cenoz, 2017). This poster focuses on the use of translanguaging within teaching content. The author presents some of the challenges and results of using elements of translanguaging strategies during university classes on the subject entitled „The reality of modern Russia in selected films and TV series”. The course attendees were twenty five adult university students, including five Ukrainians, four Belarusians, two Russians and fourteen Poles for whom Russian and English was the language of instruction. Observation of the mentioned group highlights the importance of considering the learner as a multilingual speaker. The students used their full linguistic repertoire to reach a communicative target and create a means for developing an understanding of the content that was taught. This method allowed them to get to know the discussed issues better, as they had the chance to exchange insights by using several languages during the lessons. The author presents how students using the elements of the translanguaging strategy chose certain language forms and elements naturally. The presented poster shows how students described the same plot of the movie in several different languages, what words particularly drew their attention and how this pedagogical strategy supports the acquisition and processing of content.

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# The limits to pedagogical translanguaging and trans-semiotising in heteroglossic classroom environments

Michał B. Paradowski

Despite the current world fame and popularity of the concept of translanguaging (TRLNG) in the scholarly literature and among teachers “on the ground,” it is not without problems, which will be examined basing on an overview of current pedagogical literature (k = 110; Paradowski 2021; under review). Among the many caveats, we shall see how TRLNG may be less transformative and critical than has been suggested. We will also see that TRLNG practices may unintentionally reproduce disadvantages and reinforce inequalities and the hegemony of majority languages, where language singletons in particular face steeper challenges. Moreover, not all students appreciate the opportunity to use their home language(s), pupils may not find the practice liberating at all, and it may actually cause a decrease in well-being. Finally, foreign language classrooms in particular require the reconciliation of many conflicting goals, necessitating a trade-off between the need to ‘cover’ the curriculum within the allocated time, doing so in a manner comprehensible to the students, and providing sufficient exposure to the concepts in the language of instruction, and the need to reconcile the acknowledgment of students’ linguistic diversity, freedom of expression, and respect for the equality of languages with making them learn the register or language that is the target of instruction.

Naturally, many aspects and practices of TRLNG are worthwhile and salvageable. The final minutes of the talk will focus on these, concluding with a recommendation of more critically aware and reflective plurilingual pedagogies that always take into account the circumstances and ecologies of the classroom and the subjectivities of the students (see e.g., Byrnes, 2020).

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# Translanguaging in nursery schools: Evidence from Polish-English bilingual children.

Judyta Pawliszko

The present study draws on a theoretical framework of translanguaging and seeks to shed light on the question of what role translanguaging can play in bilingual children's linguistic experience in nursery schools. This case study focuses on observation and recordings of students ranging in age from 3 to 6 for 8 months in Polish-English nursery schools. The gathered speech samples of 200 hours of verbal recording provide information on the deployment of bilingual children's linguistic repertoire, their reasons for translanguaging, and the way pupils navigate complex social and cognitive demands through strategic usage of the two languages. The data highlights translanguaging as a practice that maximizes the students' bilingual ability and helps in communication.

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# ‘When good intentions backfire’: Contrasting views of teachers and students about translanguaging in the Japanese EMI context

Sugene Kim

This study explores views and practices of translanguaging—the use of learners’ L1 as resources for learning and/or as a pedagogic strategy—in Japanese higher education. Sixty-seven L2 learners of English were recruited from a Japanese university, who were interviewed about their perspectives on language teachers’ use of translanguaging in an English-medium instruction (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. Based upon earlier studies investigating L2 learners’ general perceptions and demands of EMI courses (e.g., Carson & Kashihara, 2012; Lee & Lo, 2017; Norman, 2008), the potential impacts of ‘past experience of international communication using English as a lingua franca (ELF)’ and ‘L2 proficiency’ on learner attitudes were evaluated. 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 ELF communication 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/what translanguaging techniques can be put into practice in a way that helps maximise L2 learners’ communicative potential.

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# Japanese L2 learners' translanguaging in written peer-review comments

Sugene Kim

Although peer review is widely adopted in tertiary L2 writing classes, the issue of learners' language choices in written peer feedback remains underresearched. 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 and its influence on L2 peer feedback performance cannot be overstated. Three studies that have explored the issue Yu and Lee (2014), Yu (2016), and Yeh (2018) - were all conducted on Chinese-speaking participants, suggesting the need for studies in different contexts for a broader generalisability of the findings. 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 choices. Intraindividual differences were also identified according to the L2 proficiency of the writers. The textual analysis of the feedback comments 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 ( $n = 516$ ). For feedback commentaries ( $n = 162$ ), L1 use composed a majority (51%). Approximately 86% of the participants reported that they make flexible language choices appropriate in a given context. The thematic analysis of the stimulated recall interview accounts identified five primary themes—three factors responsible for L1 use and two for L2 use - that elucidate factors underlying Japanese L2 learners' language choices in providing written peer feedback. The findings of this study provide a further insight into L2 learners' language choices in providing written peer feedback.

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# Where does ELF meet translanguaging, and why should we care?

Anna Mendoza

Scholarship on translanguaging and scholarship on English as a Lingua Franca (ELF) have common orientations regarding the flexibility of classroom language use. Translanguaging research investigates how students use their whole language repertoires to learn even if a class is officially monolingual or teaches one language at a time (García & Li 2014), while ELF research focuses on students' use of English as a lingua franca according to "post-norm" approaches (Dewey, 2012). Moreover, over the past decade, the language pedagogy recommendations from translanguaging and ELF scholarship have been resoundingly similar: to expose students to academic models featuring translanguaging and global Englishes (Canagarajah, 2011), to allow students to explore their own voices in the language of instruction (Kohn, 2015), to develop critical orientations towards "standard" forms of language (Janks, 2004), and to develop language awareness (Borg, 1994) of how people actually use language(s) in daily life. Yet despite these common theoretical orientations and pedagogical implications, there is surprisingly little educational research combining translanguaging and ELF, while some might even hold the belief that translanguaging compromises ELF and vice versa. Conversely, this year-long linguistic ethnography of a high school ESL 9/10 class in Honolulu suggests that ELF and translanguaging are intimately linked, as (lack of) ELF awareness influences the kinds of translanguaging students do spontaneously in the English-medium classroom. Field notes, classroom transcripts, and interview data suggest that because the class linguistic majority felt anxiety about "standard" English and other standard language norms from their country, the purposes to which they put translanguaging when encouraged by teachers fell short of the ideal practices documented by proponents of translanguaging. Thus, in addition to supporting teachers' awareness of translanguaging and ELF, and their reflective, agentic application of these constructs in their practice, we must equally attend to the uptake and practices of students.

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